

Mobile-C

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Chapter 1

MobileC

1.1 Introduction

Welcome to the MobileC documentation. For a quick user-api reference, please refer to the file [libmc.h](#).

This documentation is provided supplementary to the main Mobile-C User Guide. The official user guide may be obtained at <http://www.mobilec.org> , and should also be included with your Mobile-C Distribution package in the file docs/mobilec.pdf .

Chapter 2

MCAclMessage

Examples of commonly used MCAclMessage operations:

Create a new, blank ACL message:

```
MCAclMessage tmp = new MCAclMessage();  
tmp.New();
```

Set the performative field:

```
tmp.SetPerformative(MCAclMessage.MC_FipaPerformative_e.FIPA_INFORM);
```

Set the sender:

```
tmp.SetSender("agency", "http://" + host + ":" +  
    localport.ToString() + "/acc");
```

Add an alternate reply-to field:

```
tmp.AddReplyTo("mobagent2", "http://" + host + ":" +  
    localport.ToString() + "/acc");
```

Add a receiver to the message:

```
tmp.AddReceiver("mobagent1", "http://" + host + ":" +  
    localport.ToString() + "/acc");
```

Set the content of the message:

```
tmp.SetContent("This is content. Yay!");
```

Finally, send and destroy the message:

```
Agency.AclSend(tmp);  
tmp.Destroy();
```

Note that messages contain a pointer to allocated unmanaged memory and need to be disposed of after they are used. The agency creates a copy of the message when it is sent, and therefore the MCAclMessage object is no longer needed.

Chapter 3

Installing LibMC.NET

Installing LibMC.NET is straightforward but involves several steps.

3.1 Requirements

In order to use LibMC.NET you will need the following:

- Ch version 6.0.0 or greater from <http://www.softintegration.com/>.
- Embedded Ch version 6.0.0 or greater, also from <http://www.softintegration.com/>.
- Mobile-C 1.10.0 or greater. See Section [Downloading Mobile-C](#) for instructions on how to obtain Mobile-C.
- Visual Studio 2005 or later. Express versions of Visual Studio can be found at <http://www.microsoft.com/express/>.

3.2 Downloading Mobile-C

First, you must obtain a version of the Mobile-C source code. If you are reading this, chances are you have already completed this step. If you have not already downloaded the source code, it can be done in one of three ways:

- Download a supported release of Mobile-C. Visit [the Mobile-C website](#) for more information on supported releases.
- Download the latest source (unsupported) from [Sourceforge](#). This will give you the most current version of Mobile-C, but not necessarily the most stable version.
- Check out the latest source code from the SVN repository. This requires that you have a subversion client installed. More information can be found at [this location](#).

3.3 Building the Mobile-C Libraries

Once you have obtained the Mobile-C source, please see the Mobile-C User's Guide for information on compiling Mobile-C under Windows. Currently, only the Visual Studio .NET 2005 project is supported for LibMC.NET. Section 2.3 of the User's Guide describes how to compile Mobile-C into a static library. For LibMC.NET, at least one of two configurations are required: the "Debug_DLL" or "Release_DLL" versions. To build either one, select the appropriate configuration (this replaces step 3 in the User's Guide, Section 2.3.1) and build the solution (step 4). Alternatively, you may select "Batch Build" from the "Build" menu and build all four possible configurations.

3.4 Install the Mobile-C Libraries

After building the Mobile-C DLL files, the project will automatically copy the files to the system directory. By default, the files are copied to `C:/Windows/System32/`. If your system is configured differently or you wish to change the installation directory, right-click on the `mc_lib_win32` project in the Solution Explorer and select "Properties." In the `mc_lib_win32` Property Pages treeview, select "Configuration Properties," then "Build Events," and finally "Post-Build Event." You can then change the "Command Line" field to copy the files to the directory of your choice. If you change the installation directory, be sure that your

chosen directory is in the system path and that you remove any other versions of the files. You will also need to execute a "Rebuild" on the project to ensure the files are copied to the new location.

3.5 Build LibMC.NET

Once you have built the Mobile-C DLL files, you can build LibMC.NET. Open the LibMC.NET solution file located in the directory you installed or checked out Mobile-C to at src/win32/LibMC.NET/LibMC.Net.sln. From the "Build" menu, select "Rebuild Solution." You may want to build both the "Debug" and "Release" versions, or perform a batch build as described previously.

Chapter 4

Getting Started

LibMC.NET is very easy to use. The demo programs provided with the download are a good place to start. Please see the Examples section for more information.

4.1 Build the Demo Programs

The LibMC.NET demo program solution is located in the directory you installed or checked out Mobile-C to at `demos/win32/LibMC.NET/LibMCDemos.sln`. As before, select "Rebuild Solution" from the "Build" menu. Note that the demo program solution contains the LibMC.NET project as well. You may also build LibMC.NET from within the demo program solution.

By default, the LibMCGui demo is selected in the demo program solution. You may run this program by selecting the "Debug" menu then "Start Debugging" or by pressing F5. Other demo programs can be started by right-clicking the project in the Solution Explorer and selecting "Debug" then "Start new instance." The demo programs have their own documentation as well. See the README file in `src/win32/LibMC.NET` or `demos/win32/LibMC.NET` for information on how to build the demo program documentation.

Chapter 5

Using LibMC.NET

This section explains how to use the LibMC.NET class library in your .NET project. Currently, it only describes the process for using the library in a C# console or GUI application. Other languages, such as VB and managed C++, will require similar actions.

5.1 Create a Project

First, create the type of project you would like to use from the Visual Studio "Start Page" or the "File" menu. Select the name and location of the project as you would any other project. Second, add a reference to the configuration of LibMC.NET you would like to use. For debugging purposes, the "Debug" configuration is probably best. To add the reference, right click the "References" item in the Solution Explorer for the project you just created. Select the "Browse" tab and navigate to the output directory of the LibMC.NET project. The directory is located at `src/win32/LibMC.NET/bin/Configuration/` in the Mobile-C source directory, where Configuration is either "Debug" or "Release." Select the DLL file and click "Ok." The References item in the Solution Explorer should now list "LibMC." Be sure to save the solution at this point.

5.2 Using LibMC.NET Classes and Functions

As with any other namespace, you must add the declaration "using LibMC;" to any file you want to have access to the class libraries. Once you have added the using statement, you can declare objects from the library as you normally would declare any other objects. See the example programs for more details.

5.3 Other Options

You may want to enable one or more features in your project that can help you use LibMC.NET or debug problems. If you add any XML files to your project, you probably will want to set their properties in the project to copy the files to the output directory. This is done by selecting the file in the Solution Explorer, opening its properties, and setting two fields:

- Set the "Build Action" field to "Content" if it is not already set. This will make the file part of the project should you decide to publish or package it.
- Set the "Copy to output directory" to "Copy if newer" or "Copy always." This will copy the file when you build the project.

There is also one important note regarding XML files in Visual Studio. *Do not create XML files from within Visual Studio.* The Visual Studio XML file template contains a few leading characters that specify the encoding of the file. They are hidden and you will not be able to change them. These characters are not currently supported by Mobile-C and will crash a receiving agency.

To open the project properties, right-click the project in the Solution Explorer and select "Properties." In the "Debug" pane, you may wish to set an alternate working directory for the project if you want easy access to XML files outside of the project. This is useful for debugging, but may result in errors finding files if you package the project or create an installer. In general, it is best to specify all files with full paths because the Mobile-C library loads from a different location than the project. If you would like to be able to debug the Mobile-C library, you should select the "Enable unmanaged code debugging" check box. This will allow you to more easily see any errors that may occur in the unmanaged library, though hopefully none will.

Chapter 6

Common Operations

This section contains examples of commonly used operations for three main [LibMC](#) classes:

- [MCAgency](#) The mobile agent agency.
- [MCAgent](#) Mobile agents.
- [MCAclMessage](#) Agent communication language messages.

For complete programs and more detailed examples, see the Examples section.

Chapter 7

MCAgency

Examples of commonly used MCAgency operations:

Declare an agency as a member of a class:

```
public static MCAgency Agency = new MCAgency();
```

Set the agency's port:

```
int temp = 5051;
Agency.Port = temp;
```

Start an agency:

```
int temp;
temp = Agency.Initialize();
if (temp != 0)
    Console.WriteLine("Initialize: " + temp.ToString());
```

Pause and resume an agency:

```
Agency.HaltAgency();
Agency.ResumeAgency();
```

Turn off the command prompt thread:

```
temp = Agency.SetThreadOff(MCAgency.MC_ThreadIndex_e.MC_THREAD_CP);
if (temp != 0)
    Console.WriteLine("SetThreadOff: " + temp.ToString());
```

Load an agent into a local agency:

```
String filename = "agent.xml";
try
{
    Agency.LoadAgentMigrationMessageFile(filename);
}
catch (Exception ex)
{
    Console.WriteLine("Error loading file: " + ex.Message);
}
```

Ideally, the file name should be specified absolutely.

Send an agent to a remote agency:

```
String filename = "agent.xml";
String ip = "192.168.23.93";
int port = 5051;
try
{
    Agency.SendAgentMigrationMessageFile(filename, ip, port);
}
catch (Exception ex)
{
    Console.WriteLine("Error sending file: " + ex.Message);
}
```

Find an agent by name:

```
MCAgent agent;
try
{
    agent = Agency.FindAgentByName("persistent1");
}
catch (Exception e)
{
    Console.WriteLine("Exception: " + e.Message);
}
```

Wait for an agent to arrive:

```
MCAgent agent;
Agency.ResetSignal();
try
{
    agent = Agency.WaitRetrieveAgent();
}
catch (Exception e)
{
    Console.WriteLine("Exception: " + e.Message);
}
```

Wait indefinitely while an agency runs:

```
Agency.MainLoop();
```


Chapter 8

MCAgent

Examples of commonly used MCAgent operations: Find an agent by name (assumes an MCAgency named Agency):

```
MCAgent agent;
try
{
    agent = Agency.FindAgentByName("persistent1");
}
catch (Exception e)
{
    Console.WriteLine("Exception: " + e.Message);
}
```

Terminate an agent

```
int temp;
try
{
    temp = agent.TerminateAgent();
    Console.WriteLine("TerminateAgent() returned " +
        temp.ToString() + ".");
}
catch (Exception e)
{
    Console.WriteLine("Exception: " + e.Message);
}
```

Print information about an agent:

```
Console.WriteLine(agent.ToString());
Console.WriteLine(agent.GetAgentXMLString());
Console.WriteLine(agent.RetrieveAgentCode());
```


Chapter 9

Todo List

Global LibMC::MCAgency::SteerControl() Test MC_SteerControl, MC_Steer.

Global LibMC::MCAgency::Steer(IntPtr funcptr, IntPtr arg) Implement MC_Steer

Global LibMC::MCAgency::RegisterService(MCAgent agent, int agentID, String agentName, String[] serviceNames, i
Test MC_RegisterService and MC_SearchForService.

Global LibMC::MCAgency::SearchForService(String searchString, IntPtr agentNames, IntPtr serviceNames, IntPtr a
Implement SearchForService

Global LibMC::MCAgent::GetAgentExecEngine() Wrap MC_GetAgentExecEngine with an object
for the void* pointer return type (Ch interpreter).

Global LibMC::MCAgent::GetAgentReturnData(int task_num, IntPtr data, IntPtr dim, IntPtr extent)
Implement GetAgentReturnData

Chapter 10

Bug List

Global **LibMC::MCAgency::Steer**(IntPtr funcptr, IntPtr arg) MC_Steer is not yet implemented.

Global **LibMC::MCAgency::SearchForService**(String searchString, IntPtr agentNames, IntPtr serviceNames, IntPtr agentNames) MC_SearchForService is not yet implemented.

Chapter 11

Namespace Index

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/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/certs.c	658
/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/debug.c	659
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/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/dhm.c	661
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/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/dh_client.c	686
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Chapter 14

Namespace Documentation

14.1 LibMC Namespace Reference

Namespace for the .NET wrapper for Mobile-C.

Data Structures

- class [MCAclMessage](#)
Encapsulates ACL messages in the Mobile-C library.
- class [MCAgency](#)
Wrapper class for [MCAgency_t](#) structure.
- class [InvalidAgencyException](#)
Exception class for use with null agency pointers.
- class [MCAgent](#)
Wrapper class for [MCAgent_t](#) structure.
- class [InvalidAgentException](#)
Exception class for use with null agent pointers.

Namespaces

- namespace [Properties](#)
Namespace for the .NET wrapper properties class.

14.1.1 Detailed Description

Namespace for the .NET wrapper for Mobile-C.

[LibMC](#) encapsulates the Mobile-C DLL for windows in an .NET class library. .NET programs can access the library to create agencies, connect to agencies, interact with agents, etc.

14.2 LibMC::Properties Namespace Reference

Namespace for the .NET wrapper properties class.

Data Structures

- class [Settings](#)

14.2.1 Detailed Description

Namespace for the .NET wrapper properties class.

Any user or global properties that should preserved from session to session can be added here through the designer. There are currently no properties in use.

Chapter 15

Data Structure Documentation

15.1 `_ssl_context` Struct Reference

```
#include <ssl.h>
```

Data Fields

- `int state`
- `int major_ver`
- `int minor_ver`
- `int max_major_ver`
- `int max_minor_ver`
- `int(* f_rng)(void *)`
- `void(* f_dbg)(void *, int, char *)`
- `int(* f_recv)(void *, unsigned char *, int)`
- `int(* f_send)(void *, unsigned char *, int)`
- `void * p_rng`
- `void * p_dbg`
- `void * p_recv`
- `void * p_send`
- `int resume`
- `int timeout`
- `ssl_session * session`
- `int(* s_get)(ssl_context *)`
- `int(* s_set)(ssl_context *)`
- `unsigned char * in_ctr`
- `unsigned char * in_hdr`
- `unsigned char * in_msg`
- `unsigned char * in_offt`
- `int in_msgtype`
- `int in_msglen`
- `int in_left`
- `int in_hrlen`
- `int nb_zero`
- `unsigned char * out_ctr`

- unsigned char * `out_hdr`
- unsigned char * `out_msg`
- int `out_msgtype`
- int `out_msglen`
- int `out_left`
- `rsa_context` * `rsa_key`
- `x509_cert` * `own_cert`
- `x509_cert` * `ca_chain`
- `x509_cert` * `peer_cert`
- char * `peer_cn`
- int `endpoint`
- int `authmode`
- int `client_auth`
- int `verify_result`
- `dhm_context` `dhm_ctx`
- `md5_context` `fin_md5`
- `sha1_context` `fin_sha1`
- int `do_crypt`
- int * `ciphers`
- int `pmslen`
- int `keylen`
- int `minlen`
- int `ivlen`
- int `maclen`
- unsigned char `randbytes` [64]
- unsigned char `premaster` [256]
- unsigned char `iv_enc` [16]
- unsigned char `iv_dec` [16]
- unsigned char `mac_enc` [32]
- unsigned char `mac_dec` [32]
- unsigned long `ctx_enc` [128]
- unsigned long `ctx_dec` [128]
- unsigned char * `hostname`
- unsigned long `hostname_len`

15.1.1 Detailed Description

Definition at line 149 of file `ssl.h`.

15.1.2 Field Documentation

15.1.2.1 `int _ssl_context::state`

SSL handshake: current state

Definition at line 154 of file `ssl.h`.

15.1.2.2 `int _ssl_context::major_ver`

equal to `SSL_MAJOR_VERSION_3`

Definition at line 156 of file `ssl.h`.

15.1.2.3 `int _ssl_context::minor_ver`

either 0 (SSL3) or 1 (TLS1.0)

Definition at line 157 of file `ssl.h`.

15.1.2.4 `int _ssl_context::max_major_ver`

max. major version from client

Definition at line 159 of file `ssl.h`.

15.1.2.5 `int _ssl_context::max_minor_ver`

max. minor version from client

Definition at line 160 of file `ssl.h`.

15.1.2.6 `int(* _ssl_context::f_rng)(void *)`**15.1.2.7** `void(* _ssl_context::f_dbg)(void *, int, char *)`**15.1.2.8** `int(* _ssl_context::f_recv)(void *, unsigned char *, int)`**15.1.2.9** `int(* _ssl_context::f_send)(void *, unsigned char *, int)`**15.1.2.10** `void* _ssl_context::p_rng`

context for the RNG function

Definition at line 170 of file `ssl.h`.

15.1.2.11 `void* _ssl_context::p_dbg`

context for the debug function

Definition at line 171 of file `ssl.h`.

15.1.2.12 `void* _ssl_context::p_recv`

context for reading operations

Definition at line 172 of file `ssl.h`.

15.1.2.13 void* _ssl_context::p_send

context for writing operations

Definition at line 173 of file ssl.h.

15.1.2.14 int _ssl_context::resume

session resuming flag

Definition at line 178 of file ssl.h.

Referenced by my_get_session().

15.1.2.15 int _ssl_context::timeout

sess. expiration time

Definition at line 179 of file ssl.h.

Referenced by my_get_session(), and my_set_session().

15.1.2.16 ssl_session* _ssl_context::session

current session data

Definition at line 180 of file ssl.h.

Referenced by my_get_session(), and my_set_session().

15.1.2.17 int(* _ssl_context::s_get)(ssl_context *)

(server) get callback

15.1.2.18 int(* _ssl_context::s_set)(ssl_context *)

(server) set callback

15.1.2.19 unsigned char* _ssl_context::in_ctr

64-bit incoming message counter

Definition at line 187 of file ssl.h.

15.1.2.20 unsigned char* _ssl_context::in_hdr

5-byte record header (in_ctr+8)

Definition at line 188 of file ssl.h.

15.1.2.21 `unsigned char* _ssl_context::in_msg`

the message contents (`in_hdr+5`)

Definition at line 189 of file `ssl.h`.

15.1.2.22 `unsigned char* _ssl_context::in_offt`

read offset in application data

Definition at line 190 of file `ssl.h`.

15.1.2.23 `int _ssl_context::in_msgtype`

record header: message type

Definition at line 192 of file `ssl.h`.

15.1.2.24 `int _ssl_context::in_msglen`

record header: message length

Definition at line 193 of file `ssl.h`.

15.1.2.25 `int _ssl_context::in_left`

amount of data read so far

Definition at line 194 of file `ssl.h`.

15.1.2.26 `int _ssl_context::in_hhlen`

current handshake message length

Definition at line 196 of file `ssl.h`.

15.1.2.27 `int _ssl_context::nb_zero`

of 0-length encrypted messages

Definition at line 197 of file `ssl.h`.

15.1.2.28 `unsigned char* _ssl_context::out_ctr`

64-bit outgoing message counter

Definition at line 202 of file `ssl.h`.

15.1.2.29 `unsigned char* _ssl_context::out_hdr`

5-byte record header (`out_ctr+8`)

Definition at line 203 of file `ssl.h`.

15.1.2.30 unsigned char* _ssl_context::out_msg

the message contents (out_hdr+5)

Definition at line 204 of file ssl.h.

15.1.2.31 int _ssl_context::out_msgtype

record header: message type

Definition at line 206 of file ssl.h.

15.1.2.32 int _ssl_context::out_msglen

record header: message length

Definition at line 207 of file ssl.h.

15.1.2.33 int _ssl_context::out_left

amount of data not yet written

Definition at line 208 of file ssl.h.

15.1.2.34 rsa_context* _ssl_context::rsa_key

own RSA private key

Definition at line 213 of file ssl.h.

15.1.2.35 x509_cert* _ssl_context::own_cert

own X.509 certificate

Definition at line 214 of file ssl.h.

15.1.2.36 x509_cert* _ssl_context::ca_chain

own trusted CA chain

Definition at line 215 of file ssl.h.

15.1.2.37 x509_cert* _ssl_context::peer_cert

peer X.509 cert chain

Definition at line 216 of file ssl.h.

Referenced by main().

15.1.2.38 `char* _ssl_context::peer_cn`

expected peer CN

Definition at line 217 of file `ssl.h`.

15.1.2.39 `int _ssl_context::endpoint`

0: client, 1: server

Definition at line 219 of file `ssl.h`.

15.1.2.40 `int _ssl_context::authmode`

verification mode

Definition at line 220 of file `ssl.h`.

15.1.2.41 `int _ssl_context::client_auth`

flag for client auth.

Definition at line 221 of file `ssl.h`.

15.1.2.42 `int _ssl_context::verify_result`

verification result

Definition at line 222 of file `ssl.h`.

15.1.2.43 `dhm_context _ssl_context::dhm_ctx`

DHM key exchange

Definition at line 227 of file `ssl.h`.

15.1.2.44 `md5_context _ssl_context::fin_md5`

Finished MD5 checksum

Definition at line 228 of file `ssl.h`.

15.1.2.45 `sha1_context _ssl_context::fin_sha1`

Finished SHA-1 checksum

Definition at line 229 of file `ssl.h`.

15.1.2.46 `int _ssl_context::do_crypt`

en(de)cryption flag

Definition at line 231 of file `ssl.h`.

15.1.2.47 int* _ssl_context::ciphers

allowed ciphersuites

Definition at line 232 of file ssl.h.

15.1.2.48 int _ssl_context::pmslen

premaster length

Definition at line 233 of file ssl.h.

15.1.2.49 int _ssl_context::keylen

symmetric key length

Definition at line 234 of file ssl.h.

15.1.2.50 int _ssl_context::minlen

min. ciphertext length

Definition at line 235 of file ssl.h.

15.1.2.51 int _ssl_context::ivlen

IV length

Definition at line 236 of file ssl.h.

15.1.2.52 int _ssl_context::maclen

MAC length

Definition at line 237 of file ssl.h.

15.1.2.53 unsigned char _ssl_context::randbytes[64]

random bytes

Definition at line 239 of file ssl.h.

15.1.2.54 unsigned char _ssl_context::premaster[256]

premaster secret

Definition at line 240 of file ssl.h.

15.1.2.55 unsigned char _ssl_context::iv_enc[16]

IV (encryption)

Definition at line 242 of file ssl.h.

15.1.2.56 unsigned char `_ssl_context::iv_dec`[16]

IV (decryption)

Definition at line 243 of file `ssl.h`.

15.1.2.57 unsigned char `_ssl_context::mac_enc`[32]

MAC (encryption)

Definition at line 245 of file `ssl.h`.

15.1.2.58 unsigned char `_ssl_context::mac_dec`[32]

MAC (decryption)

Definition at line 246 of file `ssl.h`.

15.1.2.59 unsigned long `_ssl_context::ctx_enc`[128]

encryption context

Definition at line 248 of file `ssl.h`.

15.1.2.60 unsigned long `_ssl_context::ctx_dec`[128]

decryption context

Definition at line 249 of file `ssl.h`.

15.1.2.61 unsigned char* `_ssl_context::hostname`

Definition at line 254 of file `ssl.h`.

15.1.2.62 unsigned long `_ssl_context::hostname_len`

Definition at line 255 of file `ssl.h`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/ssl.h`

15.2 `_ssl_session` Struct Reference

```
#include <ssl.h>
```

Data Fields

- `time_t start`
- `int cipher`
- `int length`
- unsigned char `id` [32]
- unsigned char `master` [48]
- `ssl_session * next`

15.2.1 Detailed Description

Definition at line 139 of file `ssl.h`.

15.2.2 Field Documentation

15.2.2.1 `time_t _ssl_session::start`

starting time

Definition at line 141 of file `ssl.h`.

Referenced by `my_get_session()`, and `my_set_session()`.

15.2.2.2 `int _ssl_session::cipher`

chosen cipher

Definition at line 142 of file `ssl.h`.

Referenced by `my_get_session()`.

15.2.2.3 `int _ssl_session::length`

session id length

Definition at line 143 of file `ssl.h`.

Referenced by `my_get_session()`, and `my_set_session()`.

15.2.2.4 `unsigned char _ssl_session::id[32]`

session identifier

Definition at line 144 of file `ssl.h`.

Referenced by `my_get_session()`, and `my_set_session()`.

15.2.2.5 `unsigned char _ssl_session::master[48]`

the master secret

Definition at line 145 of file `ssl.h`.

Referenced by `my_get_session()`.

15.2.2.6 `ssl_session* _ssl_session::next`

next session entry

Definition at line 146 of file `ssl.h`.

Referenced by `main()`, `my_get_session()`, and `my_set_session()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/ssl.h`

15.3 `_x509_buf` Struct Reference

```
#include <x509.h>
```

Data Fields

- [int tag](#)
- [int len](#)
- unsigned char * [p](#)

15.3.1 Detailed Description

Definition at line 96 of file `x509.h`.

15.3.2 Field Documentation

15.3.2.1 `int _x509_buf::tag`

Definition at line 98 of file `x509.h`.

15.3.2.2 `int _x509_buf::len`

Definition at line 99 of file `x509.h`.

15.3.2.3 `unsigned char* _x509_buf::p`

Definition at line 100 of file `x509.h`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h](#)

15.4 `_x509_cert` Struct Reference

```
#include <x509.h>
```

Data Fields

- `x509_buf raw`
- `x509_buf tbs`
- `int version`
- `x509_buf serial`
- `x509_buf sig_oid1`
- `x509_buf issuer_raw`
- `x509_buf subject_raw`
- `x509_name issuer`
- `x509_name subject`
- `x509_time valid_from`
- `x509_time valid_to`
- `x509_buf pk_oid`
- `rsa_context rsa`
- `x509_buf issuer_id`
- `x509_buf subject_id`
- `x509_buf v3_ext`
- `int ca_istrue`
- `int max_pathlen`
- `x509_buf sig_oid2`
- `x509_buf sig`
- `struct _x509_cert * next`

15.4.1 Detailed Description

Definition at line 119 of file `x509.h`.

15.4.2 Field Documentation

15.4.2.1 `x509_buf _x509_cert::raw`

Definition at line 121 of file `x509.h`.

15.4.2.2 `x509_buf _x509_cert::tbs`

Definition at line 122 of file `x509.h`.

15.4.2.3 `int _x509_cert::version`

Definition at line 124 of file `x509.h`.

15.4.2.4 x509_buf_x509_cert::serial

Definition at line 125 of file x509.h.

15.4.2.5 x509_buf_x509_cert::sig_oid1

Definition at line 126 of file x509.h.

15.4.2.6 x509_buf_x509_cert::issuer_raw

Definition at line 128 of file x509.h.

15.4.2.7 x509_buf_x509_cert::subject_raw

Definition at line 129 of file x509.h.

15.4.2.8 x509_name_x509_cert::issuer

Definition at line 131 of file x509.h.

15.4.2.9 x509_name_x509_cert::subject

Definition at line 132 of file x509.h.

15.4.2.10 x509_time_x509_cert::valid_from

Definition at line 134 of file x509.h.

15.4.2.11 x509_time_x509_cert::valid_to

Definition at line 135 of file x509.h.

15.4.2.12 x509_buf_x509_cert::pk_oid

Definition at line 137 of file x509.h.

15.4.2.13 rsa_context_x509_cert::rsa

Definition at line 138 of file x509.h.

15.4.2.14 x509_buf_x509_cert::issuer_id

Definition at line 140 of file x509.h.

15.4.2.15 `x509_buf_x509_cert::subject_id`

Definition at line 141 of file `x509.h`.

15.4.2.16 `x509_buf_x509_cert::v3_ext`

Definition at line 142 of file `x509.h`.

15.4.2.17 `int_x509_cert::ca_istrue`

Definition at line 144 of file `x509.h`.

15.4.2.18 `int_x509_cert::max_pathlen`

Definition at line 145 of file `x509.h`.

15.4.2.19 `x509_buf_x509_cert::sig_oid2`

Definition at line 147 of file `x509.h`.

15.4.2.20 `x509_buf_x509_cert::sig`

Definition at line 148 of file `x509.h`.

15.4.2.21 `struct_x509_cert*_x509_cert::next` [read]

Definition at line 150 of file `x509.h`.

Referenced by `main()`, and `ssl_test()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h`

15.5 `_x509_name` Struct Reference

```
#include <x509.h>
```

Data Fields

- [x509_buf oid](#)
- [x509_buf val](#)
- [struct `_x509_name` * next](#)

15.5.1 Detailed Description

Definition at line 104 of file `x509.h`.

15.5.2 Field Documentation

15.5.2.1 `x509_buf _x509_name::oid`

Definition at line 106 of file `x509.h`.

15.5.2.2 `x509_buf _x509_name::val`

Definition at line 107 of file `x509.h`.

15.5.2.3 `struct _x509_name* _x509_name::next` [read]

Definition at line 108 of file `x509.h`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h](#)

15.6 `_x509_node` Struct Reference

```
#include <x509.h>
```

Data Fields

- unsigned char * [data](#)
- unsigned char * [p](#)
- unsigned char * [end](#)
- size_t [len](#)

15.6.1 Detailed Description

Definition at line 157 of file `x509.h`.

15.6.2 Field Documentation

15.6.2.1 unsigned char* `_x509_node::data`

Definition at line 159 of file `x509.h`.

15.6.2.2 unsigned char* `_x509_node::p`

Definition at line 160 of file `x509.h`.

15.6.2.3 unsigned char* `_x509_node::end`

Definition at line 161 of file `x509.h`.

15.6.2.4 size_t `_x509_node::len`

Definition at line 163 of file `x509.h`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h`

15.7 `_x509_raw` Struct Reference

```
#include <x509.h>
```

Data Fields

- [x509_node raw](#)
- [x509_node tbs](#)
- [x509_node version](#)
- [x509_node serial](#)
- [x509_node tbs_signalg](#)
- [x509_node issuer](#)
- [x509_node validity](#)
- [x509_node subject](#)
- [x509_node subpubkey](#)
- [x509_node signalg](#)
- [x509_node sign](#)

15.7.1 Detailed Description

Definition at line 167 of file x509.h.

15.7.2 Field Documentation

15.7.2.1 `x509_node _x509_raw::raw`

Definition at line 169 of file x509.h.

15.7.2.2 `x509_node _x509_raw::tbs`

Definition at line 170 of file x509.h.

15.7.2.3 `x509_node _x509_raw::version`

Definition at line 172 of file x509.h.

15.7.2.4 `x509_node _x509_raw::serial`

Definition at line 173 of file x509.h.

15.7.2.5 `x509_node _x509_raw::tbs_signalg`

Definition at line 174 of file x509.h.

15.7.2.6 `x509_node _x509_raw::issuer`

Definition at line 175 of file x509.h.

15.7.2.7 `x509_node_x509_raw::validity`

Definition at line 176 of file `x509.h`.

15.7.2.8 `x509_node_x509_raw::subject`

Definition at line 177 of file `x509.h`.

15.7.2.9 `x509_node_x509_raw::subpubkey`

Definition at line 178 of file `x509.h`.

15.7.2.10 `x509_node_x509_raw::signalg`

Definition at line 180 of file `x509.h`.

15.7.2.11 `x509_node_x509_raw::sign`

Definition at line 181 of file `x509.h`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h](#)

15.8 `_x509_time` Struct Reference

```
#include <x509.h>
```

Data Fields

- `int year`
- `int mon`
- `int day`
- `int hour`
- `int min`
- `int sec`

15.8.1 Detailed Description

Definition at line 112 of file `x509.h`.

15.8.2 Field Documentation

15.8.2.1 `int _x509_time::year`

Definition at line 114 of file `x509.h`.

15.8.2.2 `int _x509_time::mon`

Definition at line 114 of file `x509.h`.

15.8.2.3 `int _x509_time::day`

Definition at line 114 of file `x509.h`.

15.8.2.4 `int _x509_time::hour`

Definition at line 115 of file `x509.h`.

15.8.2.5 `int _x509_time::min`

Definition at line 115 of file `x509.h`.

15.8.2.6 `int _x509_time::sec`

Definition at line 115 of file `x509.h`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h`

15.9 aes_context Struct Reference

AES context structure.

```
#include <aes.h>
```

Data Fields

- [int nr](#)
- unsigned long * [rk](#)
- unsigned long [buf](#) [68]

15.9.1 Detailed Description

AES context structure.

Definition at line 13 of file aes.h.

15.9.2 Field Documentation

15.9.2.1 int aes_context::nr

number of rounds

Definition at line 15 of file aes.h.

15.9.2.2 unsigned long* aes_context::rk

AES round keys

Definition at line 16 of file aes.h.

15.9.2.3 unsigned long aes_context::buf[68]

unaligned data

Definition at line 17 of file aes.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/aes.h](#)

15.10 agency_s Struct Reference

The agency handle.

```
#include <libmc.h>
```

Data Fields

- `int client`
- `int server`
- `char * hostName`
- `char * filename`
- `int portno`
- `int portnoc`
- `struct mc_platform_s * mc_platform`
- `int default_agentstatus`
- `int threads`
- `int enable_security`
- `int stack_size [MC_THREAD_ALL]`
- `error_code_t last_error`

15.10.1 Detailed Description

The agency handle.

Definition at line 215 of file libmc.h.

15.10.2 Field Documentation

15.10.2.1 int agency_s::client

Definition at line 216 of file libmc.h.

Referenced by `MC_Initialize()`.

15.10.2.2 int agency_s::server

Definition at line 217 of file libmc.h.

Referenced by `MC_Initialize()`.

15.10.2.3 char* agency_s::hostName

Local Hostname

Definition at line 218 of file libmc.h.

Referenced by `MC_End()`, and `MC_Initialize()`.

15.10.2.4 char* agency_s::filename

Definition at line 219 of file libmc.h.

15.10.2.5 int agency_s::portno

Local port number

Definition at line 220 of file libmc.h.

Referenced by MC_Initialize(), and mc_platform_Initialize().

15.10.2.6 int agency_s::portnoc

Definition at line 221 of file libmc.h.

15.10.2.7 struct mc_platform_s* agency_s::mc_platform [read]

Local MobileC Platform

Definition at line 222 of file libmc.h.

Referenced by MC_AclSend_chdl(), MC_AddAgent(), MC_AddAgent_chdl(), MC_Barrier(), MC_Barrier_chdl(), MC_BarrierDelete(), MC_BarrierDelete_chdl(), MC_BarrierInit(), MC_BarrierInit_chdl(), MC_ChInitializeOptions(), MC_CondBroadcast(), MC_CondBroadcast_chdl(), MC_CondReset(), MC_CondReset_chdl(), MC_CondSignal(), MC_CondSignal_chdl(), MC_CondWait(), MC_CondWait_chdl(), MC_DeregisterService(), MC_DeregisterService_chdl(), MC_End(), MC_End_chdl(), MC_FindAgentByID(), MC_FindAgentByID_chdl(), MC_FindAgentByName(), MC_FindAgentByName_chdl(), MC_GetAllAgents(), MC_HaltAgency(), MC_HaltAgency_chdl(), MC_Initialize(), MC_LoadAgentFromFile(), MC_MainLoop(), MC_MutexLock(), MC_MutexLock_chdl(), MC_MutexUnlock(), MC_MutexUnlock_chdl(), MC_RegisterService(), MC_RegisterService_chdl(), MC_ResetSignal(), MC_ResumeAgency(), MC_ResumeAgency_chdl(), MC_RetrieveAgent(), MC_RetrieveAgent_chdl(), MC_SearchForService(), MC_SearchForService_chdl(), MC_SemaphorePost(), MC_SemaphorePost_chdl(), MC_SemaphoreWait(), MC_SemaphoreWait_chdl(), MC_SendAgentMigrationMessage(), MC_SendAgentMigrationMessage_chdl(), MC_SendAgentMigrationMessageFile(), MC_SendSteerCommand(), MC_SendSteerCommand_chdl(), MC_SetDefaultAgentStatus(), MC_SetDefaultAgentStatus_chdl(), MC_Steer(), MC_SyncDelete(), MC_SyncDelete_chdl(), MC_SyncInit(), MC_SyncInit_chdl(), MC_WaitAgent(), MC_WaitRetrieveAgent(), and MC_WaitSignal().

15.10.2.8 int agency_s::default_agentstatus

Agency default agent status

Definition at line 223 of file libmc.h.

Referenced by MC_Initialize(), and mc_platform_Initialize().

15.10.2.9 int agency_s::threads

flag which determines which threads to start

Definition at line 224 of file libmc.h.

Referenced by MC_End(), MC_Initialize(), and mc_platform_Initialize().

15.10.2.10 int agency_s::enable_security

Security flag

Definition at line 225 of file libmc.h.

Referenced by MC_Initialize(), and mc_platform_Initialize().

15.10.2.11 int agency_s::stack_size[MC_THREAD_ALL]

Definition at line 226 of file libmc.h.

Referenced by MC_Initialize(), and mc_platform_Initialize().

15.10.2.12 error_code_t agency_s::last_error

Definition at line 227 of file libmc.h.

Referenced by mc_platform_Initialize().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/libmc.h](#)

15.11 agent_datastate_s Struct Reference

```
#include <agent_datastate.h>
```

Data Fields

- char ** agent_code_ids
- char ** agent_codes
- char * agent_code
- agent_task_p * tasks
- mxml_node_t * xml_agent_root
- mxml_node_t * xml_root
- int task_progress
- int return_data
- int number_of_tasks
- int persistent
- int init_agent_status

15.11.1 Detailed Description

Definition at line 41 of file agent_datastate.h.

15.11.2 Field Documentation

15.11.2.1 char** agent_datastate_s::agent_code_ids

Definition at line 43 of file agent_datastate.h.

Referenced by agent_datastate_Copy(), agent_datastate_Destroy(), agent_xml_compose__agent_code(), agent_xml_parse__agent_code(), agent_xml_parse__tasks(), and MC_ComposeAgent().

15.11.2.2 char** agent_datastate_s::agent_codes

Definition at line 44 of file agent_datastate.h.

Referenced by agent_datastate_Copy(), agent_datastate_Destroy(), agent_xml_compose__agent_code(), agent_xml_parse__agent_code(), agent_xml_parse__tasks(), and MC_ComposeAgent().

15.11.2.3 char* agent_datastate_s::agent_code

Definition at line 45 of file agent_datastate.h.

Referenced by agent_datastate_Copy(), agent_datastate_New(), agent_xml_parse__agent_code(), agent_xml_parse__tasks(), MC_ComposeAgent(), MC_PrintAgentCode(), and MC_RetrieveAgentCode().

15.11.2.4 agent_task_p* agent_datastate_s::tasks

Definition at line 48 of file agent_datastate.h.

Referenced by `agent_AddPersistentVariable()`, `agent_datastate_Copy()`, `agent_datastate_Destroy()`, `agent_datastate_New()`, `agent_xml_compose__task()`, `agent_xml_parse__agent_code()`, `agent_xml_parse__data()`, `agent_xml_parse__task()`, `agent_xml_parse__tasks()`, `interpreter_variable_data_InitializeFromAgent()`, `MC_AgentVariableRetrieve()`, `MC_AgentVariableSave()`, `MC_ComposeAgent()`, `MC_GetAgentReturnData()`, `MC_SaveData_chdl()`, and `message_InitializeFromAgent()`.

15.11.2.5 `mxml_node_t* agent_datastate_s::xml_agent_root`

Definition at line 51 of file `agent_datastate.h`.

Referenced by `agent_datastate_New()`, `agent_Initialize()`, `agent_xml_parse()`, and `MC_GetAgentXMLString()`.

15.11.2.6 `mxml_node_t* agent_datastate_s::xml_root`

Definition at line 52 of file `agent_datastate.h`.

Referenced by `agent_datastate_Destroy()`, `agent_datastate_New()`, `agent_Initialize()`, and `agent_return_xml_parse()`.

15.11.2.7 `int agent_datastate_s::task_progress`

Definition at line 55 of file `agent_datastate.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_datastate_Copy()`, `agent_datastate_New()`, `agent_RunChScriptThread()`, `agent_xml_compose__tasks()`, `agent_xml_parse__agent_code()`, `agent_xml_parse__tasks()`, `interpreter_variable_data_InitializeFromAgent()`, `MC_AgentVariableRetrieve()`, `MC_AgentVariableSave()`, `MC_PrintAgentCode()`, `MC_RetrieveAgentCode()`, `MC_SaveData_chdl()`, and `message_InitializeFromAgent()`.

15.11.2.8 `int agent_datastate_s::return_data`

Definition at line 56 of file `agent_datastate.h`.

Referenced by `agent_datastate_Copy()`, and `agent_datastate_New()`.

15.11.2.9 `int agent_datastate_s::number_of_tasks`

Definition at line 59 of file `agent_datastate.h`.

Referenced by `agent_datastate_Copy()`, `agent_datastate_Destroy()`, `agent_datastate_New()`, `agent_xml_compose__tasks()`, `agent_xml_parse__agent_code()`, `agent_xml_parse__tasks()`, `MC_ComposeAgent()`, `MC_GetAgentNumTasks()`, `MC_GetAgentReturnData()`, `MC_PrintAgentCode()`, and `message_InitializeFromAgent()`.

15.11.2.10 `int agent_datastate_s::persistent`

Definition at line 62 of file `agent_datastate.h`.

Referenced by `acc_MessageHandlerThread()`, `agent_datastate_Copy()`, `agent_datastate_New()`, `agent_xml_compose__task()`, and `MC_ComposeAgent()`.

15.11.2.11 int agent_datastate_s::init_agent_status

Definition at line 63 of file agent_datastate.h.

Referenced by agent_datastate_Copy(), and agent_datastate_New().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/agent_datastate.h](#)

15.12 agent_mailbox_s Struct Reference

```
#include <agent_mailbox.h>
```

Data Fields

- struct mail_queue_s * [mail_queue](#)

15.12.1 Detailed Description

Definition at line 8 of file agent_mailbox.h.

15.12.2 Field Documentation

15.12.2.1 struct mail_queue_s* agent_mailbox_s::mail_queue [read]

Definition at line 10 of file agent_mailbox.h.

Referenced by `agent_mailbox_Copy()`, `agent_mailbox_Destroy()`, `agent_mailbox_New()`, `agent_mailbox_Post()`, `agent_mailbox_Retrieve()`, and `agent_mailbox_WaitRetrieve()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/include/agent_mailbox.h`

15.13 agent_s Struct Reference

```
#include <agent.h>
```

Data Fields

- u_long [id](#)
- char * [name](#)
- u_long [connect_id](#)
- time_t [arrival_time](#)
- char * [owner](#)
- char * [home](#)
- int [home_port](#)
- int [orphan](#)
- agent_datastate_p [datastate](#)
- enum [MC_AgentType_e](#) [agent_type](#)
- enum [MC_AgentStatus_e](#) [agent_status](#)
- int [return_data](#)
- ChInterp_t [agent_interp](#)
- MUTEX_T * [run_lock](#)
- int [agent_thread_id](#)
- THREAD_T * [agent_thread](#)
- agent_mailbox_p [mailbox](#)
- int [agent_pipe_active](#)
- int [agent_ready_to_send](#)
- int [agent_pipe_ready_to_read](#)
- int [agent_script_ready](#)
- int [agent_persistent](#)
- struct [mc_platform_s](#) * [mc_platform](#)
- MUTEX_T * [lock](#)

15.13.1 Detailed Description

Definition at line 48 of file agent.h.

15.13.2 Field Documentation

15.13.2.1 u_long agent_s::id

Definition at line 51 of file agent.h.

Referenced by [agent_Copy\(\)](#), [agent_Initialize\(\)](#), [agent_RunChScriptThread\(\)](#), [ams_Print\(\)](#), [AP_QUEUE_STD_DEFN_TEMPLATE\(\)](#), [MC_GetAgentID\(\)](#), and [MC_RegisterService\(\)](#).

15.13.2.2 `char* agent_s::name`

Definition at line 52 of file agent.h.

Referenced by `acc_MessageHandlerThread()`, `agent_AddPersistentVariable()`, `agent_Copy()`, `agent_Destroy()`, `agent_RunChScriptThread()`, `agent_xml_compose__name()`, `agent_xml_parse__name()`, `AP_QUEUE_STD_DEFN_TEMPLATE()`, `MC_ComposeAgent()`, `MC_GetAgentName()`, and `MC_RegisterService()`.

15.13.2.3 `u_long agent_s::connect_id`

Definition at line 53 of file agent.h.

Referenced by `ams_Print()`.

15.13.2.4 `time_t agent_s::arrival_time`

Definition at line 55 of file agent.h.

Referenced by `agent_Copy()`, `agent_Initialize()`, and `MC_GetAgentArrivalTime()`.

15.13.2.5 `char* agent_s::owner`

Definition at line 60 of file agent.h.

Referenced by `agent_Copy()`, `agent_Destroy()`, `agent_xml_compose__owner()`, `agent_xml_parse__owner()`, and `MC_ComposeAgent()`.

15.13.2.6 `char* agent_s::home`

Definition at line 61 of file agent.h.

Referenced by `agent_Copy()`, `agent_Destroy()`, `agent_xml_compose__home()`, `agent_xml_parse__home()`, `MC_ComposeAgent()`, and `message_InitializeFromAgent()`.

15.13.2.7 `int agent_s::home_port`

Definition at line 62 of file agent.h.

Referenced by `agent_Copy()`.

15.13.2.8 `int agent_s::orphan`

Definition at line 64 of file agent.h.

Referenced by `agent_Copy()`, `agent_Initialize()`, `ams_ManageAgentList()`, `MC_ComposeAgent()`, and `MC_SetAgentStatus()`.

15.13.2.9 `agent_datastate_p agent_s::datastate`

Definition at line 68 of file agent.h.

Referenced by `acc_MessageHandlerThread()`, `agent_AddPersistentVariable()`, `agent_Copy()`, `agent_Destroy()`, `agent_Initialize()`, `agent_return_xml_parse()`, `agent_RunChScriptThread()`, `agent_xml_compose__agent_code()`, `agent_xml_compose__task()`, `agent_xml_compose__tasks()`, `agent_xml_parse()`, `agent_xml_parse__agent_code()`, `agent_xml_parse__data()`, `agent_xml_parse__task()`, `agent_xml_parse__tasks()`, `interpreter_variable_data_InitializeFromAgent()`, `MC_AgentVariableRetrieve()`, `MC_AgentVariableSave()`, `MC_ComposeAgent()`, `MC_GetAgentNumTasks()`, `MC_GetAgentReturnData()`, `MC_GetAgentXMLString()`, `MC_PrintAgentCode()`, `MC_RetrieveAgentCode()`, `MC_SaveData_chdl()`, and `message_InitializeFromAgent()`.

15.13.2.10 enum MC_AgentType_e agent_s::agent_type

Definition at line 69 of file `agent.h`.

Referenced by `agent_Copy()`, `agent_Initialize()`, `agent_xml_compose__message()`, `MC_ComposeAgent()`, and `MC_GetAgentType()`.

15.13.2.11 enum MC_AgentStatus_e agent_s::agent_status

Definition at line 70 of file `agent.h`.

Referenced by `acc_MessageHandlerThread()`, `agent_Copy()`, `agent_Destroy()`, `agent_Initialize()`, `agent_RunChScript()`, `ams_ManageAgentList()`, `ams_Print()`, `MC_ComposeAgent()`, `MC_GetAgentStatus()`, `MC_RetrieveAgent()`, and `MC_SetAgentStatus()`.

15.13.2.12 int agent_s::return_data

Definition at line 72 of file `agent.h`.

Referenced by `agent_Copy()`.

15.13.2.13 ChInterp_t agent_s::agent_interp

Definition at line 75 of file `agent.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_Copy()`, `agent_Destroy()`, `agent_RunChScriptThread()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `MC_CallAgentFunc()`, `MC_CallAgentFuncArg()`, `MC_CallAgentFuncV()`, `MC_CallAgentFuncVar()`, `MC_GetAgentExecEngine()`, and `MC_TerminateAgent()`.

15.13.2.14 MUTEX_T* agent_s::run_lock

Definition at line 78 of file `agent.h`.

Referenced by `agent_Copy()`, `agent_Destroy()`, `agent_Initialize()`, `agent_New()`, `interpreter_variable_data_Initialize()`, `MC_CallAgentFunc()`, `MC_CallAgentFuncArg()`, `MC_CallAgentFuncV()`, and `MC_CallAgentFuncVar()`.

15.13.2.15 int agent_s::agent_thread_id

Definition at line 81 of file `agent.h`.

Referenced by `agent_Initialize()`.

15.13.2.16 `THREAD_T* agent_s::agent_thread`

Definition at line 85 of file agent.h.

Referenced by agent_Copy(), agent_Destroy(), agent_Initialize(), and agent_RunChScript().

15.13.2.17 `agent_mailbox_p agent_s::mailbox`

Definition at line 88 of file agent.h.

Referenced by acc_Thread(), agent_Destroy(), agent_Initialize(), MC_AclPost(), MC_AclRetrieve(), and MC_AclWaitRetrieve().

15.13.2.18 `int agent_s::agent_pipe_active`

Definition at line 91 of file agent.h.

Referenced by agent_Initialize().

15.13.2.19 `int agent_s::agent_ready_to_send`

Definition at line 92 of file agent.h.

Referenced by agent_Initialize().

15.13.2.20 `int agent_s::agent_pipe_ready_to_read`

Definition at line 93 of file agent.h.

Referenced by agent_Initialize().

15.13.2.21 `int agent_s::agent_script_ready`

Definition at line 94 of file agent.h.

Referenced by agent_Initialize().

15.13.2.22 `int agent_s::agent_persistent`

Definition at line 95 of file agent.h.

Referenced by agent_Copy().

15.13.2.23 `struct mc_platform_s* agent_s::mc_platform` [read]

Definition at line 97 of file agent.h.

Referenced by agent_Initialize(), agent_RunChScript(), agent_RunChScriptThread(), MC_AddAgent(), and MC_SetAgentStatus().

15.13.2.24 MUTEX_T* agent_s::lock

Definition at line 99 of file agent.h.

Referenced by acc_MessageHandlerThread(), agent_Copy(), agent_Destroy(), agent_Initialize(), agent_New(), ams_ManageAgentList(), MC_GetAgentName(), MC_GetAgentStatus(), MC_PrintAgentCode(), MC_RetrieveAgentCode(), and MC_SetAgentStatus().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/agent.h](#)

15.14 agent_task_s Struct Reference

```
#include <agent_task.h>
```

Data Fields

- [int task_completed](#)
- [int number_of_elements](#)
- [int size_of_element_array](#)
- [int persistent](#)
- [int init_agent_status](#)
- [char * var_name](#)
- [char * server_name](#)
- [char * code_id](#)
- [interpreter_variable_data_t * agent_return_data](#)
- [struct agent_variable_list_s * agent_variable_list](#)
- [char ** saved_variables](#)
- [int num_saved_variables](#)

15.14.1 Detailed Description

Definition at line 40 of file agent_task.h.

15.14.2 Field Documentation

15.14.2.1 int agent_task_s::task_completed

Definition at line 43 of file agent_task.h.

Referenced by agent_task_Copy(), agent_xml_compose__task(), and agent_xml_parse__task().

15.14.2.2 int agent_task_s::number_of_elements

Definition at line 44 of file agent_task.h.

Referenced by agent_task_Copy().

15.14.2.3 int agent_task_s::size_of_element_array

Definition at line 45 of file agent_task.h.

Referenced by agent_task_Copy().

15.14.2.4 int agent_task_s::persistent

Definition at line 46 of file agent_task.h.

Referenced by agent_task_Copy(), agent_xml_compose__task(), and agent_xml_parse__data().

15.14.2.5 int agent_task_s::init_agent_status

Definition at line 47 of file agent_task.h.

Referenced by agent_task_Copy().

15.14.2.6 char* agent_task_s::var_name

Definition at line 49 of file agent_task.h.

Referenced by agent_task_Copy(), agent_task_Destroy(), agent_xml_compose__task(), agent_xml_parse__task(), interpreter_variable_data_InitializeFromAgent(), and MC_ComposeAgent().

15.14.2.7 char* agent_task_s::server_name

Definition at line 50 of file agent_task.h.

Referenced by agent_task_Copy(), agent_task_Destroy(), agent_xml_compose__task(), agent_xml_parse__task(), MC_ComposeAgent(), and message_InitializeFromAgent().

15.14.2.8 char* agent_task_s::code_id

Definition at line 51 of file agent_task.h.

Referenced by agent_task_Copy(), agent_task_Destroy(), agent_xml_compose__task(), agent_xml_parse__agent_code(), and agent_xml_parse__task().

15.14.2.9 interpreter_variable_data_t* agent_task_s::agent_return_data

Definition at line 54 of file agent_task.h.

Referenced by agent_task_Copy(), agent_task_Destroy(), agent_xml_compose__task(), agent_xml_parse__data(), and MC_GetAgentReturnData().

15.14.2.10 struct agent_variable_list_s* agent_task_s::agent_variable_list [read]

Definition at line 55 of file agent_task.h.

Referenced by agent_AddPersistentVariable(), agent_task_Destroy(), agent_task_New(), agent_xml_compose__task(), agent_xml_parse__data(), MC_AgentVariableRetrieve(), and MC_SaveData_chdl().

15.14.2.11 char agent_task_s::saved_variables**

Definition at line 56 of file agent_task.h.

Referenced by agent_task_Destroy(), agent_task_New(), and MC_AgentVariableSave().

15.14.2.12 int agent_task_s::num_saved_variables

Definition at line 57 of file agent_task.h.

Referenced by agent_task_New(), and MC_AgentVariableSave().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/agent_task.h](#)

15.15 arc4_context Struct Reference

ARC4 context structure.

```
#include <arc4.h>
```

Data Fields

- [int x](#)
- [int y](#)
- unsigned char [m](#) [256]

15.15.1 Detailed Description

ARC4 context structure.

Definition at line 10 of file arc4.h.

15.15.2 Field Documentation

15.15.2.1 int arc4_context::x

permutation index

Definition at line 12 of file arc4.h.

15.15.2.2 int arc4_context::y

permutation index

Definition at line 13 of file arc4.h.

15.15.2.3 unsigned char arc4_context::m[256]

permutation table

Definition at line 14 of file arc4.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/arc4.h](#)

15.16 barrier_node_s Struct Reference

```
#include <barrier.h>
```

Data Fields

- `MUTEX_T * lock`
- `COND_T * cond`
- `int id`
- `int num_registered`
- `int num_waiting`

15.16.1 Detailed Description

Definition at line 42 of file barrier.h.

15.16.2 Field Documentation

15.16.2.1 MUTEX_T* barrier_node_s::lock

Definition at line 43 of file barrier.h.

Referenced by `barrier_node_Destroy()`, `barrier_node_Initialize()`, and `MC_Barrier()`.

15.16.2.2 COND_T* barrier_node_s::cond

Definition at line 44 of file barrier.h.

Referenced by `barrier_node_Destroy()`, `barrier_node_Initialize()`, and `MC_Barrier()`.

15.16.2.3 int barrier_node_s::id

Definition at line 45 of file barrier.h.

Referenced by `barrier_node_Initialize()`, `barrier_queue_Add()`, and `barrier_queue_Delete()`.

15.16.2.4 int barrier_node_s::num_registered

Definition at line 46 of file barrier.h.

Referenced by `barrier_node_Initialize()`, and `MC_Barrier()`.

15.16.2.5 int barrier_node_s::num_waiting

Definition at line 47 of file barrier.h.

Referenced by `barrier_node_Initialize()`, and `MC_Barrier()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/include/barrier.h`

15.17 barrier_queue_s Struct Reference

```
#include <barrier.h>
```

Data Fields

- RWLOCK_T * [lock](#)
- [list_p](#) list
- [int](#) size

15.17.1 Detailed Description

Definition at line 51 of file barrier.h.

15.17.2 Field Documentation

15.17.2.1 RWLOCK_T* barrier_queue_s::lock

Definition at line 52 of file barrier.h.

Referenced by [barrier_queue_Add\(\)](#), [barrier_queue_Delete\(\)](#), [barrier_queue_Destroy\(\)](#), [barrier_queue_Get\(\)](#), and [barrier_queue_New\(\)](#).

15.17.2.2 list_p barrier_queue_s::list

Definition at line 54 of file barrier.h.

Referenced by [barrier_queue_Add\(\)](#), [barrier_queue_Delete\(\)](#), [barrier_queue_Destroy\(\)](#), [barrier_queue_Get\(\)](#), [barrier_queue_New\(\)](#), and [barrier_queue_Pop\(\)](#).

15.17.2.3 int barrier_queue_s::size

Definition at line 55 of file barrier.h.

Referenced by [barrier_queue_Add\(\)](#), and [barrier_queue_Delete\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/barrier.h](#)

15.18 cmd_prompt_s Struct Reference

```
#include <cmd_prompt.h>
```

Data Fields

- `THREAD_T` [thread](#)

15.18.1 Detailed Description

Definition at line 41 of file `cmd_prompt.h`.

15.18.2 Field Documentation

15.18.2.1 `THREAD_T cmd_prompt_s::thread`

Definition at line 42 of file `cmd_prompt.h`.

Referenced by `cmd_prompt_Start()`, and `MC_End()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/include/cmd_prompt.h`

15.19 `command_s` Struct Reference

```
#include <cmd_prompt.h>
```

Data Fields

- [int index](#)
- [int num_args](#)
- [char ** args](#)

15.19.1 Detailed Description

Definition at line 46 of file `cmd_prompt.h`.

15.19.2 Field Documentation

15.19.2.1 `int command_s::index`

Definition at line 47 of file `cmd_prompt.h`.

Referenced by `cmd_prompt_Thread()`, `exec_command()`, and `process_command()`.

15.19.2.2 `int command_s::num_args`

Definition at line 48 of file `cmd_prompt.h`.

Referenced by `cmd_prompt_Thread()`, `dealloc_command()`, `exec_command()`, `handler_HELP()`, `handler_SEND()`, and `process_command()`.

15.19.2.3 `char** command_s::args`

Definition at line 49 of file `cmd_prompt.h`.

Referenced by `cmd_prompt_Thread()`, `dealloc_command()`, `exec_command()`, `handler_HELP()`, `handler_SEND()`, and `process_command()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/cmd_prompt.h](#)

15.20 connection_s Struct Reference

```
#include <connection.h>
```

Data Fields

- [int connect_id](#)
- [char * remote_hostname](#)
- [struct sockaddr_in addr](#)
- [u_long clientfd](#)
- [u_long serverfd](#)

15.20.1 Detailed Description

Definition at line 46 of file connection.h.

15.20.2 Field Documentation

15.20.2.1 int connection_s::connect_id

Definition at line 49 of file connection.h.

Referenced by `AP_QUEUE_SEARCH_TEMPLATE()`, `connection_Copy()`, and `message_InitializeFromConnection()`.

15.20.2.2 char* connection_s::remote_hostname

Definition at line 52 of file connection.h.

Referenced by `AP_QUEUE_SEARCH_TEMPLATE()`, `connection_Copy()`, and `connection_Destroy()`.

15.20.2.3 struct sockaddr_in connection_s::addr [read]

Definition at line 54 of file connection.h.

Referenced by `connection_Copy()`, and `message_InitializeFromConnection()`.

15.20.2.4 u_long connection_s::clientfd

Definition at line 57 of file connection.h.

Referenced by `connection_Copy()`, `connection_Destroy()`, `message_InitializeFromConnection()`, and `mtp_http_InitializeFromConnection()`.

15.20.2.5 u_long connection_s::serverfd

Definition at line 58 of file connection.h.

Referenced by `connection_Copy()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/connection.h](#)

15.21 des3_context Struct Reference

Triple-DES context structure.

```
#include <des.h>
```

Data Fields

- [int mode](#)
- unsigned long [sk](#) [96]

15.21.1 Detailed Description

Triple-DES context structure.

Definition at line 23 of file des.h.

15.21.2 Field Documentation

15.21.2.1 int des3_context::mode

encrypt/decrypt

Definition at line 25 of file des.h.

15.21.2.2 unsigned long des3_context::sk[96]

3DES subkeys

Definition at line 26 of file des.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/des.h](#)

15.22 `des_context` Struct Reference

DES context structure.

```
#include <des.h>
```

Data Fields

- `int mode`
- unsigned long `sk` [32]

15.22.1 Detailed Description

DES context structure.

Definition at line 13 of file `des.h`.

15.22.2 Field Documentation

15.22.2.1 `int des_context::mode`

encrypt/decrypt

Definition at line 15 of file `des.h`.

15.22.2.2 `unsigned long des_context::sk[32]`

DES subkeys

Definition at line 16 of file `des.h`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/des.h`

15.23 dhm_context Struct Reference

```
#include <dhm.h>
```

Data Fields

- [int len](#)
- [mpi P](#)
- [mpi G](#)
- [mpi X](#)
- [mpi GX](#)
- [mpi GY](#)
- [mpi K](#)
- [mpi RP](#)

15.23.1 Detailed Description

Definition at line 16 of file dhm.h.

15.23.2 Field Documentation

15.23.2.1 int dhm_context::len

size(P) in chars

Definition at line 18 of file dhm.h.

Referenced by main().

15.23.2.2 mpi dhm_context::P

prime modulus

Definition at line 19 of file dhm.h.

Referenced by main().

15.23.2.3 mpi dhm_context::G

generator

Definition at line 20 of file dhm.h.

Referenced by main().

15.23.2.4 mpi dhm_context::X

secret value

Definition at line 21 of file dhm.h.

15.23.2.5 mpi dhm_context::GX

self = $G^X \bmod P$

Definition at line 22 of file dhm.h.

15.23.2.6 mpi dhm_context::GY

peer = $G^Y \bmod P$

Definition at line 23 of file dhm.h.

15.23.2.7 mpi dhm_context::K

key = $GY^X \bmod P$

Definition at line 24 of file dhm.h.

15.23.2.8 mpi dhm_context::RP

cached $R^2 \bmod P$

Definition at line 25 of file dhm.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/dhm.h](#)

15.24 dynstring_s Struct Reference

```
#include <dynstring.h>
```

Data Fields

- [int len](#)
- [int size](#)
- [char * message](#)

15.24.1 Detailed Description

Definition at line 9 of file dynstring.h.

15.24.2 Field Documentation

15.24.2.1 int dynstring_s::len

Definition at line 10 of file dynstring.h.

Referenced by [dynstring_Append\(\)](#), [dynstring_New\(\)](#), and [mtp_http_CreateMessage\(\)](#).

15.24.2.2 int dynstring_s::size

Definition at line 11 of file dynstring.h.

Referenced by [dynstring_Append\(\)](#), and [dynstring_New\(\)](#).

15.24.2.3 char* dynstring_s::message

Definition at line 12 of file dynstring.h.

Referenced by [dynstring_Append\(\)](#), [dynstring_Destroy\(\)](#), [dynstring_New\(\)](#), [fipa_envelope_Compose__from\(\)](#), [MC_AclSend\(\)](#), and [mtp_http_CreateMessage\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/dynstring.h](#)

15.25 fipa_acl_envelope_Received_s Struct Reference

```
#include <fipa_acl_envelope.h>
```

Data Fields

- struct [fipa_url_s](#) * [received_by](#)
- struct [fipa_url_s](#) * [received_from](#)
- struct [fipa_DateTime_s](#) * [received_date](#)
- char * [received_id](#)
- struct [fipa_url_s](#) * [received_via](#)

15.25.1 Detailed Description

Definition at line 7 of file `fipa_acl_envelope.h`.

15.25.2 Field Documentation

15.25.2.1 struct `fipa_url_s* fipa_acl_envelope_Received_s::received_by` [read]

Definition at line 9 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_envelope_Received_Copy()`, `fipa_acl_envelope_Received_Destroy()`, and `fipa_envelope_HandleReceived()`.

15.25.2.2 struct `fipa_url_s* fipa_acl_envelope_Received_s::received_from` [read]

Definition at line 10 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_envelope_Received_Copy()`, `fipa_acl_envelope_Received_Destroy()`, and `fipa_envelope_HandleReceived()`.

15.25.2.3 struct `fipa_DateTime_s* fipa_acl_envelope_Received_s::received_date` [read]

Definition at line 11 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_envelope_Received_Copy()`, `fipa_acl_envelope_Received_Destroy()`, and `fipa_envelope_HandleReceived()`.

15.25.2.4 char* `fipa_acl_envelope_Received_s::received_id`

Definition at line 12 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_envelope_Received_Copy()`, `fipa_acl_envelope_Received_Destroy()`, and `fipa_envelope_HandleReceived()`.

15.25.2.5 struct `fipa_url_s* fipa_acl_envelope_Received_s::received_via` [read]

Definition at line 13 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_envelope_Received_Copy()`, `fipa_acl_envelope_Received_Destroy()`, and `fipa_envelope_HandleReceived()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl_envelope.h](#)

15.26 `fipa_acl_envelope_s` Struct Reference

```
#include <fipa_acl_envelope.h>
```

Data Fields

- `int num_params`
- struct `fipa_acl_Param_s ** params`

15.26.1 Detailed Description

Definition at line 40 of file `fipa_acl_envelope.h`.

15.26.2 Field Documentation

15.26.2.1 `int fipa_acl_envelope_s::num_params`

Definition at line 42 of file `fipa_acl_envelope.h`.

Referenced by `acc_Thread()`, `fipa_acl_envelope_Copy()`, `fipa_acl_envelope_Destroy()`, and `fipa_envelope_HandleParams()`.

15.26.2.2 `struct fipa_acl_Param_s** fipa_acl_envelope_s::params` [read]

Definition at line 43 of file `fipa_acl_envelope.h`.

Referenced by `acc_Thread()`, `fipa_acl_envelope_Copy()`, `fipa_acl_envelope_Destroy()`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandleFrom()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleParams()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_HandleReceived()`, and `fipa_envelope_HandleTo()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/include/fipa_acl_envelope.h`

15.27 fipa_acl_message_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- enum [fipa_performative_e](#) performative
- struct [fipa_agent_identifier_s](#) * sender
- struct [fipa_agent_identifier_set_s](#) * receiver
- int receiver_num
- struct [fipa_agent_identifier_set_s](#) * reply_to
- struct [fipa_string_s](#) * content
- struct [fipa_expression_s](#) * language
- struct [fipa_expression_s](#) * encoding
- struct [fipa_expression_s](#) * ontology
- struct [fipa_word_s](#) * protocol
- struct [fipa_expression_s](#) * conversation_id
- struct [fipa_expression_s](#) * reply_with
- struct [fipa_expression_s](#) * in_reply_to
- struct [fipa_DateTime_s](#) * reply_by

15.27.1 Detailed Description

Definition at line 83 of file `fipa_acl.h`.

15.27.2 Field Documentation

15.27.2.1 enum `fipa_performative_e` `fipa_acl_message_s::performative`

Definition at line 85 of file `fipa_acl.h`.

Referenced by `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_Parse()`, `MC_AclSetPerformative()`, and `MC_AclSetPerformative_chdl()`.

15.27.2.2 struct `fipa_agent_identifier_s`* `fipa_acl_message_s::sender` [read]

Definition at line 87 of file `fipa_acl.h`.

Referenced by `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_message_Destroy()`, `fipa_envelope_Compose__from()`, `fipa_message_parameter_Parse()`, `fipa_Reply()`, and `MC_AclSetSender()`.

15.27.2.3 struct `fipa_agent_identifier_set_s`* `fipa_acl_message_s::receiver` [read]

Definition at line 89 of file `fipa_acl.h`.

Referenced by `AP_QUEUE_STD_DEFN_TEMPLATE()`, `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_message_Destroy()`, `fipa_envelope_Compose__intended_receiver()`, `fipa_envelope_Compose__to()`, `fipa_message_parameter_Parse()`, `fipa_Reply()`, `MC_AclAddReceiver()`, and `MC_AclSend()`.

15.27.2.4 int fipa_acl_message_s::receiver_num

Definition at line 90 of file fipa_acl.h.

Referenced by MC_AclAddReceiver().

15.27.2.5 struct fipa_agent_identifier_set_s* fipa_acl_message_s::reply_to [read]

Definition at line 92 of file fipa_acl.h.

Referenced by fipa_acl_Compose(), fipa_acl_message_Copy(), fipa_acl_message_Destroy(), fipa_message_parameter_Parse(), fipa_Reply(), and MC_AclAddReplyTo().

15.27.2.6 struct fipa_string_s* fipa_acl_message_s::content [read]

Definition at line 95 of file fipa_acl.h.

Referenced by fipa_acl_Compose(), fipa_acl_message_Copy(), fipa_acl_message_Destroy(), fipa_message_parameter_Parse(), MC_AclSetContent(), and MC_AclSetContent_chdl().

15.27.2.7 struct fipa_expression_s* fipa_acl_message_s::language [read]

Definition at line 97 of file fipa_acl.h.

Referenced by fipa_acl_Compose(), fipa_acl_message_Copy(), fipa_acl_message_Destroy(), and fipa_message_parameter_Parse().

15.27.2.8 struct fipa_expression_s* fipa_acl_message_s::encoding [read]

Definition at line 99 of file fipa_acl.h.

Referenced by fipa_acl_Compose(), fipa_acl_message_Copy(), fipa_acl_message_Destroy(), and fipa_message_parameter_Parse().

15.27.2.9 struct fipa_expression_s* fipa_acl_message_s::ontology [read]

Definition at line 101 of file fipa_acl.h.

Referenced by fipa_acl_Compose(), fipa_acl_message_Copy(), fipa_acl_message_Destroy(), and fipa_message_parameter_Parse().

15.27.2.10 struct fipa_word_s* fipa_acl_message_s::protocol [read]

Definition at line 103 of file fipa_acl.h.

Referenced by fipa_acl_Compose(), fipa_acl_message_Copy(), fipa_acl_message_Destroy(), and fipa_message_parameter_Parse().

15.27.2.11 struct fipa_expression_s* fipa_acl_message_s::conversation_id [read]

Definition at line 105 of file fipa_acl.h.

Referenced by `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_message_Destroy()`, and `fipa_message_parameter_Parse()`.

15.27.2.12 `struct fipa_expression_s* fipa_acl_message_s::reply_with` [read]

Definition at line 107 of file `fipa_acl.h`.

Referenced by `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_message_Destroy()`, and `fipa_message_parameter_Parse()`.

15.27.2.13 `struct fipa_expression_s* fipa_acl_message_s::in_reply_to` [read]

Definition at line 109 of file `fipa_acl.h`.

Referenced by `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_message_Destroy()`, and `fipa_message_parameter_Parse()`.

15.27.2.14 `struct fipa_DateTime_s* fipa_acl_message_s::reply_by` [read]

Definition at line 111 of file `fipa_acl.h`.

Referenced by `fipa_acl_Compose()`, `fipa_acl_message_Copy()`, `fipa_acl_message_Destroy()`, and `fipa_message_parameter_Parse()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.28 fipa_acl_Param_s Struct Reference

```
#include <fipa_acl_envelope.h>
```

Data Fields

- struct [fipa_agent_identifier_set_s](#) * to
- struct [fipa_agent_identifier_s](#) * from
- char * comments
- char * acl_representation
- char * payload_length
- char * payload_encoding
- struct [fipa_DateTime_s](#) * date
- struct [fipa_agent_identifier_set_s](#) * intended_receiver
- struct [fipa_acl_envelope_Received_s](#) * received

15.28.1 Detailed Description

Definition at line 22 of file `fipa_acl_envelope.h`.

15.28.2 Field Documentation

15.28.2.1 struct `fipa_agent_identifier_set_s`* `fipa_acl_Param_s::to` [read]

Definition at line 24 of file `fipa_acl_envelope.h`.

Referenced by `acc_Thread()`, `fipa_acl_Param_Copy()`, `fipa_acl_Param_Destroy()`, and `fipa_envelope_HandleTo()`.

15.28.2.2 struct `fipa_agent_identifier_s`* `fipa_acl_Param_s::from` [read]

Definition at line 25 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_Param_Copy()`, `fipa_acl_Param_Destroy()`, and `fipa_envelope_HandleFrom()`.

15.28.2.3 char* `fipa_acl_Param_s::comments`

Definition at line 26 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_Param_Copy()`, `fipa_acl_Param_Destroy()`, and `fipa_envelope_HandleComments()`.

15.28.2.4 char* `fipa_acl_Param_s::acl_representation`

Definition at line 27 of file `fipa_acl_envelope.h`.

Referenced by `fipa_acl_Param_Copy()`, `fipa_acl_Param_Destroy()`, and `fipa_envelope_HandleAclRepresentation()`.

15.28.2.5 char* fipa_acl_Param_s::payload_length

Definition at line 28 of file fipa_acl_envelope.h.

Referenced by fipa_acl_Param_Copy(), fipa_acl_Param_Destroy(), and fipa_envelope_HandlePayloadLength().

15.28.2.6 char* fipa_acl_Param_s::payload_encoding

Definition at line 29 of file fipa_acl_envelope.h.

Referenced by fipa_acl_Param_Copy(), fipa_acl_Param_Destroy(), and fipa_envelope_HandlePayloadEncoding().

15.28.2.7 struct fipa_DateTime_s* fipa_acl_Param_s::date [read]

Definition at line 30 of file fipa_acl_envelope.h.

Referenced by fipa_acl_Param_Copy(), fipa_acl_Param_Destroy(), and fipa_envelope_HandleDate().

15.28.2.8 struct fipa_agent_identifier_set_s* fipa_acl_Param_s::intended_receiver [read]

Definition at line 31 of file fipa_acl_envelope.h.

Referenced by fipa_acl_Param_Copy(), fipa_acl_Param_Destroy(), and fipa_envelope_HandleIntendedReceiver().

15.28.2.9 struct fipa_acl_envelope_Received_s* fipa_acl_Param_s::received [read]

Definition at line 32 of file fipa_acl_envelope.h.

Referenced by fipa_acl_Param_Copy(), fipa_acl_Param_Destroy(), and fipa_envelope_HandleReceived().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl_envelope.h](#)

15.29 fipa_agent_identifier_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- char * [name](#)
- struct [fipa_url_sequence_s](#) * [addresses](#)
- struct [fipa_agent_identifier_set_s](#) * [resolvers](#)

15.29.1 Detailed Description

Definition at line 157 of file [fipa_acl.h](#).

15.29.2 Field Documentation

15.29.2.1 char* fipa_agent_identifier_s::name

Definition at line 159 of file [fipa_acl.h](#).

Referenced by [acc_Thread\(\)](#), [AP_QUEUE_STD_DEFN_TEMPLATE\(\)](#), [fipa_agent_identifier_Compose\(\)](#), [fipa_agent_identifier_Copy\(\)](#), [fipa_agent_identifier_Destroy\(\)](#), [fipa_envelope_Compose__from\(\)](#), [fipa_envelope_Compose__intended_receiver\(\)](#), [fipa_envelope_Compose__to\(\)](#), [MC_AclAddReceiver\(\)](#), [MC_AclAddReplyTo\(\)](#), [MC_AclSend\(\)](#), and [MC_AclSetSender\(\)](#).

15.29.2.2 struct fipa_url_sequence_s* fipa_agent_identifier_s::addresses [read]

Definition at line 160 of file [fipa_acl.h](#).

Referenced by [fipa_agent_identifier_Compose\(\)](#), [fipa_agent_identifier_Copy\(\)](#), [fipa_agent_identifier_Destroy\(\)](#), [fipa_envelope_Compose__from\(\)](#), [fipa_envelope_Compose__intended_receiver\(\)](#), [fipa_envelope_Compose__to\(\)](#), [fipa_envelope_ParseAddresses\(\)](#), [MC_AclAddReceiver\(\)](#), [MC_AclAddReplyTo\(\)](#), [MC_AclSend\(\)](#), and [MC_AclSetSender\(\)](#).

15.29.2.3 struct fipa_agent_identifier_set_s* fipa_agent_identifier_s::resolvers [read]

Definition at line 161 of file [fipa_acl.h](#).

Referenced by [fipa_agent_identifier_Compose\(\)](#), [fipa_agent_identifier_Copy\(\)](#), [fipa_agent_identifier_Destroy\(\)](#), and [fipa_envelope_ParseResolvers\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.30 fipa_agent_identifier_set_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- [int num](#)
- [int retain_order](#)
- struct [fipa_agent_identifier_s](#) ** [fipa_agent_identifiers](#)

15.30.1 Detailed Description

Definition at line 143 of file `fipa_acl.h`.

15.30.2 Field Documentation

15.30.2.1 int fipa_agent_identifier_set_s::num

Definition at line 145 of file `fipa_acl.h`.

Referenced by `acc_Thread()`, `fipa_agent_identifier_Compose()`, `fipa_agent_identifier_set_Compose()`, `fipa_agent_identifier_set_Copy()`, `fipa_agent_identifier_set_Destroy()`, `fipa_envelope_Compose__to()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleTo()`, `fipa_envelope_ParseResolvers()`, `fipa_Reply()`, `MC_AclAddReceiver()`, `MC_AclAddReplyTo()`, and `MC_AclSend()`.

15.30.2.2 int fipa_agent_identifier_set_s::retain_order

Definition at line 146 of file `fipa_acl.h`.

Referenced by `fipa_agent_identifier_set_Copy()`, `fipa_agent_identifier_set_Parse()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleTo()`, `fipa_envelope_ParseResolvers()`, and `fipa_Reply()`.

15.30.2.3 struct fipa_agent_identifier_s** fipa_agent_identifier_set_s::fipa_agent_identifiers

[read]

Definition at line 147 of file `fipa_acl.h`.

Referenced by `acc_Thread()`, `AP_QUEUE_STD_DEFN_TEMPLATE()`, `fipa_agent_identifier_set_Compose()`, `fipa_agent_identifier_set_Copy()`, `fipa_agent_identifier_set_Destroy()`, `fipa_envelope_Compose__intended_receiver()`, `fipa_envelope_Compose__to()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleTo()`, `fipa_envelope_ParseResolvers()`, `fipa_Reply()`, `MC_AclAddReceiver()`, `MC_AclAddReplyTo()`, and `MC_AclSend()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.31 fipa_DateTime_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- [int year](#)
- [int month](#)
- [int day](#)
- [int hour](#)
- [int minute](#)
- [int second](#)
- [int millisecond](#)
- [char sign](#)
- [int is_utc](#)

15.31.1 Detailed Description

Definition at line 211 of file fipa_acl.h.

15.31.2 Field Documentation

15.31.2.1 int fipa_DateTime_s::year

Definition at line 213 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.2 int fipa_DateTime_s::month

Definition at line 214 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.3 int fipa_DateTime_s::day

Definition at line 215 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.4 int fipa_DateTime_s::hour

Definition at line 216 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.5 int fipa_DateTime_s::minute

Definition at line 217 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.6 int fipa_DateTime_s::second

Definition at line 218 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.7 int fipa_DateTime_s::millisecond

Definition at line 219 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose().

15.31.2.8 char fipa_DateTime_s::sign

Definition at line 220 of file fipa_acl.h.

Referenced by fipa_DateTime_Compose(), and fipa_datetime_Parse().

15.31.2.9 int fipa_DateTime_s::is_utc

Definition at line 221 of file fipa_acl.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.32 fipa_expression_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- enum [fipa_expression_type_e](#) type
- union [fipa_expression_s::content_u](#) content

Data Structures

- union [content_u](#)

15.32.1 Detailed Description

Definition at line 170 of file [fipa_acl.h](#).

15.32.2 Field Documentation

15.32.2.1 enum [fipa_expression_type_e](#) [fipa_expression_s::type](#)

Definition at line 172 of file [fipa_acl.h](#).

Referenced by [fipa_expression_Compose\(\)](#), [fipa_expression_Copy\(\)](#), [fipa_expression_Destroy\(\)](#), and [fipa_expression_Parse\(\)](#).

15.32.2.2 union [fipa_expression_s::content_u](#) [fipa_expression_s::content](#)

Referenced by [fipa_expression_Compose\(\)](#), [fipa_expression_Copy\(\)](#), and [fipa_expression_Destroy\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.33 `fipa_expression_s::content_u` Union Reference

```
#include <fipa_acl.h>
```

Data Fields

- struct `fipa_word_s` * `word`
- struct `fipa_string_s` * `string`
- struct `fipa_number_s` * `number`
- struct `fipa_DateTime_s` * `datetime`
- struct `fipa_expression_s` ** `expression`

15.33.1 Detailed Description

Definition at line 173 of file `fipa_acl.h`.

15.33.2 Field Documentation

15.33.2.1 `struct fipa_word_s* fipa_expression_s::content_u::word` [read]

Definition at line 175 of file `fipa_acl.h`.

Referenced by `fipa_expression_Compose()`, `fipa_expression_Copy()`, and `fipa_expression_Destroy()`.

15.33.2.2 `struct fipa_string_s* fipa_expression_s::content_u::string` [read]

Definition at line 176 of file `fipa_acl.h`.

Referenced by `fipa_expression_Compose()`, `fipa_expression_Copy()`, and `fipa_expression_Destroy()`.

15.33.2.3 `struct fipa_number_s* fipa_expression_s::content_u::number` [read]

Definition at line 177 of file `fipa_acl.h`.

Referenced by `fipa_expression_Compose()`, `fipa_expression_Copy()`, and `fipa_expression_Destroy()`.

15.33.2.4 `struct fipa_DateTime_s* fipa_expression_s::content_u::datetime` [read]

Definition at line 178 of file `fipa_acl.h`.

Referenced by `fipa_expression_Compose()`, `fipa_expression_Copy()`, and `fipa_expression_Destroy()`.

15.33.2.5 `struct fipa_expression_s** fipa_expression_s::content_u::expression` [read]

Definition at line 179 of file `fipa_acl.h`.

Referenced by `fipa_expression_Compose()`, `fipa_expression_Copy()`, and `fipa_expression_Destroy()`.

The documentation for this union was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h`

15.34 fipa_message_string_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- char * [message](#)
- char * [parse](#)

15.34.1 Detailed Description

Definition at line 120 of file fipa_acl.h.

15.34.2 Field Documentation

15.34.2.1 char* fipa_message_string_s::message

Definition at line 122 of file fipa_acl.h.

Referenced by [acc_Thread\(\)](#), [fipa_envelope_HandleDate\(\)](#), [fipa_envelope_HandleReceived\(\)](#), [fipa_message_string_Copy\(\)](#), and [fipa_message_string_Destroy\(\)](#).

15.34.2.2 char* fipa_message_string_s::parse

Definition at line 123 of file fipa_acl.h.

Referenced by [acc_Thread\(\)](#), [fipa_agent_identifier_Parse\(\)](#), [fipa_CheckNextToken\(\)](#), [fipa_datetime_Parse\(\)](#), [fipa_envelope_HandleDate\(\)](#), [fipa_envelope_HandleReceived\(\)](#), [fipa_GetAtom\(\)](#), [fipa_GetNextWord\(\)](#), [fipa_GetWholeToken\(\)](#), [fipa_message_string_Copy\(\)](#), [fipa_string_Parse\(\)](#), and [fipa_word_Parse\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.35 fipa_number_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- char * [str](#)

15.35.1 Detailed Description

Definition at line 241 of file `fipa_acl.h`.

15.35.2 Field Documentation

15.35.2.1 char* fipa_number_s::str

Definition at line 243 of file `fipa_acl.h`.

Referenced by `fipa_number_Compose()`, `fipa_number_Copy()`, and `fipa_number_Destroy()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.36 fipa_string_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- char * [content](#)

15.36.1 Detailed Description

Definition at line 200 of file fipa_acl.h.

15.36.2 Field Documentation

15.36.2.1 char* fipa_string_s::content

Definition at line 202 of file fipa_acl.h.

Referenced by fipa_string_Compose(), fipa_string_Copy(), fipa_string_Destroy(), fipa_string_Parse(), and MC_AclSetContent().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.37 fipa_url_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- char * [str](#)

15.37.1 Detailed Description

Definition at line 230 of file `fipa_acl.h`.

15.37.2 Field Documentation

15.37.2.1 char* fipa_url_s::str

Definition at line 232 of file `fipa_acl.h`.

Referenced by `fipa_envelope_Compose__intended_receiver()`, `fipa_envelope_Compose__to()`, `fipa_envelope_HandleReceived()`, `fipa_envelope_ParseAddresses()`, `fipa_url_Compose()`, `fipa_url_Copy()`, `fipa_url_Destroy()`, `MC_AclAddReceiver()`, `MC_AclAddReplyTo()`, `MC_AclSend()`, and `MC_AclSetSender()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.38 fipa_url_sequence_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- [int num](#)
- [struct fipa_url_s ** urls](#)

15.38.1 Detailed Description

Definition at line 131 of file fipa_acl.h.

15.38.2 Field Documentation

15.38.2.1 int fipa_url_sequence_s::num

Definition at line 133 of file fipa_acl.h.

Referenced by [fipa_agent_identifier_Compose\(\)](#), [fipa_envelope_Compose__from\(\)](#), [fipa_envelope_Compose__intended_receiver\(\)](#), [fipa_envelope_Compose__to\(\)](#), [fipa_envelope_ParseAddresses\(\)](#), [fipa_url_sequence_Compose\(\)](#), [fipa_url_sequence_Copy\(\)](#), [fipa_url_sequence_Destroy\(\)](#), [MC_AclAddReceiver\(\)](#), [MC_AclAddReplyTo\(\)](#), [MC_AclSend\(\)](#), and [MC_AclSetSender\(\)](#).

15.38.2.2 struct fipa_url_s** fipa_url_sequence_s::urls [read]

Definition at line 134 of file fipa_acl.h.

Referenced by [fipa_envelope_Compose__intended_receiver\(\)](#), [fipa_envelope_Compose__to\(\)](#), [fipa_envelope_ParseAddresses\(\)](#), [fipa_url_sequence_Compose\(\)](#), [fipa_url_sequence_Copy\(\)](#), [fipa_url_sequence_Destroy\(\)](#), [MC_AclAddReceiver\(\)](#), [MC_AclAddReplyTo\(\)](#), [MC_AclSend\(\)](#), and [MC_AclSetSender\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h](#)

15.39 fipa_word_s Struct Reference

```
#include <fipa_acl.h>
```

Data Fields

- char * [content](#)

15.39.1 Detailed Description

Definition at line 189 of file `fipa_acl.h`.

15.39.2 Field Documentation

15.39.2.1 char* fipa_word_s::content

Definition at line 191 of file `fipa_acl.h`.

Referenced by `fipa_agent_identifier_Parse()`, `fipa_agent_identifier_set_Parse()`, `fipa_message_parameter_Parse()`, `fipa_message_type_Parse()`, `fipa_url_Parse()`, `fipa_url_sequence_Parse()`, `fipa_word_Compose()`, `fipa_word_Copy()`, and `fipa_word_Destroy()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/include/fipa_acl.h`

15.40 `foo_c` Class Reference

Public Member Functions

- `foo_c` (float *f*, int *b*)
- `~foo_c` ()
- `int get_bar` ()
- `float get_foo` ()
- `void set_bar` (int *b*)
- `void set_foo` (float *f*)
- `void set_foobar` (float *f*, int *b*=0)
- `int get_barfoo` ()

Protected Member Functions

- `int get_global` ()

Static Protected Attributes

- static `int global`

Private Attributes

- `float foo`
- `int bar`
- `int barfoo`

15.40.1 Detailed Description

Definition at line 1 of file `class.cxx`.

15.40.2 Constructor & Destructor Documentation

15.40.2.1 `foo_c::foo_c` (float *f*, int *b*)

15.40.2.2 `foo_c::~~foo_c` ()

Definition at line 81 of file `class.cxx`.

15.40.3 Member Function Documentation

15.40.3.1 `int foo_c::get_bar` () [inline]

Definition at line 13 of file `class.cxx`.

References `bar`.

15.40.3.2 float foo_c::get_foo () [inline]

Definition at line 20 of file class.cxx.

References foo.

15.40.3.3 void foo_c::set_bar (int b) [inline]

Definition at line 27 of file class.cxx.

References bar.

15.40.3.4 void foo_c::set_foo (float f) [inline]

Definition at line 34 of file class.cxx.

References foo.

15.40.3.5 void foo_c::set_foobar (float f, int b = 0) [inline]

Definition at line 41 of file class.cxx.

References bar, and foo.

15.40.3.6 int foo_c::get_global () [inline, protected]

Definition at line 54 of file class.cxx.

References global.

15.40.3.7 int foo_c::get_barfoo () [inline]

Definition at line 67 of file class.cxx.

References barfoo.

15.40.4 Field Documentation**15.40.4.1 float foo_c::foo** [private]

Definition at line 3 of file class.cxx.

Referenced by get_foo(), set_foo(), and set_foobar().

15.40.4.2 int foo_c::bar [private]

Definition at line 4 of file class.cxx.

Referenced by get_bar(), set_bar(), and set_foobar().

15.40.4.3 `int foo_c::global` [`static`, `protected`]

Definition at line 50 of file `class.cxx`.

Referenced by `get_global()`.

15.40.4.4 `int foo_c::barfoo` [`private`]

Definition at line 61 of file `class.cxx`.

Referenced by `get_barfoo()`.

The documentation for this class was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/test/class.cxx`

15.41 foo_s Struct Reference

Public Member Functions

- [foo_s](#) (float *f*, int *b*)
- [~foo_s](#) ()
- [int get_bar](#) ()
- [float get_foo](#) ()
- [void set_bar](#) (int *b*)
- [void set_foo](#) (float *f*)

Data Fields

- [float foo](#)
- [int bar](#)

15.41.1 Detailed Description

Definition at line 1 of file struct.cxx.

15.41.2 Constructor & Destructor Documentation

15.41.2.1 foo_s::foo_s (float *f*, int *b*)

Definition at line 39 of file struct.cxx.

References [bar](#), and [foo](#).

15.41.2.2 foo_s::~~foo_s ()

Definition at line 46 of file struct.cxx.

15.41.3 Member Function Documentation

15.41.3.1 int foo_s::get_bar () [inline]

Definition at line 11 of file struct.cxx.

References [bar](#).

15.41.3.2 float foo_s::get_foo () [inline]

Definition at line 18 of file struct.cxx.

References [foo](#).

15.41.3.3 `void foo_s::set_bar (int b)` [inline]

Definition at line 25 of file `struct.cxx`.

References `bar`.

15.41.3.4 `void foo_s::set_foo (float f)` [inline]

Definition at line 32 of file `struct.cxx`.

References `foo`.

15.41.4 Field Documentation

15.41.4.1 `float foo_s::foo`

Definition at line 3 of file `struct.cxx`.

Referenced by `foo_s()`, `get_foo()`, and `set_foo()`.

15.41.4.2 `int foo_s::bar`

Definition at line 4 of file `struct.cxx`.

Referenced by `foo_s()`, `get_bar()`, and `set_bar()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/test/struct.cxx`

15.42 havege_state Struct Reference

HAVEGE state structure.

```
#include <havege.h>
```

Data Fields

- [int PT1](#)
- [int PT2](#)
- [int offset \[2\]](#)
- [int pool \[COLLECT_SIZE\]](#)
- [int WALK \[8192\]](#)

15.42.1 Detailed Description

HAVEGE state structure.

Definition at line 12 of file havege.h.

15.42.2 Field Documentation

15.42.2.1 int havege_state::PT1

Definition at line 14 of file havege.h.

15.42.2.2 int havege_state::PT2

Definition at line 14 of file havege.h.

15.42.2.3 int havege_state::offset[2]

Definition at line 14 of file havege.h.

15.42.2.4 int havege_state::pool[COLLECT_SIZE]

Definition at line 15 of file havege.h.

15.42.2.5 int havege_state::WALK[8192]

Definition at line 16 of file havege.h.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/havege.h>

15.43 host_id_s Struct Reference

```
#include <host_id.h>
```

Data Fields

- char * [hostname](#)
- [int port](#)

15.43.1 Detailed Description

Definition at line 38 of file host_id.h.

15.43.2 Field Documentation

15.43.2.1 char* host_id_s::hostname

Definition at line 40 of file host_id.h.

15.43.2.2 int host_id_s::port

Definition at line 41 of file host_id.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/host_id.h](#)

15.44 hr_time Struct Reference

timer structure

```
#include <timing.h>
```

Data Fields

- unsigned char [opaque](#) [32]

15.44.1 Detailed Description

timer structure

Definition at line 10 of file timing.h.

15.44.2 Field Documentation

15.44.2.1 unsigned char hr_time::opaque[32]

Definition at line 12 of file timing.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/timing.h](#)

15.45 interpreter_variable_data_s Struct Reference

```
#include <interpreter_variable_data.h>
```

Data Fields

- char * [name](#)
- int [size](#)
- ChType_t [data_type](#)
- int [array_dim](#)
- int * [array_extent](#)
- void * [data](#)

15.45.1 Detailed Description

Definition at line 41 of file `interpreter_variable_data.h`.

15.45.2 Field Documentation

15.45.2.1 char* interpreter_variable_data_s::name

Definition at line 42 of file `interpreter_variable_data.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_xml_compose__data()`, `agent_xml_parse__data()`, `interpreter_variable_data_Copy()`, `interpreter_variable_data_Destroy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `interpreter_variable_data_New()`, and `MC_SaveData_chdl()`.

15.45.2.2 int interpreter_variable_data_s::size

Definition at line 43 of file `interpreter_variable_data.h`.

Referenced by `agent_AddPersistentVariable()`, `interpreter_variable_data_Copy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `interpreter_variable_data_New()`, and `MC_SaveData_chdl()`.

15.45.2.3 ChType_t interpreter_variable_data_s::data_type

Definition at line 44 of file `interpreter_variable_data.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_xml_compose__data()`, `agent_xml_compose__row()`, `agent_xml_parse__data()`, `agent_xml_parse__row()`, `interpreter_variable_data_Copy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `interpreter_variable_data_New()`, `MC_GetAgentReturnData()`, and `MC_SaveData_chdl()`.

15.45.2.4 int interpreter_variable_data_s::array_dim

Definition at line 45 of file `interpreter_variable_data.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_xml_compose__data()`, `agent_xml_compose__row()`, `agent_xml_parse__data()`, `agent_xml_parse__row()`, `interpreter_variable_data_Copy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `interpreter_variable_data_New()`, and `MC_GetAgentReturnData()`.

15.45.2.5 `int* interpreter_variable_data_s::array_extnt`

Definition at line 46 of file `interpreter_variable_data.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_xml_compose__row()`, `agent_xml_parse__row()`, `interpreter_variable_data_Copy()`, `interpreter_variable_data_Destroy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `interpreter_variable_data_New()`, and `MC_GetAgentReturnData()`.

15.45.2.6 `void* interpreter_variable_data_s::data`

Definition at line 47 of file `interpreter_variable_data.h`.

Referenced by `agent_AddPersistentVariable()`, `agent_xml_compose__data()`, `agent_xml_compose__row()`, `agent_xml_parse__data()`, `agent_xml_parse__row()`, `interpreter_variable_data_Copy()`, `interpreter_variable_data_Destroy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `interpreter_variable_data_New()`, `MC_AgentVariableRetrieve()`, and `MC_SaveData_chdl()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/interpreter_variable_data.h](#)

15.46 LibMC::InvalidAgencyException Class Reference

Exception class for use with null agency pointers.

Public Member Functions

- [InvalidAgencyException \(\)](#)
Null agency pointer exception constructor.
- [InvalidAgencyException \(String exc\)](#)
Null agency pointer exception constructor.

Private Attributes

- `const String msg = "Private agency pointer not valid."`

15.46.1 Detailed Description

Exception class for use with null agency pointers.

This class provides a way to inform the program that an agency was created or accessed that had an invalid internal pointer.

Definition at line 1074 of file MCAgency.cs.

15.46.2 Constructor & Destructor Documentation

15.46.2.1 LibMC::InvalidAgencyException::InvalidAgencyException () [inline]

Null agency pointer exception constructor.

Constructor for the exception class. This exception simply defines a recognizable exception class and sets the exception message appropriately.

Definition at line 1085 of file MCAgency.cs.

15.46.2.2 LibMC::InvalidAgencyException::InvalidAgencyException (String exc) [inline]

Null agency pointer exception constructor.

Constructor for the exception class. Allows the use of a custom error message.

Definition at line 1097 of file MCAgency.cs.

15.46.3 Field Documentation

15.46.3.1 `const String LibMC::InvalidAgencyException::msg = "Private agency pointer not valid."` [private]

Definition at line 1076 of file MCAgency.cs.

The documentation for this class was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAgency.cs>

15.47 LibMC::InvalidAgentException Class Reference

Exception class for use with null agent pointers.

Public Member Functions

- [InvalidAgentException \(\)](#)
Null agent pointer exception constructor.
- [InvalidAgentException \(String exc\)](#)
Null agent pointer exception constructor.

Private Attributes

- `const String msg = "Private agent pointer not valid."`

15.47.1 Detailed Description

Exception class for use with null agent pointers.

This class provides a way to inform the program that an agent was created or accessed that had an invalid internal pointer.

Definition at line 569 of file MCAgent.cs.

15.47.2 Constructor & Destructor Documentation

15.47.2.1 LibMC::InvalidAgentException::InvalidAgentException () [inline]

Null agent pointer exception constructor.

Constructor for the exception class. This exception simply defines a recognizable exception class and sets the exception message appropriately.

Definition at line 580 of file MCAgent.cs.

15.47.2.2 LibMC::InvalidAgentException::InvalidAgentException (String exc) [inline]

Null agent pointer exception constructor.

Constructor for the exception class. Allows the use of a custom error message.

Definition at line 591 of file MCAgent.cs.

15.47.3 Field Documentation

15.47.3.1 `const String LibMC::InvalidAgentException::msg = "Private agent pointer not valid."` [private]

Definition at line 571 of file MCAgent.cs.

The documentation for this class was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAgent.cs>

15.48 list_s Struct Reference

```
#include <list.h>
```

Data Fields

- [listNode_p listhead](#)
- [int size](#)

15.48.1 Detailed Description

Definition at line 41 of file list.h.

15.48.2 Field Documentation

15.48.2.1 listNode_p list_s::listhead

Definition at line 43 of file list.h.

Referenced by [barrier_queue_Add\(\)](#), [barrier_queue_Get\(\)](#), [ListAdd\(\)](#), [ListDelete\(\)](#), [ListGetHead\(\)](#), [ListInitialize\(\)](#), [ListPop\(\)](#), [ListSearch\(\)](#), [ListTerminate\(\)](#), [syncListAddNode\(\)](#), and [syncListFind\(\)](#).

15.48.2.2 int list_s::size

Definition at line 44 of file list.h.

Referenced by [barrier_queue_Delete\(\)](#), [list_pGetSize\(\)](#), [ListAdd\(\)](#), [ListDelete\(\)](#), [ListInitialize\(\)](#), [ListPop\(\)](#), [ListSearch\(\)](#), [ListTerminate\(\)](#), [syncListDelete\(\)](#), and [syncListRemove\(\)](#).

The documentation for this struct was generated from the following file:

- /home/dko/projects/mobilec/trunk/src/mc_list/list.h

15.49 listNode_s Struct Reference

```
#include <list.h>
```

Data Fields

- DATA [node_data](#)
- struct [listNode_s](#) * next

15.49.1 Detailed Description

Definition at line 32 of file list.h.

15.49.2 Field Documentation

15.49.2.1 DATA listNode_s::node_data

Definition at line 34 of file list.h.

Referenced by [AP_QUEUE_STD_DEFN_TEMPLATE\(\)](#), [barrier_queue_Add\(\)](#), [barrier_queue_Get\(\)](#), [df_SearchForService\(\)](#), [ListAdd\(\)](#), [ListDelete\(\)](#), [ListGetHead\(\)](#), [ListPop\(\)](#), [ListSearch\(\)](#), [request_handler_DEREGISTER\(\)](#), [syncListAddNode\(\)](#), and [syncListFind\(\)](#).

15.49.2.2 struct listNode_s* listNode_s::next [read]

Definition at line 35 of file list.h.

Referenced by [AP_QUEUE_STD_DEFN_TEMPLATE\(\)](#), [barrier_queue_Add\(\)](#), [barrier_queue_Get\(\)](#), [df_SearchForService\(\)](#), [ListAdd\(\)](#), [ListDelete\(\)](#), [ListPop\(\)](#), [ListSearch\(\)](#), [request_handler_DEREGISTER\(\)](#), [syncListAddNode\(\)](#), and [syncListFind\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/mc_list/list.h](#)

15.50 mc_platform_s Struct Reference

```
#include <mc_platform.h>
```

Data Fields

- `int` `err`
- `char *` `hostname`
- unsigned short `port`
- `message_queue_p` `asm_message_queue`
- `message_queue_p` `message_queue`
- `agent_queue_p` `agent_queue`
- `connection_queue_p` `connection_queue`
- `df_p` `df`
- `ams_p` `ams`
- `acc_p` `acc`
- `cmd_prompt_p` `cmd_prompt`
- `syncList_p` `syncList`
- `barrier_queue_p` `barrier_queue`
- `listen_thread_arg_p` `listen_thread_arg`
- `listen_thread_arg_p` `client_thread_arg`
- `int` `default_agentstatus`
- `int` `stack_size` [MC_THREAD_ALL]
- `ChOptions_t *` `interp_options`
- `COND_T *` `MC_signal_cond`
- `COND_T *` `MC_sync_cond`
- `MUTEX_T *` `MC_signal_lock`
- `MUTEX_T *` `MC_sync_lock`
- `enum` `MC_Signal_e` `MC_signal`
- `enum` `MC_SteerCommand_e` `MC_steer_command`
- `MUTEX_T *` `MC_steer_lock`
- `COND_T *` `MC_steer_cond`
- `int` `giant`
- `MUTEX_T *` `giant_lock`
- `COND_T *` `giant_cond`
- `int` `quit`
- `MUTEX_T *` `quit_lock`

15.50.1 Detailed Description

Definition at line 49 of file `mc_platform.h`.

15.50.2 Field Documentation

15.50.2.1 `int mc_platform_s::err`

Definition at line 53 of file `mc_platform.h`.

Referenced by `agent_Initialize()`, `mc_platform_Initialize()`, `message_InitializeFromAgent()`, and `message_InitializeFromString()`.

15.50.2.2 `char* mc_platform_s::hostname`

Definition at line 58 of file `mc_platform.h`.

Referenced by `fipa_envelope_Compose__from()`, `mc_platform_Initialize()`, `message_InitializeFromAgent()`, `message_InitializeFromString()`, and `message_queue_SendOutgoing()`.

15.50.2.3 `unsigned short mc_platform_s::port`

Definition at line 59 of file `mc_platform.h`.

Referenced by `fipa_envelope_Compose__from()`, `listen_Thread()`, `mc_platform_Initialize()`, `message_InitializeFromAgent()`, `message_InitializeFromString()`, and `message_queue_SendOutgoing()`.

15.50.2.4 `message_queue_p mc_platform_s::asm_message_queue`

Definition at line 62 of file `mc_platform.h`.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `mc_platform_Destroy()`, and `mc_platform_Initialize()`.

15.50.2.5 `message_queue_p mc_platform_s::message_queue`

Definition at line 66 of file `mc_platform.h`.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `handler_PRINTLIST_MESSAGE()`, `MC_End()`, `MC_LoadAgentFromFile()`, `mc_platform_Destroy()`, `mc_platform_Initialize()`, `MC_SendAgentMigrationMessage()`, and `MC_SendAgentMigrationMessageFile()`.

15.50.2.6 `agent_queue_p mc_platform_s::agent_queue`

Definition at line 67 of file `mc_platform.h`.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `handler_PRINTLIST_AGENTS()`, `MC_AddAgent()`, `MC_FindAgentByID()`, `MC_FindAgentByName()`, `MC_GetAllAgents()`, `mc_platform_Destroy()`, `mc_platform_Initialize()`, `MC_RetrieveAgent()`, `MC_WaitAgent()`, and `MC_WaitRetrieveAgent()`.

15.50.2.7 `connection_queue_p mc_platform_s::connection_queue`

Definition at line 68 of file `mc_platform.h`.

Referenced by `acc_Thread()`, `handler_PRINT_CONNECTLIST()`, `listen_Thread()`, `MC_End()`, `mc_platform_Destroy()`, and `mc_platform_Initialize()`.

15.50.2.8 `df_p mc_platform_s::df`

Definition at line 70 of file `mc_platform.h`.

Referenced by `df_ProcessRequest()`, `df_Start()`, `df_Thread()`, `MC_DeregisterService()`, `MC_End()`, `mc_platform_Destroy()`, `mc_platform_Initialize()`, `MC_RegisterService()`, `MC_SearchForService()`, `request_handler_DEREGISTER()`, `request_handler_REGISTER()`, and `request_handler_SEARCH()`.

15.50.2.9 ams_p mc_platform_s::ams

Definition at line 71 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), agent_RunChScriptThread(), ams_Start(), ams_Thread(), MC_AddAgent(), MC_End(), MC_MainLoop(), mc_platform_Destroy(), mc_platform_Initialize(), and MC_SetAgentStatus().

15.50.2.10 acc_p mc_platform_s::acc

Definition at line 72 of file mc_platform.h.

Referenced by acc_Start(), listen_Thread(), MC_End(), mc_platform_Destroy(), and mc_platform_Initialize().

15.50.2.11 cmd_prompt_p mc_platform_s::cmd_prompt

Definition at line 73 of file mc_platform.h.

Referenced by cmd_prompt_Start(), MC_End(), mc_platform_Destroy(), and mc_platform_Initialize().

15.50.2.12 syncList_p mc_platform_s::syncList

Definition at line 78 of file mc_platform.h.

Referenced by MC_CondBroadcast(), MC_CondReset(), MC_CondSignal(), MC_CondWait(), MC_MutexLock(), MC_MutexUnlock(), mc_platform_Initialize(), MC_SemaphorePost(), MC_SemaphoreWait(), MC_SyncDelete(), and MC_SyncInit().

15.50.2.13 barrier_queue_p mc_platform_s::barrier_queue

Definition at line 79 of file mc_platform.h.

Referenced by MC_Barrier(), MC_BarrierDelete(), MC_BarrierInit(), mc_platform_Destroy(), and mc_platform_Initialize().

15.50.2.14 listen_thread_arg_p mc_platform_s::listen_thread_arg

Definition at line 81 of file mc_platform.h.

15.50.2.15 listen_thread_arg_p mc_platform_s::client_thread_arg

Definition at line 82 of file mc_platform.h.

15.50.2.16 int mc_platform_s::default_agentstatus

Definition at line 84 of file mc_platform.h.

Referenced by agent_Initialize(), mc_platform_Initialize(), and MC_SetDefaultAgentStatus().

15.50.2.17 int mc_platform_s::stack_size[MC_THREAD_ALL]

Definition at line 86 of file mc_platform.h.

Referenced by acc_Start(), agent_RunChScript(), ams_Start(), cmd_prompt_Start(), df_Start(), and mc_platform_Initialize().

15.50.2.18 ChOptions_t* mc_platform_s::interp_options

Definition at line 88 of file mc_platform.h.

Referenced by agent_RunChScriptThread(), MC_ChInitializeOptions(), mc_platform_Destroy(), and mc_platform_Initialize().

15.50.2.19 COND_T* mc_platform_s::MC_signal_cond

Definition at line 91 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), agent_RunChScriptThread(), mc_platform_Destroy(), mc_platform_Initialize(), and MC_WaitSignal().

15.50.2.20 COND_T* mc_platform_s::MC_sync_cond

Definition at line 92 of file mc_platform.h.

Referenced by mc_platform_Destroy(), and mc_platform_Initialize().

15.50.2.21 MUTEX_T* mc_platform_s::MC_signal_lock

Definition at line 93 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), agent_RunChScriptThread(), mc_platform_Destroy(), mc_platform_Initialize(), and MC_WaitSignal().

15.50.2.22 MUTEX_T* mc_platform_s::MC_sync_lock

Definition at line 94 of file mc_platform.h.

Referenced by mc_platform_Destroy(), and mc_platform_Initialize().

15.50.2.23 enum MC_Signal_e mc_platform_s::MC_signal

Definition at line 95 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), agent_RunChScriptThread(), mc_platform_Initialize(), MC_ResetSignal(), and MC_WaitSignal().

15.50.2.24 enum MC_SteerCommand_e mc_platform_s::MC_steer_command

Definition at line 98 of file mc_platform.h.

Referenced by MC_SendSteerCommand(), MC_Steer(), and MC_SteerControl().

15.50.2.25 MUTEX_T* mc_platform_s::MC_steer_lock

Definition at line 99 of file mc_platform.h.

Referenced by mc_platform_Destroy(), mc_platform_Initialize(), MC_SendSteerCommand(), MC_Steer(), and MC_SteerControl().

15.50.2.26 COND_T* mc_platform_s::MC_steer_cond

Definition at line 100 of file mc_platform.h.

Referenced by mc_platform_Destroy(), mc_platform_Initialize(), MC_SendSteerCommand(), and MC_SteerControl().

15.50.2.27 int mc_platform_s::giant

Definition at line 104 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), MC_GetAllAgents(), MC_HaltAgency(), mc_platform_Initialize(), MC_ResetSignal(), MC_ResumeAgency(), and MC_WaitSignal().

15.50.2.28 MUTEX_T* mc_platform_s::giant_lock

Definition at line 105 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), MC_GetAllAgents(), MC_HaltAgency(), mc_platform_Destroy(), mc_platform_Initialize(), MC_ResetSignal(), MC_ResumeAgency(), and MC_WaitSignal().

15.50.2.29 COND_T* mc_platform_s::giant_cond

Definition at line 106 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), mc_platform_Destroy(), mc_platform_Initialize(), and MC_ResetSignal().

15.50.2.30 int mc_platform_s::quit

Definition at line 108 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), ams_Thread(), df_Thread(), MC_End(), and mc_platform_Initialize().

15.50.2.31 MUTEX_T* mc_platform_s::quit_lock

Definition at line 109 of file mc_platform.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), ams_Thread(), df_Thread(), MC_End(), mc_platform_Destroy(), and mc_platform_Initialize().

The documentation for this struct was generated from the following file:

- /home/dko/projects/mobilec/trunk/src/include/[mc_platform.h](#)

15.51 mc_rwlock_s Struct Reference

```
#include <mc_rwlock.h>
```

Data Fields

- [int num_readers](#)
- [int write_flag](#)
- [int write_request](#)
- [MUTEX_T * lock](#)
- [COND_T * cond](#)

15.51.1 Detailed Description

Definition at line 39 of file mc_rwlock.h.

15.51.2 Field Documentation

15.51.2.1 int mc_rwlock_s::num_readers

Definition at line 40 of file mc_rwlock.h.

Referenced by mc_rwlock_init(), mc_rwlock_rdlock(), mc_rwlock_rdunlock(), and mc_rwlock_wrlock().

15.51.2.2 int mc_rwlock_s::write_flag

Definition at line 41 of file mc_rwlock.h.

Referenced by mc_rwlock_init(), mc_rwlock_rdlock(), mc_rwlock_wrlock(), and mc_rwlock_wrunlock().

15.51.2.3 int mc_rwlock_s::write_request

Definition at line 42 of file mc_rwlock.h.

Referenced by mc_rwlock_init(), mc_rwlock_rdlock(), and mc_rwlock_wrlock().

15.51.2.4 MUTEX_T* mc_rwlock_s::lock

Definition at line 43 of file mc_rwlock.h.

Referenced by mc_rwlock_destroy(), mc_rwlock_init(), mc_rwlock_rdlock(), mc_rwlock_rdunlock(), mc_rwlock_wrlock(), and mc_rwlock_wrunlock().

15.51.2.5 COND_T* mc_rwlock_s::cond

Definition at line 44 of file mc_rwlock.h.

Referenced by mc_rwlock_destroy(), mc_rwlock_init(), mc_rwlock_rdlock(), mc_rwlock_rdunlock(), mc_rwlock_wrlock(), and mc_rwlock_wrunlock().

The documentation for this struct was generated from the following file:

- /home/dko/projects/mobilec/trunk/src/include/mc_rwlock.h

15.52 LibMC::MCAclMessage Class Reference

Encapsulates ACL messages in the Mobile-C library.

Public Types

- enum [MC_FipaPerformative_e](#)
Enum for describing the type of an ACL message.

Public Member Functions

- [MCAclMessage](#) ()
Default constructor.
- void [New](#) ()
Creates a new, blank ACL message.
- [MCAclMessage Reply](#) ([MCAclMessage](#) acl_message)
Creates an ACL message that is a response to the argument.
- [int SetPerformative](#) ([MC_FipaPerformative_e](#) performative)
Sets the performative field of the message.
- [int SetSender](#) (String name, String address)
Sets the sender field of the message.
- [int AddReceiver](#) (String name, String address)
Adds a receiver to the list of receivers.
- [int AddReplyTo](#) (String name, String address)
Adds a "reply-to" field to the message.
- [int SetContent](#) (String content)
Sets the content field of the message.
- [int Destroy](#) ()
Destroys a message.

Properties

- internal [IntPtr](#) [AclMsg](#) [get, set]

Private Member Functions

- internal [MCAclMessage](#) (IntPtr msg)

Private Attributes

- IntPtr [aclmsg_p](#)

15.52.1 Detailed Description

Encapsulates ACL messages in the Mobile-C library.

This class contains a pointer to an ACL message in the Mobile-C library. Functions are provided to send the message, set its various fields, and destroy the message.

Definition at line 72 of file MCAclMessage.cs.

15.52.2 Member Enumeration Documentation

15.52.2.1 enum LibMC::MCAclMessage::MC_FipaPerformative_e

Enum for describing the type of an ACL message.

Note:

This enum is pulled directly from the Mobile-C library.

Enumerator:

FIPA_ERROR Fipa performative enum value
FIPA_ZERO Fipa performative enum value
FIPA_ACCEPT_PROPOSAL Fipa performative enum value
FIPA_AGREE Fipa performative enum value
FIPA_CANCEL Fipa performative enum value
FIPA_CALL_FOR_PROPOSAL Fipa performative enum value
FIPA_CONFIRM Fipa performative enum value
FIPA_DISCONFIRM Fipa performative enum value
FIPA_FAILURE Fipa performative enum value
FIPA_INFORM Fipa performative enum value
FIPA_INFORM_IF Fipa performative enum value
FIPA_INFORM_REF Fipa performative enum value
FIPA_NOT_UNDERSTOOD Fipa performative enum value
FIPA_PROPOGATE Fipa performative enum value
FIPA_PROPOSE Fipa performative enum value
FIPA_PROXY Fipa performative enum value
FIPA_QUERY_IF Fipa performative enum value
FIPA_QUERY_REF Fipa performative enum value
FIPA_REFUSE Fipa performative enum value
FIPA_REJECT_PROPOSAL Fipa performative enum value
FIPA_REQUEST Fipa performative enum value
FIPA_REQUEST_WHEN Fipa performative enum value
FIPA_REQUEST_WHENEVER Fipa performative enum value
FIPA_SUBSCRIBE Fipa performative enum value

Definition at line 79 of file MCAclMessage.cs.

15.52.3 Constructor & Destructor Documentation

15.52.3.1 `LibMC::MCAclMessage::MCAclMessage ()` [inline]

Default constructor.

Creates an empty ACL message object.

Definition at line 114 of file MCAclMessage.cs.

References `aclmsg_p`.

Referenced by `Reply()`.

15.52.3.2 `internal LibMC::MCAclMessage::MCAclMessage (IntPtr msg)` [inline, private]

Definition at line 120 of file MCAclMessage.cs.

References `AclMsg`.

15.52.4 Member Function Documentation

15.52.4.1 `void LibMC::MCAclMessage::New ()` [inline]

Creates a new, blank ACL message.

Creates a new ACL message. The message is blank but valid.

Definition at line 153 of file MCAclMessage.cs.

References `AclMsg`.

15.52.4.2 `MCAclMessage LibMC::MCAclMessage::Reply (MCAclMessage acl_message)` [inline]

Creates an ACL message that is a response to the argument.

Creates an ACL message to respond to the argument.

Parameters:

acl_message The message from which to create the reply.

Returns:

A new ACL message that is a response to the argument or an empty message if there is an error.

Definition at line 167 of file MCAclMessage.cs.

References `AclMsg`, and `MCAclMessage()`.

15.52.4.3 `int LibMC::MCAclMessage::SetPerformative (MC_FipaPerformative_e performative)` [inline]

Sets the performative field of the message.

Sets the performative field of the message.

Parameters:

performative The fipa_performative_e enum describing the message.

Returns:

The return value of the underlying MC_AclSetPerformative function.

Note:

The message must be a valid message or this function will fail.

Definition at line 186 of file MCAclMessage.cs.

References AclMsg.

15.52.4.4 int LibMC::MCAclMessage::SetSender (String name, String address) [inline]

Sets the sender field of the message.

Sets the performative field of the message.

Parameters:

name The name of the sending entity.

address The address of the sending entity.

Returns:

The return value of the underlying MC_AclSetSender function.

Note:

The message must be a valid message or this function will fail.

Definition at line 202 of file MCAclMessage.cs.

References AclMsg.

15.52.4.5 int LibMC::MCAclMessage::AddReceiver (String name, String address) [inline]

Adds a receiver to the list of receivers.

Adds a receiver to the list of receivers for the message.

Parameters:

name The name of the receiver.

address The address of the receiver.

Returns:

The return value of the underlying MC_AclAddReceiver function.

Note:

The message must be a valid message or this function will fail.

Definition at line 218 of file MCAclMessage.cs.

References AclMsg.

15.52.4.6 int LibMC::MCAclMessage::AddReplyTo (String name, String address) [inline]

Adds a "reply-to" field to the message.

Adds a "reply-to" field to the message. The reply-to field overrides the sender field when creating a reply.

Parameters:

name The name of the receiver.

address The address of the receiver.

Returns:

The return value of the underlying MC_AclAddAddReplyTo function.

Note:

The message must be a valid message or this function will fail.

Definition at line 235 of file MCAclMessage.cs.

References AclMsg.

15.52.4.7 int LibMC::MCAclMessage::SetContent (String content) [inline]

Sets the content field of the message.

Sets the content field of the message.

Parameters:

content The string to copy to the content field.

Returns:

The return value of the underlying MC_AclSetContent function.

Note:

The message must be a valid message or this function will fail.

Definition at line 250 of file MCAclMessage.cs.

References AclMsg.

15.52.4.8 int LibMC::MCAclMessage::Destroy () [inline]

Destroys a message.

This function destroys a message in the Mobile-C library. It releases the underlying memory and must be called when the message is no longer needed.

Returns:

The return value of the underlying MC_AclDestroy function.

Note:

The message must be a valid message or this function will fail. In addition, messages are not automatically destroyed by the garbage collector. Use care when creating messages and ensure they are properly destroyed.

Definition at line 269 of file MCAclMessage.cs.

References AclMsg, and aclmsg_p.

15.52.5 Field Documentation

15.52.5.1 IntPtr LibMC::MCAclMessage::aclmsg_p [private]

Definition at line 105 of file MCAclMessage.cs.

Referenced by Destroy(), and MCAclMessage().

15.52.6 Property Documentation

15.52.6.1 internal IntPtr LibMC::MCAclMessage::AclMsg [get, set, private]

Definition at line 129 of file MCAclMessage.cs.

Referenced by LibMC::MCAgent::AclPost(), LibMC::MCAgency::AclSend(), AddReceiver(), AddReplyTo(), Destroy(), MCAclMessage(), New(), Reply(), SetContent(), SetPerformative(), and SetSender().

The documentation for this class was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAclMessage.cs](#)

15.53 LibMC::MCAgency Class Reference

Wrapper class for [MCAgency_t](#) structure.

Public Types

- enum [MCAgencyState](#)
Enum for describing the state of the agency.
- enum [ChShellType](#)
Ch shell type.
- enum [MC_ThreadIndex_e](#)
Enum for describing the different threads that Mobile-C uses.
- enum [MC_SteerCommand_e](#)
Available commands for MC_Steer.
- enum [MC_Signal_e](#)
MobileC system signals.

Public Member Functions

- [MCAgency \(\)](#)
Default constructor.
- [int Initialize \(\)](#)
Starts the agency.
- [int End \(\)](#)
Stops and destroys the agency.
- [int ChInitializeOptions \(ChShellType shellType, String home\)](#)
Initializes Ch options for the agency.
- [int SetThreadsAllOn \(\)](#)
- [int SetThreadsAllOff \(\)](#)
Sets all threads for the agency to "off".
- [int SetThreadOn \(MC_ThreadIndex_e index\)](#)
Sets an individual thread for the agency to "on".
- [int SetThreadOff \(MC_ThreadIndex_e index\)](#)
Sets an individual thread for the agency to "off".
- [int HaltAgency \(\)](#)
Temporarily halts the agency.

- [int ResumeAgency \(\)](#)
Resumes a halted agency.
- [int SetDefaultAgentStatus \(MCAgent.MC_AgentStatus_e status\)](#)
Sets the default state of an agent in the agency.
- [MCAgent WaitRetrieveAgent \(\)](#)
Waits for an agent to arrive and returns the agent.
- [int WaitAgent \(\)](#)
Waits for an agent to arrive.
- [int SendAgentMigrationMessageFile \(String filename, String hostname, int port\)](#)
Sends an agent migration message file to an agency.
- [int LoadAgentMigrationMessageFile \(String filename\)](#)
Load an agent migration message.
- [int SendAgentMigrationMessage \(String message, String hostname, int port\)](#)
Sends an agent migration message to an agency.
- [int CondBroadcast \(int id\)](#)
Broadcast a condition signal.
- [int CondSignal \(int id\)](#)
Signal a condition.
- [int CondReset \(int id\)](#)
Reset a condition signal.
- [int CondWait \(int id\)](#)
Wait for a condition signal.
- [int MutexLock \(int id\)](#)
Lock a mutex.
- [int MutexUnlock \(int id\)](#)
Unlock a mutex.
- [int SemaphorePost \(int id\)](#)
Posts a semaphore.
- [int SemaphoreWait \(int id\)](#)
Wait for a semaphore to be posted.
- [int ResetSignal \(\)](#)
Reset an agency signal.
- [int SyncDelete \(int id\)](#)
Delete a synchronization variable.

- [int SyncInit \(int id\)](#)
Create a new synchronization variable.
- [int WaitSignal \(MC_Signal_esignals\)](#)
Wait for agency signals.
- [int BarrierDelete \(int id\)](#)
Delete a barrier object.
- [int BarrierInit \(int id, int num_procs\)](#)
Create a new barrier.
- [MC_SteerCommand_e SteerControl \(\)](#)
Steering control function.
- [int Steer \(IntPtr funcptr, IntPtr arg\)](#)
Steering control function.
- [int RegisterService \(MCAgent agent, int agentID, String agentName, String\[\] serviceNames, int numServices\)](#)
Registers services in the agency.
- [int SearchForService \(String searchString, IntPtr agentNames, IntPtr serviceNames, IntPtr agentIDs, IntPtr numResults\)](#)
Searches for services in the agency.
- [int AddAgent \(MCAgent agent\)](#)
Add an agent to the agency.
- [MCAgent FindAgentByName \(String name\)](#)
Finds an agent by its name.
- [MCAgent FindAgentByID \(int id\)](#)
Find an agent by its ID.
- [MCAgent RetrieveAgent \(\)](#)
Retrieve an agent from the agency.
- [int AclSend \(MCAclMessage acl_message\)](#)
Send an ACL message to the agency.
- [int MainLoop \(\)](#)
Makes the agency wait indefinitely.

Properties

- `IntPtr Agency` [get, set]
- `int Port` [get, set]
Accessor for the port number of the agency.
- `MCAgencyState State` [get]
Accessor for the agency state.

Private Member Functions

- static `IntPtr _MC_Initialize` (int port, ref `MCAgencyOptions_t options`)
- static `int _MC_End` (IntPtr agency)
- static `int _MC_ChInitializeOptions` (IntPtr agency, `ChOptions_t options`)
- static `int _MC_InitializeAgencyOptions` (ref `MCAgencyOptions_t options`)
- static `int _MC_SetThreadsAllOn` (ref `MCAgencyOptions_t options`)
- static `int _MC_SetThreadsAllOff` (ref `MCAgencyOptions_t options`)
- static `int _MC_SetThreadOn` (ref `MCAgencyOptions_t options`, `MC_ThreadIndex_e index`)
- static `int _MC_SetThreadOff` (ref `MCAgencyOptions_t options`, `MC_ThreadIndex_e index`)
- static `int _MC_HaltAgency` (IntPtr agency)
- static `int _MC_ResumeAgency` (IntPtr agency)
- static `int _MC_SetDefaultAgentStatus` (IntPtr agency, `MCAgent.MC_AgentStatus_e status`)
- static `IntPtr _MC_WaitRetrieveAgent` (IntPtr agency)
- static `int _MC_WaitAgent` (IntPtr agency)
- static `int _MC_MainLoop` (IntPtr agency)
- static `int _MC_SendAgentMigrationMessageFile` (IntPtr agency, String filename, String hostname, int port)
- static `int _MC_SendAgentMigrationMessage` (IntPtr agency, String message, String hostname, int port)
- static `int _MC_CondBroadcast` (IntPtr agency, int id)
- static `int _MC_CondSignal` (IntPtr agency, int id)
- static `int _MC_CondReset` (IntPtr agency, int id)
- static `int _MC_CondWait` (IntPtr agency, int id)
- static `int _MC_MutexLock` (IntPtr agency, int id)
- static `int _MC_MutexUnlock` (IntPtr agency, int id)
- static `int _MC_SemaphorePost` (IntPtr agency, int id)
- static `int _MC_SemaphoreWait` (IntPtr agency, int id)
- static `int _MC_ResetSignal` (IntPtr agency)
- static `int _MC_SyncDelete` (IntPtr agency, int id)
- static `int _MC_SyncInit` (IntPtr agency, int id)
- static `int _MC_WaitSignal` (IntPtr agency, int signals)
- static `int _MC_BarrierDelete` (IntPtr agency, int id)
- static `int _MC_BarrierInit` (IntPtr agency, int id, int num_procs)
- static `MC_SteerCommand_e _MC_SteerControl` ()
- static `int _MC_Steer` (IntPtr agency, IntPtr funcptr, IntPtr arg)
- static `int _MC_RegisterService` (IntPtr agency, IntPtr agent, int agentID, String agentName, String[] serviceNames, int numServices)
- static `int _MC_SearchForService` (IntPtr agency, String searchString, IntPtr agentNames, IntPtr serviceNames, IntPtr agentIDs, IntPtr numResults)

- static `int` `_MC_AddAgent` (`IntPtr` agency, `IntPtr` agent)
- static internal `int` `_MC_DeleteAgent` (`IntPtr` agent)
- static `IntPtr` `_MC_FindAgentByName` (`IntPtr` agency, `String` name)
- static `IntPtr` `_MC_FindAgentByID` (`IntPtr` agency, `int` ID)
- static `IntPtr` `_MC_RetrieveAgent` (`IntPtr` agency)
- static internal `int` `_MC_GetAgentID` (`IntPtr` agent)
- static internal `String` `_MC_GetAgentName` (`IntPtr` agent)
- static internal `int` `_MC_GetAgentNumTasks` (`IntPtr` agent)
- static internal `MCAgent.MC_AgentStatus_e` `_MC_GetAgentStatus` (`IntPtr` agent)
- static internal `MCAgent.MC_AgentType_e` `_MC_GetAgentType` (`IntPtr` agent)
- static internal `String` `_MC_GetAgentXMLString` (`IntPtr` agent)
- static internal `int` `_MC_PrintAgentCode` (`IntPtr` agent)
- static internal `String` `_MC_RetrieveAgentCode` (`IntPtr` agent)
- static internal `int` `_MC_SetAgentStatus` (`IntPtr` agent, `MCAgent.MC_AgentStatus_e` status)
- static internal `int` `_MC_TerminateAgent` (`IntPtr` agent)
- static internal `int` `_MC_CallAgentFunc` (`IntPtr` agent, `String` funcName, `IntPtr` returnVal, `IntPtr` varg)
- static internal `IntPtr` `_MC_GetAgentExecEngine` (`IntPtr` agent)
- static internal `int` `_MC_GetAgentReturnData` (`IntPtr` agent, `int` task_num, `IntPtr` data, `IntPtr` dim, `IntPtr` extent)
- static internal `IntPtr` `_MC_AclNew` ()
- static internal `int` `_MC_AclPost` (`IntPtr` agent, `IntPtr` message)
- static internal `IntPtr` `_MC_AclReply` (`IntPtr` acl_message)
- static internal `IntPtr` `_MC_AclRetrieve` (`IntPtr` agent)
- static internal `int` `_MC_AclSend` (`IntPtr` agency, `IntPtr` acl_message)
- static internal `IntPtr` `_MC_AclWaitRetrieve` (`IntPtr` agent)
- static internal `int` `_MC_AclSetPerformative` (`IntPtr` acl, `MCACLMessage.MC_FipaPerformative_e` performative)
- static internal `int` `_MC_AclSetSender` (`IntPtr` acl, `String` name, `String` address)
- static internal `int` `_MC_AclAddReceiver` (`IntPtr` acl, `String` name, `String` address)
- static internal `int` `_MC_AclAddReplyTo` (`IntPtr` acl, `String` name, `String` address)
- static internal `int` `_MC_AclSetContent` (`IntPtr` acl, `String` content)
- static internal `int` `_MC_AclDestroy` (`IntPtr` acl)

Private Attributes

- `IntPtr` `agency_p` = `IntPtr.Zero`
- `MCAgencyOptions_t` `options`
- `int` `port` = -1
- `MCAgencyState` `state` = `MCAgencyState.NoState`
- const `String` `mcDll`

Data Structures

- struct `ChOptions_t`
ChOptions structures.
- struct `MCAgency_t`
- struct `MCAgencyOptions_t`

15.53.1 Detailed Description

Wrapper class for `MCAgency_t` structure.

This class provides an interface to the Mobile-C agency. Member functions for the class are generally overloaded versions of the respective functions in the Mobile-C library. The class maintains a pointer to the Mobile-C agency in unmanaged memory. The pointer is not accessible by the user.

Definition at line 341 of file `MCAgency.cs`.

15.53.2 Member Enumeration Documentation

15.53.2.1 enum LibMC::MCAgency::MCAgencyState

Enum for describing the state of the agency.

This enum is used to determine whether or not certain actions should be permitted, such as halting, resuming, and ending an agency

Enumerator:

- NoState* Default, uninitialized state
- Initialized* Agency initialized, but not started
- Running* Agency is running
- Halted* Agency has been stopped (can be resumed)
- Ended* Agency is stopped (destroyed)

Definition at line 349 of file `MCAgency.cs`.

15.53.2.2 enum LibMC::MCAgency::ChShellType

Ch shell type.

Used to set the shell type for the Ch interpreter.

Enumerator:

- CH_REGULARCH* Default, regular shell
- CH_SAFECH* Safe shell

Definition at line 363 of file `MCAgency.cs`.

15.53.2.3 enum LibMC::MCAgency::MC_ThreadIndex_e

Enum for describing the different threads that Mobile-C uses.

These enums can be used to turn threads on and off before an agency is initialized.

Note:

This enum is pulled directly from the Mobile-C library.

Enumerator:

- MC_THREAD_DF* Directory Facilitator

MC_THREAD_AMS Agent Management system
MC_THREAD_ACC Agency communications
MC_THREAD_CP Command Prompt
MC_THREAD_AGENT Agent threads
MC_THREAD_ALL

Definition at line 79 of file MCEExports.cs.

15.53.2.4 enum LibMC::MCAgency::MC_SteerCommand_e

Available commands for MC_Steer.

Note:

This enum is pulled directly from the Mobile-C library.

Enumerator:

MC_RUN Continue the algorithm
MC_SUSPEND Suspend/pause the algorithm
MC_RESTART Restart the algorithm from the beginning
MC_STOP Stop the algorithm

Definition at line 94 of file MCEExports.cs.

15.53.2.5 enum LibMC::MCAgency::MC_Signal_e

MobileC system signals.

Each signal is activated after the corresponding action. i.e. The 'MC_RECV_MESSAGE' signal is activated after a message is received.

Note:

This enum is pulled directly from the Mobile-C library.

See also:

[MC_WaitSignal\(\)](#), [MC_ResetSignal\(\)](#)

Enumerator:

MC_NO_SIGNAL
MC_RECV_CONNECTION
MC_RECV_MESSAGE
MC_RECV_AGENT
MC_RECV_RETURN
MC_EXEC_AGENT
MC_ALL_SIGNALS

Definition at line 112 of file MCEExports.cs.

15.53.3 Constructor & Destructor Documentation

15.53.3.1 LibMC::MCAgency::MCAgency () [inline]

Default constructor.

The default constructor for the [MCAgency](#) class. It creates a new agency, default [options](#) for the agency, and initializes the agency. It does not start the agency.

Definition at line 381 of file MCAgency.cs.

References [_MC_InitializeAgencyOptions\(\)](#), and [state](#).

15.53.4 Member Function Documentation

15.53.4.1 int LibMC::MCAgency::Initialize () [inline]

Starts the agency.

Starts the agency and sets the agency state.

Returns:

0 on success, -1 on failure.

Note:

The agency port and any other [options](#) must be set before calling this function.

Definition at line 459 of file MCAgency.cs.

References [Agency](#), [port](#), and [state](#).

15.53.4.2 int LibMC::MCAgency::End () [inline]

Stops and destroys the agency.

Stops the agency and sets the agency state appropriately.

Returns:

The return value of the underlying [MC_End](#) function.

Note:

This call will fail if the underlying Mobile-C agency is not in the correct state.

Definition at line 481 of file MCAgency.cs.

References [Agency](#), and [state](#).

15.53.4.3 int LibMC::MCAgency::ChInitializeOptions (ChShellType *shellType*, String *home*) [inline]

Initializes Ch [options](#) for the agency.

Can be used to set the home directory and shell mode for the Ch interpreter.

Parameters:

shellType The type of shell Ch should use: CH_REGULARCH or CH_SAFECH.

home The home directory Ch should use.

Returns:

The return value of the underlying MC_ChInitializeOptions function.

Note:

This function must be called before the agency is started.

Definition at line 499 of file MCAgency.cs.

References _MC_ChInitializeOptions(), Agency, LibMC::MCAgency::ChOptions_t::chhome, int, and LibMC::MCAgency::ChOptions_t::shelltype.

15.53.4.4 int LibMC::MCAgency::SetThreadsAllOn () [inline]

Definition at line 516 of file MCAgency.cs.

References _MC_SetThreadsAllOn().

15.53.4.5 int LibMC::MCAgency::SetThreadsAllOff () [inline]

Sets all threads for the agency to "off".

Sets all threads for the agency to "off." Not recommended for use.

Returns:

The return value of the underlying MC_SetThreadsAllOff function.

Note:

This function must be called before the agency is started.

Definition at line 530 of file MCAgency.cs.

References _MC_SetThreadsAllOff().

15.53.4.6 int LibMC::MCAgency::SetThreadOn (MC_ThreadIndex_e index) [inline]

Sets an individual thread for the agency to "on".

Threads are on by default. If they have been turned off, this function turns them on again.

Parameters:

index The enum that identifies the thread to be turned on.

Returns:

The return value of the underlying MC_SetThreadOn function.

Note:

This function must be called before the agency is started.

Definition at line 546 of file MCAgency.cs.

References `_MC_SetThreadOn()`.

15.53.4.7 int LibMC::MCAgency::SetThreadOff (MC_ThreadIndex_e *index*) [inline]

Sets an individual thread for the agency to "off".

Most commonly used to turn the command prompt thread off.

Parameters:

index The enum that identifies the thread to be turned off.

Returns:

The return value of the underlying `MC_SetThreadOff` function.

Note:

This function must be called before the agency is started.

Definition at line 561 of file MCAgency.cs.

References `_MC_SetThreadOff()`.

15.53.4.8 int LibMC::MCAgency::HaltAgency () [inline]

Temporarily halts the agency.

Halts the agency until it is resumed or ended.

Returns:

The return value of the underlying `MC_HaltAgency` function.

Note:

The underlying Mobile-C agency must be in the correct state to call this function or it will fail.

Definition at line 576 of file MCAgency.cs.

References `_MC_HaltAgency()`, `Agency`, and `state`.

15.53.4.9 int LibMC::MCAgency::ResumeAgency () [inline]

Resumes a halted agency.

Resumes a halted agency. Cannot be used on ended agencies.

Returns:

The return value of the underlying `MC_ResumeAgency` function.

Note:

The underlying Mobile-C agency must be in the correct state to call this function or it will fail.

Definition at line 593 of file MCAgency.cs.

References `_MC_ResumeAgency()`, `Agency`, and `state`.

15.53.4.10 `int LibMC::MCAgency::SetDefaultAgentStatus (MCAgent.MC_AgentStatus_e status)` [inline]

Sets the default state of an agent in the agency.

Can be used to set the default status of agents, but most agents managed their state on their own.

Parameters:

status The enum that identifies the desired agent state.

Returns:

The return value of the underlying `MC_SetDefaultAgentStatus` function.

Definition at line 609 of file MCAgency.cs.

References `_MC_SetDefaultAgentStatus()`, and `Agency`.

15.53.4.11 `MCAgent LibMC::MCAgency::WaitRetrieveAgent ()` [inline]

Waits for an agent to arrive and returns the agent.

Waits for an agent to arrive in the agency, then returns that agent. The agent is not allowed to execute.

Returns:

The agent that was retrieved or an empty agent if it fails.

Definition at line 622 of file MCAgency.cs.

References `_MC_WaitRetrieveAgent()`, and `Agency`.

15.53.4.12 `int LibMC::MCAgency::WaitAgent ()` [inline]

Waits for an agent to arrive.

Waits for an agent to arrive in the agency. The agent is allowed to execute normally.

Returns:

The return value of the underlying `MC_WaitAgent` function.

Definition at line 639 of file MCAgency.cs.

References `_MC_WaitAgent()`, and `Agency`.

15.53.4.13 int LibMC::MCAgency::SendAgentMigrationMessageFile (String *filename*, String *hostname*, int *port*) [inline]

Sends an agent migration message file to an agency.

Sends the specified XML file to another agency (local or remote).

Parameters:

filename The name of the file to send (fully qualified).

hostname The URL, IP address, or other identifier for the agency host.

port The port to send to.

Returns:

The return value of the underlying MC_SendAgentMigrationMessageFile function.

Definition at line 658 of file MCAgency.cs.

References Agency.

15.53.4.14 int LibMC::MCAgency::LoadAgentMigrationMessageFile (String *filename*) [inline]

Load an agent migration message.

Loads the specified XML file to this agency automatically. There is no need to specify a port or agency location.

Parameters:

filename The name of the file to send (fully qualified).

Returns:

The return value of the underlying MC_SendAgentMigrationMessageFile function.

Definition at line 672 of file MCAgency.cs.

References Agency, and Port.

15.53.4.15 int LibMC::MCAgency::SendAgentMigrationMessage (String *message*, String *hostname*, int *port*) [inline]

Sends an agent migration message to an agency.

Sends an agent migration message to another agency (local or remote).

Parameters:

message The agent migration message.

hostname The URL, IP address, or other identifier for the agency host.

port The port to send to.

Returns:

The return value of the underlying MC_SendAgentMigrationMessageFile function.

Definition at line 687 of file MCAgency.cs.

References `_MC_SendAgentMigrationMessage()`, and `Agency`.

15.53.4.16 `int LibMC::MCAgency::CondBroadcast (int id)` [inline]

Broadcast a condition signal.

Broadcasts a signal in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#).

Parameters:

id The ID number of the condition to signal.

Returns:

The return value of the underlying `MC_CondBroadcast` function.

Definition at line 705 of file MCAgency.cs.

References `_MC_CondBroadcast()`, and `Agency`.

15.53.4.17 `int LibMC::MCAgency::CondSignal (int id)` [inline]

Signal a condition.

Signals a condition in the agency. The parameter "id" is the ID of the agency sync variable to signal that was created with [SyncInit\(\)](#).

Parameters:

id The ID number of the condition to signal.

Returns:

The return value of the underlying `MC_CondSignal` function.

Definition at line 719 of file MCAgency.cs.

References `_MC_CondSignal()`, and `Agency`.

15.53.4.18 `int LibMC::MCAgency::CondReset (int id)` [inline]

Reset a condition signal.

Resets a signal in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#). This function must be called after a condition is received in order to clear it.

Parameters:

id The ID number of the condition to reset.

Returns:

The return value of the underlying `MC_CondReset` function.

Definition at line 734 of file MCAgency.cs.

References `_MC_CondReset()`, and `Agency`.

15.53.4.19 `int LibMC::MCAgency::CondWait (int id)` [inline]

Wait for a condition signal.

Waits for a condition signal in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#). This function blocks until the signal is received.

Parameters:

id The ID number of the condition to wait for.

Returns:

The return value of the underlying MC_CondWait function.

Definition at line 749 of file MCAgency.cs.

References `_MC_CondWait()`, and `Agency`.

15.53.4.20 `int LibMC::MCAgency::MutexLock (int id)` [inline]

Lock a mutex.

Locks a mutex in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#). This function blocks until the mutex is locked.

Parameters:

id The ID number of the mutex to lock.

Returns:

The return value of the underlying MC_MutexLock function.

Definition at line 764 of file MCAgency.cs.

References `_MC_MutexLock()`, and `Agency`.

15.53.4.21 `int LibMC::MCAgency::MutexUnlock (int id)` [inline]

Unlock a mutex.

Locks a mutex in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#).

Parameters:

id The ID number of the mutex to unlock.

Returns:

The return value of the underlying MC_MutexUnlock function.

Definition at line 778 of file MCAgency.cs.

References `_MC_MutexUnlock()`, and `Agency`.

15.53.4.22 `int LibMC::MCAgency::SemaphorePost (int id)` [inline]

Posts a semaphore.

Posts a semaphore in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#).

Parameters:

id The ID number of the semaphore to post.

Returns:

The return value of the underlying MC_SemaphorePost function.

Definition at line 792 of file MCAgency.cs.

References `_MC_SemaphorePost()`, and `Agency`.

15.53.4.23 `int LibMC::MCAgency::SemaphoreWait (int id)` [inline]

Wait for a semaphore to be posted.

Wait for a semaphore in the agency to be posted. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#). This function blocks until the semaphore is posted.

Parameters:

id The ID number of the semaphore to wait for.

Returns:

The return value of the underlying MC_SemaphoreWait function.

Definition at line 807 of file MCAgency.cs.

References `_MC_SemaphoreWait()`, and `Agency`.

15.53.4.24 `int LibMC::MCAgency::ResetSignal ()` [inline]

Reset an agency signal.

Resets a signal in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#).

Returns:

The return value of the underlying MC_ResetSignal function.

Definition at line 820 of file MCAgency.cs.

References `_MC_ResetSignal()`, and `Agency`.

15.53.4.25 `int LibMC::MCAgency::SyncDelete (int id)` [inline]

Delete a synchronization variable.

Deletes a synchronization variable in the agency. The parameter "id" is the ID of the agency sync variable created with [SyncInit\(\)](#).

Parameters:

id The ID number of the variable to delete.

Returns:

The return value of the underlying MC_SyncDelete function.

Definition at line 834 of file MCAgency.cs.

References `_MC_SyncDelete()`, and `Agency`.

15.53.4.26 int LibMC::MCAgency::SyncInit (int *id*) [inline]

Create a new synchronization variable.

Creates a new synchronization variable in the agency. The parameter "id" is desired ID of the variable. A random ID is returned if "id" is already in use.

Parameters:

id The ID number of the condition to signal.

Returns:

The return value of the underlying MC_CondBroadcast function- either a random ID or the desired ID if the desired ID is already in use.

Definition at line 850 of file MCAgency.cs.

References `_MC_SyncInit()`, and `Agency`.

15.53.4.27 int LibMC::MCAgency::WaitSignal (MC_Signal_e *signals*) [inline]

Wait for agency signals.

Waits for signals to occur in the agency.

Parameters:

signals The ID number of the condition to signal.

Returns:

The return value of the underlying MC_WaitSignal function.

Definition at line 863 of file MCAgency.cs.

References `_MC_WaitSignal()`, and `Agency`.

15.53.4.28 int LibMC::MCAgency::BarrierDelete (int *id*) [inline]

Delete a barrier object.

Deletes a barrier object from the agency. The parameter "id" is the ID of the agency sync variable created with [BarrierInit\(\)](#).

Parameters:

id The ID number of the barrier to delete.

Returns:

The return value of the underlying MC_BarrierDelete function.

Definition at line 877 of file MCAgency.cs.

References _MC_BarrierDelete(), and Agency.

15.53.4.29 int LibMC::MCAgency::BarrierInit (int *id*, int *num_procs*) [inline]

Create a new barrier.

Creates a new barrier object in the agency.

Parameters:

id The ID number of the condition to signal.

num_procs the number of process to block (?)

Returns:

The return value of the underlying MC_BarrierInit function.

Definition at line 891 of file MCAgency.cs.

References _MC_BarrierInit(), and Agency.

15.53.4.30 MC_SteerCommand_e LibMC::MCAgency::SteerControl () [inline]

Steering control function.

Really not sure.

Returns:

The return value of the underlying MC_SteerControl function.

Todo

Test MC_SteerControl, MC_Steer.

Definition at line 909 of file MCAgency.cs.

References _MC_SteerControl().

15.53.4.31 int LibMC::MCAgency::Steer (IntPtr *funcptr*, IntPtr *arg*) [inline]

Steering control function.

Really not sure.

Parameters:

funcptr Pointer to the steering function

arg Argument to function

Returns:

The return value of the underlying `_MC_Steer` function.

Note:

This function does nothing but throw an exception right now.

Bug

`MC_Steer` is not yet implemented.

Todo

Implement `MC_Steer`

Definition at line 927 of file `MCAgency.cs`.

15.53.4.32 `int LibMC::MCAgency::RegisterService (MCAgent agent, int agentID, String agentName, String[] serviceNames, int numServices) [inline]`

Registers services in the agency.

Registers services provided by agents with the agency. Not really useful in binary space.

Parameters:

agent The agent providing the services.

agentID The agent ID number.

agentName The agent name.

serviceNames An array of service names.

numServices The number of services provided.

Returns:

The return value of the underlying `MC_RegisterService` function.

Todo

Test `MC_RegisterService` and `MC_SearchForService`.

Definition at line 952 of file `MCAgency.cs`.

References `_MC_RegisterService()`, `Agency`, and `LibMC::MCAgent::Agent`.

15.53.4.33 `int LibMC::MCAgency::SearchForService (String searchString, IntPtr agentNames, IntPtr serviceNames, IntPtr agentIDs, IntPtr numResults) [inline]`

Searches for services in the agency.

Searches for services provided by agents with the agency. Not really useful in binary space.

Parameters:

searchString The agent providing the services.
agentNames The agent ID number.
serviceNames The agent name.
agentIDs An array of service names.
numResults The number of services provided.

Returns:

The return value of the underlying MC_SearchForService function.

Note:

This function does nothing but throw an exception right now.

Bug

MC_SearchForService is not yet implemented.

Todo

Implement SearchForService

Definition at line 975 of file MCAgency.cs.

15.53.4.34 int LibMC::MCAgency::AddAgent (MCAgent *agent*) [inline]

Add an agent to the agency.

Adds an agent to the agency.

Parameters:

agent The agent to add.

Returns:

The return value of the underlying MC_AddAgent function.

Definition at line 993 of file MCAgency.cs.

References _MC_AddAgent(), Agency, and LibMC::MCAGENT::AGENT.

15.53.4.35 MCAgent LibMC::MCAgency::FindAgentByName (String *name*) [inline]

Finds an agent by its name.

Finds an agent in the agency by its name.

Parameters:

name The name of the agent to search for.

Returns:

The return value of the underlying MC_FindAgentByName function.

Definition at line 1006 of file MCAgency.cs.

References _MC_FindAgentByName(), and Agency.

15.53.4.36 MCAgent LibMC::MCAgency::FindAgentByID (int *id*) [inline]

Find an agent by its ID.

Finds an agent in the agency by its ID number.

Parameters:

id The ID number of the condition to signal.

Returns:

The return value of the underlying MC_FindAgentByID function.

Definition at line 1019 of file MCAgency.cs.

References _MC_FindAgentByID(), and Agency.

15.53.4.37 MCAgent LibMC::MCAgency::RetrieveAgent () [inline]

Retrieve an agent from the agency.

Really not sure.

Returns:

The return value of the underlying MC_CondBroadcast function.

Definition at line 1031 of file MCAgency.cs.

References _MC_RetrieveAgent(), and Agency.

15.53.4.38 int LibMC::MCAgency::AclSend (MCAclMessage *acl_message*) [inline]

Send an ACL message to the agency.

Sends an ACL message to the agency. The message is delivered appropriately.

Parameters:

acl_message The message to send.

Returns:

The return value of the underlying MC_CondBroadcast function.

Definition at line 1048 of file MCAgency.cs.

References LibMC::MCAclMessage::AclMsg, and Agency.

15.53.4.39 int LibMC::MCAgency::MainLoop () [inline]

Makes the agency wait indefinitely.

Makes the agency wait indefinitely until it receives a "quit" command or is otherwise terminated.

Returns:

The return value of the underlying MC_MainLoop function.

Definition at line 1061 of file MCAgency.cs.

References `_MC_MainLoop()`, and `Agency`.

15.53.4.40 `static IntPtr LibMC::MCAgency::_MC_Initialize (int port, ref MCAgencyOptions_t options) [private]`

15.53.4.41 `static int LibMC::MCAgency::_MC_End (IntPtr agency) [private]`

15.53.4.42 `static int LibMC::MCAgency::_MC_ChInitializeOptions (IntPtr agency, ChOptions_t options) [private]`

Referenced by `ChInitializeOptions()`.

15.53.4.43 `static int LibMC::MCAgency::_MC_InitializeAgencyOptions (ref MCAgencyOptions_t options) [private]`

Referenced by `MCAgency()`.

15.53.4.44 `static int LibMC::MCAgency::_MC_SetThreadsAllOn (ref MCAgencyOptions_t options) [private]`

Referenced by `SetThreadsAllOn()`.

15.53.4.45 `static int LibMC::MCAgency::_MC_SetThreadsAllOff (ref MCAgencyOptions_t options) [private]`

Referenced by `SetThreadsAllOff()`.

15.53.4.46 `static int LibMC::MCAgency::_MC_SetThreadOn (ref MCAgencyOptions_t options, MC_ThreadIndex_e index) [private]`

Referenced by `SetThreadOn()`.

15.53.4.47 `static int LibMC::MCAgency::_MC_SetThreadOff (ref MCAgencyOptions_t options, MC_ThreadIndex_e index) [private]`

Referenced by `SetThreadOff()`.

15.53.4.48 `static int LibMC::MCAgency::_MC_HaltAgency (IntPtr agency) [private]`

Referenced by `HaltAgency()`.

15.53.4.49 `static int LibMC::MCAgency::_MC_ResumeAgency (IntPtr agency) [private]`

Referenced by `ResumeAgency()`.

15.53.4.50 `static int LibMC::MCAgency::_MC_SetDefaultAgentStatus (IntPtr agency, MCAgent.MC_AgentStatus_e status) [private]`

Referenced by SetDefaultAgentStatus().

15.53.4.51 `static IntPtr LibMC::MCAgency::_MC_WaitRetrieveAgent (IntPtr agency) [private]`

Referenced by WaitRetrieveAgent().

15.53.4.52 `static int LibMC::MCAgency::_MC_WaitAgent (IntPtr agency) [private]`

Referenced by WaitAgent().

15.53.4.53 `static int LibMC::MCAgency::_MC_MainLoop (IntPtr agency) [private]`

Referenced by MainLoop().

15.53.4.54 `static int LibMC::MCAgency::_MC_SendAgentMigrationMessageFile (IntPtr agency, String filename, String hostname, int port) [private]`

15.53.4.55 `static int LibMC::MCAgency::_MC_SendAgentMigrationMessage (IntPtr agency, String message, String hostname, int port) [private]`

Referenced by SendAgentMigrationMessage().

15.53.4.56 `static int LibMC::MCAgency::_MC_CondBroadcast (IntPtr agency, int id) [private]`

Referenced by CondBroadcast().

15.53.4.57 `static int LibMC::MCAgency::_MC_CondSignal (IntPtr agency, int id) [private]`

Referenced by CondSignal().

15.53.4.58 `static int LibMC::MCAgency::_MC_CondReset (IntPtr agency, int id) [private]`

Referenced by CondReset().

15.53.4.59 `static int LibMC::MCAgency::_MC_CondWait (IntPtr agency, int id) [private]`

Referenced by CondWait().

15.53.4.60 `static int LibMC::MCAgency::_MC_MutexLock (IntPtr agency, int id) [private]`

Referenced by MutexLock().

15.53.4.61 `static int LibMC::MCAgency::_MC_MutexUnlock (IntPtr agency, int id)`
[private]

Referenced by MutexUnlock().

15.53.4.62 `static int LibMC::MCAgency::_MC_SemaphorePost (IntPtr agency, int id)`
[private]

Referenced by SemaphorePost().

15.53.4.63 `static int LibMC::MCAgency::_MC_SemaphoreWait (IntPtr agency, int id)`
[private]

Referenced by SemaphoreWait().

15.53.4.64 `static int LibMC::MCAgency::_MC_ResetSignal (IntPtr agency)` [private]

Referenced by ResetSignal().

15.53.4.65 `static int LibMC::MCAgency::_MC_SyncDelete (IntPtr agency, int id)` [private]

Referenced by SyncDelete().

15.53.4.66 `static int LibMC::MCAgency::_MC_SyncInit (IntPtr agency, int id)` [private]

Referenced by SyncInit().

15.53.4.67 `static int LibMC::MCAgency::_MC_WaitSignal (IntPtr agency, int signals)`
[private]

Referenced by WaitSignal().

15.53.4.68 `static int LibMC::MCAgency::_MC_BarrierDelete (IntPtr agency, int id)`
[private]

Referenced by BarrierDelete().

15.53.4.69 `static int LibMC::MCAgency::_MC_BarrierInit (IntPtr agency, int id, int num_procs)`
[private]

Referenced by BarrierInit().

15.53.4.70 `static MC_SteerCommand_e LibMC::MCAgency::_MC_SteerControl ()`
[private]

Referenced by SteerControl().

15.53.4.71 `static int LibMC::MCAgency::_MC_Steer (IntPtr agency, IntPtr funcptr, IntPtr arg)`
[private]

15.53.4.72 `static int LibMC::MCAgency::_MC_RegisterService (IntPtr agency, IntPtr agent, int agentID, String agentName, String[] serviceNames, int numServices)` [private]

Referenced by RegisterService().

15.53.4.73 `static int LibMC::MCAgency::_MC_SearchForService (IntPtr agency, String searchString, IntPtr agentNames, IntPtr serviceNames, IntPtr agentIDs, IntPtr numResults)` [private]

15.53.4.74 `static int LibMC::MCAgency::_MC_AddAgent (IntPtr agency, IntPtr agent)`
[private]

Referenced by AddAgent().

15.53.4.75 `static internal int LibMC::MCAgency::_MC_DeleteAgent (IntPtr agent)` [private]

15.53.4.76 `static IntPtr LibMC::MCAgency::_MC_FindAgentByName (IntPtr agency, String name)` [private]

Referenced by FindAgentByName().

15.53.4.77 `static IntPtr LibMC::MCAgency::_MC_FindAgentByID (IntPtr agency, int ID)`
[private]

Referenced by FindAgentByID().

15.53.4.78 `static IntPtr LibMC::MCAgency::_MC_RetrieveAgent (IntPtr agency)` [private]

Referenced by RetrieveAgent().

-
- 15.53.4.79 **static internal int** LibMC::MCAgency::_MC_GetAgentID (IntPtr *agent*) [private]
- 15.53.4.80 **static internal String** LibMC::MCAgency::_MC_GetAgentName (IntPtr *agent*) [private]
- 15.53.4.81 **static internal int** LibMC::MCAgency::_MC_GetAgentNumTasks (IntPtr *agent*) [private]
- 15.53.4.82 **static internal MCAgent.MC_AgentStatus_e** LibMC::MCAgency::_MC_GetAgentStatus (IntPtr *agent*) [private]
- 15.53.4.83 **static internal MCAgent.MC_AgentType_e** LibMC::MCAgency::_MC_GetAgentType (IntPtr *agent*) [private]
- 15.53.4.84 **static internal String** LibMC::MCAgency::_MC_GetAgentXMLString (IntPtr *agent*) [private]
- 15.53.4.85 **static internal int** LibMC::MCAgency::_MC_PrintAgentCode (IntPtr *agent*) [private]
- 15.53.4.86 **static internal String** LibMC::MCAgency::_MC_RetrieveAgentCode (IntPtr *agent*) [private]
- 15.53.4.87 **static internal int** LibMC::MCAgency::_MC_SetAgentStatus (IntPtr *agent*, MCAgent.MC_AgentStatus_e *status*) [private]
- 15.53.4.88 **static internal int** LibMC::MCAgency::_MC_TerminateAgent (IntPtr *agent*) [private]
- 15.53.4.89 **static internal int** LibMC::MCAgency::_MC_CallAgentFunc (IntPtr *agent*, String *funcName*, IntPtr *returnVal*, IntPtr *varg*) [private]
- 15.53.4.90 **static internal IntPtr** LibMC::MCAgency::_MC_GetAgentExecEngine (IntPtr *agent*) [private]
- 15.53.4.91 **static internal int** LibMC::MCAgency::_MC_GetAgentReturnData (IntPtr *agent*, int *task_num*, IntPtr *data*, IntPtr *dim*, IntPtr *extent*) [private]
- 15.53.4.92 **static internal IntPtr** LibMC::MCAgency::_MC_AclNew () [private]
- 15.53.4.93 **static internal int** LibMC::MCAgency::_MC_AclPost (IntPtr *agent*, IntPtr *message*) [private]
- 15.53.4.94 **static internal IntPtr** LibMC::MCAgency::_MC_AclReply (IntPtr *acl_message*) [private]
- 15.53.4.95 **static internal IntPtr** LibMC::MCAgency::_MC_AclRetrieve (IntPtr *agent*) [private]
- 15.53.4.96 **static internal int** LibMC::MCAgency::_MC_AclSend (IntPtr *agency*, IntPtr *acl_message*) [private]
- 15.53.4.97 **static internal IntPtr** LibMC::MCAgency::_MC_AclWaitRetrieve (IntPtr *agent*) [private]
-
- 15.53.4.98 **static internal int** LibMC::MCAgency::_MC_AclSetPerformative (IntPtr *acl*, MCAclMessage.MC_FipaPerformative_e *performative*) [private]
- 15.53.4.99 **static internal int** LibMC::MCAgency::_MC_AclSetSender (IntPtr *acl*, String *name*, String *address*) [private]

15.53.5.2 MCAgencyOptions_t LibMC::MCAgency::options [private]

Definition at line 370 of file MCAgency.cs.

15.53.5.3 int LibMC::MCAgency::port = -1 [private]

Definition at line 371 of file MCAgency.cs.

Referenced by Initialize().

15.53.5.4 MCAgencyState LibMC::MCAgency::state = MCAgencyState.NoState [private]

Definition at line 372 of file MCAgency.cs.

Referenced by End(), HaltAgency(), Initialize(), MCAgency(), and ResumeAgency().

15.53.5.5 const String LibMC::MCAgency::mcdll [private]

Initial value:

```
"libmc.dll"
```

Definition at line 15 of file MCEExports.cs.

15.53.6 Property Documentation**15.53.6.1 IntPtr LibMC::MCAgency::Agency** [get, set, private]

Definition at line 389 of file MCAgency.cs.

Referenced by AclSend(), AddAgent(), BarrierDelete(), BarrierInit(), ChInitializeOptions(), CondBroadcast(), CondReset(), CondSignal(), CondWait(), End(), FindAgentByID(), FindAgentByName(), HaltAgency(), Initialize(), LoadAgentMigrationMessageFile(), MainLoop(), MutexLock(), MutexUnlock(), RegisterService(), ResetSignal(), ResumeAgency(), RetrieveAgent(), SemaphorePost(), SemaphoreWait(), SendAgentMigrationMessage(), SendAgentMigrationMessageFile(), SetDefaultAgentStatus(), SyncDelete(), SyncInit(), WaitAgent(), WaitRetrieveAgent(), and WaitSignal().

15.53.6.2 int LibMC::MCAgency::Port [get, set]

Accessor for the port number of the agency.

Allows the user to set the agency port or get the port number while it is running.

Note:

The port must be set before the agency is started. Once the agency is started, the port cannot be changed.

Definition at line 418 of file MCAgency.cs.

Referenced by LoadAgentMigrationMessageFile().

15.53.6.3 MCAgencyState LibMC::MCAgency::State [get]

Accessor for the agency state.

Allows the user to query the state of the agency.

Note:

The state cannot be set by the user. It is controlled internally.

Definition at line 438 of file MCAgency.cs.

The documentation for this class was generated from the following files:

- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAgency.cs](#)
- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCExports.cs](#)

15.54 LibMC::MCAgency::ChOptions_t Struct Reference

ChOptions structures.

Data Fields

- [int shelltype](#)
- [String chhome](#)

15.54.1 Detailed Description

ChOptions structures.

Allows the user to set the shell type and the home directory.

Note:

This struct is pulled directly from the Mobile-C library.

Definition at line 61 of file MCEExports.cs.

15.54.2 Field Documentation

15.54.2.1 int LibMC::MCAgency::ChOptions_t::shelltype

shell type: CH_REGULARARCH or CH_SAFECH

Definition at line 63 of file MCEExports.cs.

Referenced by LibMC::MCAgency::ChInitializeOptions().

15.54.2.2 String LibMC::MCAgency::ChOptions_t::chhome

Embedded Ch home directory. if NULL, use Ch home directory for standard/professional edition as Embedded Ch home directory

Definition at line 66 of file MCEExports.cs.

Referenced by LibMC::MCAgency::ChInitializeOptions().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCEExports.cs](#)

15.55 LibMC::MCAgency::MCAgency_t Struct Reference

Data Fields

- [int client](#)
- [int server](#)
- [String hostName](#)
- [String filename](#)
- [int portno](#)
- [int portnoc](#)
- [IntPtr mc_platform](#)
- [int default_agentstatus](#)
- [int threads](#)
- [int enable_security](#)
- [int\[\] stack_size](#)
- [int last_error](#)

15.55.1 Detailed Description

Definition at line 23 of file MCEExports.cs.

15.55.2 Field Documentation

15.55.2.1 int LibMC::MCAgency::MCAgency_t::client

Definition at line 25 of file MCEExports.cs.

15.55.2.2 int LibMC::MCAgency::MCAgency_t::server

Definition at line 26 of file MCEExports.cs.

15.55.2.3 String LibMC::MCAgency::MCAgency_t::hostName

Local Hostname

Definition at line 27 of file MCEExports.cs.

15.55.2.4 String LibMC::MCAgency::MCAgency_t::filename

Definition at line 28 of file MCEExports.cs.

15.55.2.5 int LibMC::MCAgency::MCAgency_t::portno

Local port number

Definition at line 29 of file MCEExports.cs.

15.55.2.6 int LibMC::MCAgency::MCAgency_t::portnoc

Definition at line 30 of file MCEExports.cs.

15.55.2.7 IntPtr LibMC::MCAgency::MCAgency_t::mc_platform

Local MobileC Platform

Definition at line 31 of file MCEExports.cs.

15.55.2.8 int LibMC::MCAgency::MCAgency_t::default_agentstatus

Agency default agent status

Definition at line 32 of file MCEExports.cs.

15.55.2.9 int LibMC::MCAgency::MCAgency_t::threads

flag which determines which threads to start

Definition at line 33 of file MCEExports.cs.

15.55.2.10 int LibMC::MCAgency::MCAgency_t::enable_security

Security flag

Definition at line 34 of file MCEExports.cs.

15.55.2.11 int [] LibMC::MCAgency::MCAgency_t::stack_size

Definition at line 37 of file MCEExports.cs.

15.55.2.12 int LibMC::MCAgency::MCAgency_t::last_error

Definition at line 38 of file MCEExports.cs.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCEExports.cs](#)

15.56 LibMC::MCAgency::MCAgencyOptions_t Struct Reference

Data Fields

- [int threads](#)
- [int default_agent_status](#)
- [int modified](#)
- [int enable_security](#)
- [int\[\] stack_size](#)

15.56.1 Detailed Description

Definition at line 42 of file MCEExports.cs.

15.56.2 Field Documentation

15.56.2.1 int LibMC::MCAgency::MCAgencyOptions_t::threads

Threads to start

Definition at line 44 of file MCEExports.cs.

15.56.2.2 int LibMC::MCAgency::MCAgencyOptions_t::default_agent_status

Default agent status

Definition at line 45 of file MCEExports.cs.

15.56.2.3 int LibMC::MCAgency::MCAgencyOptions_t::modified

unused

Definition at line 46 of file MCEExports.cs.

15.56.2.4 int LibMC::MCAgency::MCAgencyOptions_t::enable_security

security enable flag

Definition at line 47 of file MCEExports.cs.

15.56.2.5 int [] LibMC::MCAgency::MCAgencyOptions_t::stack_size

If the stack size is -1, use system def.

Definition at line 50 of file MCEExports.cs.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCEExports.cs>

15.57 MCAgencyOptions_s Struct Reference

User modifiable agency [options](#).

```
#include <libmc.h>
```

Data Fields

- [int threads](#)
- [int default_agent_status](#)
- [int modified](#)
- [int enable_security](#)
- [int stack_size](#) [MC_THREAD_ALL]

15.57.1 Detailed Description

User modifiable agency [options](#).

Definition at line 235 of file libmc.h.

15.57.2 Field Documentation

15.57.2.1 int MCAgencyOptions_s::threads

Threads to start

Definition at line 236 of file libmc.h.

Referenced by [MC_Initialize\(\)](#), [MC_InitializeAgencyOptions\(\)](#), [MC_SetThreadOff\(\)](#), [MC_SetThreadOn\(\)](#), [MC_SetThreadsAllOff\(\)](#), and [MC_SetThreadsAllOn\(\)](#).

15.57.2.2 int MCAgencyOptions_s::default_agent_status

Default agent status

Definition at line 237 of file libmc.h.

Referenced by [MC_Initialize\(\)](#), and [MC_InitializeAgencyOptions\(\)](#).

15.57.2.3 int MCAgencyOptions_s::modified

unused

Definition at line 238 of file libmc.h.

Referenced by [MC_InitializeAgencyOptions\(\)](#).

15.57.2.4 int MCAgencyOptions_s::enable_security

security enable flag

Definition at line 239 of file libmc.h.

Referenced by [MC_Initialize\(\)](#), and [MC_InitializeAgencyOptions\(\)](#).

15.57.2.5 int MCAgencyOptions_s::stack_size[MC_THREAD_ALL]

If the stack size is -1, use system def.

Definition at line 242 of file libmc.h.

Referenced by MC_Initialize(), and MC_InitializeAgencyOptions().

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/include/libmc.h>

15.58 LibMC::MCAgent Class Reference

Wrapper class for MCAgent_t structure.

Public Types

- enum [MC_AgentType_e](#)
Enum for describing the type of an agent.
- enum [MC_AgentStatus_e](#)
Enum for describing the status of an agent.

Public Member Functions

- [MCAgent](#) ()
Default constructor.
- override string [ToString](#) ()
Display the agent's fields.
- int [DeleteAgent](#) ()
Deletes an agent.
- String [GetAgentXMLString](#) ()
Gets the agent's XML string.
- int [PrintAgentCode](#) ()
Gets the agent's C code string.
- String [RetrieveAgentCode](#) ()
Gets the agent's C code string.
- int [TerminateAgent](#) ()
Terminates an agent.
- int [AclPost](#) (MCAclMessage message)
Posts an ACL message to the agent.
- MCAclMessage [AclRetrieve](#) ()
Retrieve an ACL message from the agent.
- MCAclMessage [AclWaitRetrieve](#) ()
Wait for and retrieve an ACL message from the agent.
- int [CallAgentFunc](#) (String funcName, IntPtr retval, IntPtr varg)
Calls a function in an agent script.
- int [CallAgentFunc](#) (String funcName, ref object retval, ref object varg)

Calls a function in an agent script.

- IntPtr [GetAgentExecEngine](#) ()
Gets an agent's Ch interpreter.
- int [GetAgentReturnData](#) (int task_num, IntPtr data, IntPtr dim, IntPtr extent)
Calls a function in an agent script.

Static Public Member Functions

- static implicit operator IntPtr (MCAgent agent)
- static implicit operator MCAgent (IntPtr ip)

Properties

- internal IntPtr [Agent](#) [get, set]
- int [AgentID](#) [get]
Gets the agent's ID number.
- String [AgentName](#) [get]
Gets the agent's name.
- int [AgentNumTasks](#) [get]
Gets the agent's number of tasks.
- MC_AgentStatus_e [AgentStatus](#) [get, set]
Gets or sets the agent's status.
- MC_AgentType_e [AgentType](#) [get]
Gets the agent's type.
- bool [Valid](#) [get]
Checks whether the agent is valid.

Private Member Functions

- internal MCAgent (IntPtr ip)
- void [GetAgentFields](#) ()

Private Attributes

- IntPtr [agent_p](#)
- String [name](#) = ""
- int [id](#) = -1
- int [numTasks](#) = -1
- MC_AgentStatus_e [status](#) = MC_AgentStatus_e.MC_NO_STATUS
- MC_AgentType_e [type](#) = MC_AgentType_e.MC_NONE

15.58.1 Detailed Description

Wrapper class for MCAgent_t structure.

This class provides an interface to the Mobile-C agent structure. Member functions for the class are generally overloaded versions of the respective functions in the Mobile-C library. The class maintains a pointer to a Mobile-C agent in unmanaged memory. The pointer is not accessible by the user.

Definition at line 61 of file MCAgent.cs.

15.58.2 Member Enumeration Documentation

15.58.2.1 enum LibMC::MCAgent::MC_AgentType_e

Enum for describing the type of an agent.

Note:

This enum is pulled directly from the Mobile-C library.

Enumerator:

MC_NONE Default value to describe uninitialized agent.

MC_REMOTE_AGENT A remote agent.

MC_LOCAL_AGENT A local agent.

MC_RETURN_AGENT A returning agent.

Definition at line 75 of file MCAgent.cs.

15.58.2.2 enum LibMC::MCAgent::MC_AgentStatus_e

Enum for describing the status of an agent.

Note:

This enum is pulled directly from the Mobile-C library.

Enumerator:

MC_NO_STATUS Default value for uninitialized agent

MC_WAIT_CH Waiting to be started

MC_WAIT_MESSGSEND Finished, waiting to migrate

MC_AGENT_ACTIVE Running

MC_AGENT_NEUTRAL Not running, but do not flush

MC_AGENT_SUSPENDED Unused

MC_WAIT_FINISHED Finished, waiting to be flushed

Definition at line 88 of file MCAgent.cs.

15.58.3 Constructor & Destructor Documentation

15.58.3.1 LibMC::MCAgent::MCAgent () [inline]

Default constructor.

Creates an empty agent.

Definition at line 104 of file MCAgent.cs.

Referenced by operator MCAgent().

15.58.3.2 internal LibMC::MCAgent::MCAgent (IntPtr ip) [inline, private]

Definition at line 110 of file MCAgent.cs.

References Agent.

15.58.4 Member Function Documentation

15.58.4.1 override string LibMC::MCAgent::ToString () [inline]

Display the agent's fields.

Formats an returns a string with all of the agents properties.

Returns:

A string containing a formatted representation of the agent's properties.

Note:

The agency port and any other [options](#) must be set before calling this function.

Definition at line 126 of file MCAgent.cs.

References AgentID, AgentName, AgentNumTasks, AgentStatus, and AgentType.

15.58.4.2 void LibMC::MCAgent::GetAgentFields () [inline, private]

Definition at line 163 of file MCAgent.cs.

References Agent, name, numTasks, status, and type.

15.58.4.3 static implicit LibMC::MCAgent::operator IntPtr (MCAgent agent) [inline, static]

Definition at line 300 of file MCAgent.cs.

15.58.4.4 static implicit LibMC::MCAgent::operator MCAgent (IntPtr ip) [inline, static]

Definition at line 305 of file MCAgent.cs.

References MCAgent().

15.58.4.5 int LibMC::MCAgent::DeleteAgent () [inline]

Deletes an agent.

Deletes an agent from the agency.

Returns:

The return value of the underlying MC_DeleteAgent function call.

Definition at line 322 of file MCAgent.cs.

References Agent.

15.58.4.6 String LibMC::MCAgent::GetAgentXMLString () [inline]

Gets the agent's XML string.

Returns the full XML string associated with the agent.

Returns:

The return value of the underlying MC_GetAgentXMLString function call.

Definition at line 335 of file MCAgent.cs.

References Agent.

15.58.4.7 int LibMC::MCAgent::PrintAgentCode () [inline]

Gets the agent's C code string.

Prints the C code associated with the agent to stdout.

Returns:

The return value of the underlying MC_PrintAgentCode function call.

Definition at line 348 of file MCAgent.cs.

References Agent.

15.58.4.8 String LibMC::MCAgent::RetrieveAgentCode () [inline]

Gets the agent's C code string.

Returns the C code associated with the agent.

Returns:

A string containing the agent's C code.

Definition at line 360 of file MCAgent.cs.

References Agent.

15.58.4.9 int LibMC::MCAgent::TerminateAgent () [inline]

Terminates an agent.

Terminates an agent regardless of the agent's state.

Returns:

The return value of the underlying MC_TerminateAgent function call.

Definition at line 373 of file MCAgent.cs.

References Agent.

15.58.4.10 int LibMC::MCAgent::AclPost (MCAclMessage *message*) [inline]

Posts an ACL message to the agent.

Delivers an ACL message to the agent.

Parameters:

message The ACL message object to deliver.

Returns:

The return value of the underlying MC_AclPost function call.

Note:

The message must be a valid message or this function call will fail.

Definition at line 398 of file MCAgent.cs.

References LibMC::MCAclMessage::AclMsg, and Agent.

15.58.4.11 MCAclMessage LibMC::MCAgent::AclRetrieve () [inline]

Retrieve an ACL message from the agent.

Retrieves an ACL message from the agent if one is available.

Returns:

The ACL message or a blank ACL message if one was not available.

Note:

The message must be a valid message or this function call will fail.

Definition at line 414 of file MCAgent.cs.

References Agent.

15.58.4.12 `MCAclMessage LibMC::MCAgent::AclWaitRetrieve ()` [inline]

Wait for and retrieve an ACL message from the agent.

Retrieves an ACL message from the agent when one becomes available.

Returns:

The ACL message or a blank ACL message if the call fails.

Note:

This function call blocks.

Definition at line 433 of file MCAgent.cs.

References Agent.

15.58.4.13 `int LibMC::MCAgent::CallAgentFunc (String funcName, IntPtr retval, IntPtr varg)` [inline]

Calls a function in an agent script.

Calls a function in an agent's script file. This function requires manual marshaling by the user.

Parameters:

funcName The name of the function to call

retval A pointer to memory for the return value

varg A pointer to the argument for the function

Returns:

The return value of the underlying MC_CallAgentFunc function call.

Note:

BE VERY CAREFUL! You must marshal your arguments! If possible, use the other CallAgentFunc that handles marshaling automatically.

See also:

Overloaded [CallAgentFunc](#), LibMCCConsole example

Definition at line 459 of file MCAgent.cs.

References Agent.

Referenced by CallAgentFunc().

15.58.4.14 `int LibMC::MCAgent::CallAgentFunc (String funcName, ref object retval, ref object varg)` [inline]

Calls a function in an agent script.

Calls a function in an agent's script file. This function requires boxing of parameters, but no marshaling.

Parameters:

funcName The name of the function to call
retval A boxed object to hold the return value
varg The boxed argument to the agent function

Returns:

The return value of the underlying MC_CallAgentFunc function call.

Note:

This function handles marshaling of the argument and return value. The memory provided to the agent function for both *retval* and *varg* is not preserved after this function call! If the memory is to be kept by the agent, use the manually marshaled version of this function. Also note that even though structures can be marshaled automatically, in this function, the type of the structure is unknown and therefore it must be handled manually, even though the marshaling is transparent to the user.

See also:

Overloaded [CallAgentFunc](#), LibMCCConsole example

Definition at line 489 of file MCAgent.cs.

References [CallAgentFunc\(\)](#).

15.58.4.15 IntPtr LibMC::MCAgent::GetAgentExecEngine () [inline]

Gets an agent's Ch interpreter.

Gets a pointer to the agent's Ch interpreter. Will be improved shortly.

Returns:

A pointer to the Ch interpreter.

Note:

Nothing in the LibMC.NET library can make use of the Ch interpreter yet.

Todo

Wrap MC_GetAgentExecEngine with an object for the void* pointer return type (Ch interpreter).

Definition at line 534 of file MCAgent.cs.

References [Agent](#).

15.58.4.16 int LibMC::MCAgent::GetAgentReturnData (int task_num, IntPtr data, IntPtr dim, IntPtr extent) [inline]

Calls a function in an agent script.

Calls a function in an agent's script file. This function requires manual marshaling by the user.

Parameters:

task_num Task number to get data from

data A pointer to memory for the data

dim A pointer to hold the dimensions of the data

extent A pointer to hold the dimensions of the data

Returns:

The return value of the underlying MC_GetAgentReturnData function call.

Note:

This function does nothing but throw an exception right now.

Todo

Implement GetAgentReturnData

Definition at line 555 of file MCAgent.cs.

15.58.5 Field Documentation

15.58.5.1 IntPtr LibMC::MCAgent::agent_p [private]

Definition at line 63 of file MCAgent.cs.

15.58.5.2 String LibMC::MCAgent::name = "" [private]

Definition at line 64 of file MCAgent.cs.

Referenced by GetAgentFields().

15.58.5.3 int LibMC::MCAgent::id = -1 [private]

Definition at line 65 of file MCAgent.cs.

15.58.5.4 int LibMC::MCAgent::numTasks = -1 [private]

Definition at line 66 of file MCAgent.cs.

Referenced by GetAgentFields().

15.58.5.5 MC_AgentStatus_e LibMC::MCAgent::status = MC_AgentStatus_e.MC_NO_STATUS [private]

Definition at line 67 of file MCAgent.cs.

Referenced by GetAgentFields().

15.58.5.6 MC_AgentType_e LibMC::MCAgent::type = MC_AgentType_e.MC_NONE [private]

Definition at line 68 of file MCAgent.cs.

Referenced by GetAgentFields().

15.58.6 Property Documentation

15.58.6.1 internal IntPtr LibMC::MCAgent::Agent [get, set, private]

Definition at line 143 of file MCAgent.cs.

Referenced by AclPost(), AclRetrieve(), AclWaitRetrieve(), LibMC::MCAgency::AddAgent(), CallAgentFunc(), DeleteAgent(), GetAgentExecEngine(), GetAgentFields(), GetAgentXMLString(), MCAgent(), PrintAgentCode(), LibMC::MCAgency::RegisterService(), RetrieveAgentCode(), and TerminateAgent().

15.58.6.2 int LibMC::MCAgent::AgentID [get]

Gets the agent's ID number.

Gets the agent's ID number as assigned by Mobile-C if the agent is a valid agent.

Returns:

The agent's ID number or -1 for an empty agent.

Definition at line 181 of file MCAgent.cs.

Referenced by ToString().

15.58.6.3 String LibMC::MCAgent::AgentName [get]

Gets the agent's name.

Gets the agent's name as assigned by Mobile-C or the agent script if the agent is a valid agent.

Returns:

The agent's name or an empty string for an empty agent.

Definition at line 201 of file MCAgent.cs.

Referenced by ToString().

15.58.6.4 int LibMC::MCAgent::AgentNumTasks [get]

Gets the agent's number of tasks.

Gets the agent's ID number of tasks if the agent is a valid agent.

Returns:

The agent's ID number of tasks or -1 for an empty agent.

Definition at line 220 of file MCAgent.cs.

Referenced by ToString().

15.58.6.5 MC_AgentStatus_e LibMC::MCAgent::AgentStatus [get, set]

Gets or sets the agent's status.

Gets or sets the agent's status. When setting the status, the status is double-checked after setting it and may not be set depending on the state of the agent and the agency.

Returns:

The agent's status or MC_NO_STATUS for an empty agent.

Definition at line 242 of file MCAgent.cs.

Referenced by ToString().

15.58.6.6 MC_AgentType_e LibMC::MCAgent::AgentType [get]

Gets the agent's type.

Gets the agent's type.

Returns:

The agent's type or MC_NONE for an empty agent.

Definition at line 264 of file MCAgent.cs.

Referenced by ToString().

15.58.6.7 bool LibMC::MCAgent::Valid [get]

Checks whether the agent is valid.

Checks the internal agent pointer to see if it is non-zero.

Returns:

True if the pointer is valid, false otherwise

Definition at line 286 of file MCAgent.cs.

The documentation for this class was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAgent.cs>

15.59 md2_context Struct Reference

MD2 context structure.

```
#include <md2.h>
```

Data Fields

- unsigned char [cksum](#) [16]
- unsigned char [state](#) [48]
- unsigned char [buffer](#) [16]
- unsigned char [ipad](#) [64]
- unsigned char [opad](#) [64]
- [int](#) [left](#)

15.59.1 Detailed Description

MD2 context structure.

Definition at line 10 of file md2.h.

15.59.2 Field Documentation

15.59.2.1 unsigned char md2_context::cksum[16]

checksum of the data block

Definition at line 12 of file md2.h.

15.59.2.2 unsigned char md2_context::state[48]

intermediate digest state

Definition at line 13 of file md2.h.

15.59.2.3 unsigned char md2_context::buffer[16]

data block being processed

Definition at line 14 of file md2.h.

15.59.2.4 unsigned char md2_context::ipad[64]

HMAC: inner padding

Definition at line 16 of file md2.h.

15.59.2.5 unsigned char md2_context::opad[64]

HMAC: outer padding

Definition at line 17 of file md2.h.

15.59.2.6 int md2_context::left

amount of data in buffer

Definition at line 18 of file md2.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/md2.h](#)

15.60 md4_context Struct Reference

MD4 context structure.

```
#include <md4.h>
```

Data Fields

- unsigned long [total](#) [2]
- unsigned long [state](#) [4]
- unsigned char [buffer](#) [64]
- unsigned char [ipad](#) [64]
- unsigned char [opad](#) [64]

15.60.1 Detailed Description

MD4 context structure.

Definition at line 10 of file md4.h.

15.60.2 Field Documentation

15.60.2.1 unsigned long md4_context::total[2]

number of bytes processed

Definition at line 12 of file md4.h.

15.60.2.2 unsigned long md4_context::state[4]

intermediate digest state

Definition at line 13 of file md4.h.

15.60.2.3 unsigned char md4_context::buffer[64]

data block being processed

Definition at line 14 of file md4.h.

15.60.2.4 unsigned char md4_context::ipad[64]

HMAC: inner padding

Definition at line 16 of file md4.h.

15.60.2.5 unsigned char md4_context::opad[64]

HMAC: outer padding

Definition at line 17 of file md4.h.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/md4.h>

15.61 md5_context Struct Reference

MD5 context structure.

```
#include <md5.h>
```

Data Fields

- unsigned long [total](#) [2]
- unsigned long [state](#) [4]
- unsigned char [buffer](#) [64]
- unsigned char [ipad](#) [64]
- unsigned char [opad](#) [64]

15.61.1 Detailed Description

MD5 context structure.

Definition at line 10 of file md5.h.

15.61.2 Field Documentation

15.61.2.1 unsigned long md5_context::total[2]

number of bytes processed

Definition at line 12 of file md5.h.

15.61.2.2 unsigned long md5_context::state[4]

intermediate digest state

Definition at line 13 of file md5.h.

15.61.2.3 unsigned char md5_context::buffer[64]

data block being processed

Definition at line 14 of file md5.h.

15.61.2.4 unsigned char md5_context::ipad[64]

HMAC: inner padding

Definition at line 16 of file md5.h.

15.61.2.5 unsigned char md5_context::opad[64]

HMAC: outer padding

Definition at line 17 of file md5.h.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/md5.h>

15.62 message_s Struct Reference

```
#include <message.h>
```

Data Fields

- struct sockaddr_in * [addr](#)
- int [connect_id](#)
- int [message_id](#)
- int [isHTTP](#)
- enum [message_type_e](#) [message_type](#)
- enum [http_performative_e](#) [http_type](#)
- mxml_node_t * [xml_root](#)
- mxml_node_t * [xml_payload](#)
- char * [message_body](#)
- char * [update_name](#)
- int [update_num](#)
- char * [from_address](#)
- char * [to_address](#)
- char * [target](#)
- int [agent_xml_flag](#)

15.62.1 Detailed Description

Definition at line 73 of file message.h.

15.62.2 Field Documentation

15.62.2.1 struct sockaddr_in* message_s::addr [read]

Definition at line 75 of file message.h.

Referenced by [message_Destroy\(\)](#), [message_InitializeFromAgent\(\)](#), [message_InitializeFromConnection\(\)](#), [message_InitializeFromString\(\)](#), [message_New\(\)](#), and [message_xml_parse__message\(\)](#).

15.62.2.2 int message_s::connect_id

Definition at line 78 of file message.h.

Referenced by [message_InitializeFromConnection\(\)](#), [message_InitializeFromString\(\)](#), and [message_New\(\)](#).

15.62.2.3 int message_s::message_id

Definition at line 79 of file message.h.

Referenced by [AP_QUEUE_SEARCH_TEMPLATE\(\)](#), [message_InitializeFromAgent\(\)](#), [message_InitializeFromConnection\(\)](#), [message_InitializeFromString\(\)](#), and [message_New\(\)](#).

15.62.2.4 `int message_s::isHTTP`

Definition at line 82 of file message.h.

Referenced by `message_New()`, `mtp_http_ComposeMessage()`, and `mtp_http_CreateMessage()`.

15.62.2.5 `enum message_type_e message_s::message_type`

Definition at line 85 of file message.h.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `agent_Initialize()`, `MC_AclSend()`, `message_InitializeFromAgent()`, `message_InitializeFromString()`, `message_New()`, and `message_xml_parse__message()`.

15.62.2.6 `enum http_performative_e message_s::http_type`

Definition at line 86 of file message.h.

Referenced by `message_New()`.

15.62.2.7 `mxml_node_t* message_s::xml_root`

Definition at line 88 of file message.h.

Referenced by `acc_Thread()`, `agent_Initialize()`, `MC_LoadAgentFromFile()`, `message_Destroy()`, `message_InitializeFromAgent()`, `message_InitializeFromConnection()`, `message_InitializeFromString()`, `message_New()`, and `message_xml_parse()`.

15.62.2.8 `mxml_node_t* message_s::xml_payload`

Definition at line 89 of file message.h.

Referenced by `agent_Initialize()`, `MC_LoadAgentFromFile()`, `message_New()`, and `message_xml_parse__message()`.

15.62.2.9 `char* message_s::message_body`

Definition at line 92 of file message.h.

Referenced by `acc_Thread()`, `message_Destroy()`, `message_InitializeFromAgent()`, `message_InitializeFromConnection()`, `message_InitializeFromString()`, `message_New()`, `message_Send()`, `mtp_http_ComposeMessage()`, and `mtp_http_CreateMessage()`.

15.62.2.10 `char* message_s::update_name`

Definition at line 94 of file message.h.

Referenced by `message_Destroy()`, `message_InitializeFromAgent()`, `message_InitializeFromString()`, and `message_New()`.

15.62.2.11 int message_s::update_num

Definition at line 95 of file message.h.

Referenced by message_New().

15.62.2.12 char* message_s::from_address

Definition at line 97 of file message.h.

Referenced by acc_MessageHandlerThread(), AP_QUEUE_SEARCH_TEMPLATE(), message_Destroy(), message_InitializeFromAgent(), message_InitializeFromConnection(), message_InitializeFromString(), message_New(), and message_xml_parse__message().

15.62.2.13 char* message_s::to_address

Definition at line 98 of file message.h.

Referenced by acc_MessageHandlerThread(), AP_QUEUE_SEARCH_TEMPLATE(), MC_LoadAgentFromFile(), message_Destroy(), message_InitializeFromAgent(), message_InitializeFromConnection(), message_InitializeFromString(), message_New(), message_queue_SendOutgoing(), message_Send(), mtp_http_ComposeMessage(), and mtp_http_CreateMessage().

15.62.2.14 char* message_s::target

Definition at line 100 of file message.h.

Referenced by MC_AclSend(), message_Destroy(), message_InitializeFromAgent(), message_InitializeFromConnection(), message_InitializeFromString(), message_New(), and mtp_http_ComposeMessage().

15.62.2.15 int message_s::agent_xml_flag

Definition at line 107 of file message.h.

Referenced by agent_Initialize(), message_Destroy(), message_InitializeFromAgent(), and message_New().

The documentation for this struct was generated from the following file:

- /home/dko/projects/mobilec/trunk/src/include/[message.h](#)

15.63 mpi Struct Reference

MPI structure.

```
#include <bignum.h>
```

Data Fields

- [int s](#)
- [int n](#)
- [t_int * p](#)

15.63.1 Detailed Description

MPI structure.

Definition at line 48 of file `bignum.h`.

15.63.2 Field Documentation

15.63.2.1 `int mpi::s`

integer sign

Definition at line 50 of file `bignum.h`.

15.63.2.2 `int mpi::n`

total # of limbs

Definition at line 51 of file `bignum.h`.

15.63.2.3 `t_int* mpi::p`

pointer to limbs

Definition at line 52 of file `bignum.h`.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/bignum.h>

15.64 mtp_http_content_s Struct Reference

```
#include <mtp_http.h>
```

Data Fields

- char * [content_type](#)
- void * [data](#)

15.64.1 Detailed Description

Definition at line 106 of file mtp_http.h.

15.64.2 Field Documentation

15.64.2.1 char* mtp_http_content_s::content_type

Definition at line 108 of file mtp_http.h.

Referenced by [MC_AclSend\(\)](#), [mtp_http_CreateMessage\(\)](#), [mtp_http_Destroy\(\)](#), and [mtp_http_Parse\(\)](#).

15.64.2.2 void* mtp_http_content_s::data

Definition at line 109 of file mtp_http.h.

Referenced by [acc_Thread\(\)](#), [MC_AclSend\(\)](#), [mtp_http_CreateMessage\(\)](#), [mtp_http_Destroy\(\)](#), and [mtp_http_Parse\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/mtp_http.h](#)

15.65 mtp_http_s Struct Reference

```
#include <mtp_http.h>
```

Data Fields

- enum [http_status_code_e](#) `http_status_code`
- enum [http_performative_e](#) `http_performative`
- char * [http_version](#)
- char * [host](#)
- char * [return_code](#)
- char * [target](#)
- char * [date](#)
- char * [server](#)
- char * [accept_ranges](#)
- char * [content_length](#)
- char * [connection](#)
- char * [content_type](#)
- char * [user_agent](#)
- char * [cache_control](#)
- char * [mime_version](#)
- int [response_code](#)
- char * [response_string](#)
- int [message_parts](#)
- char * [boundary](#)
- struct [mtp_http_content_s](#) * `content`
- int [header_length](#)

15.65.1 Detailed Description

Definition at line 112 of file `mtp_http.h`.

15.65.2 Field Documentation

15.65.2.1 enum `http_status_code_e` `mtp_http_s::http_status_code`

Definition at line 114 of file `mtp_http.h`.

15.65.2.2 enum `http_performative_e` `mtp_http_s::http_performative`

Definition at line 115 of file `mtp_http.h`.

Referenced by `acc_Thread()`, `http_ParseRequest()`, and `mtp_http_Parse()`.

15.65.2.3 char* `mtp_http_s::http_version`

Definition at line 116 of file `mtp_http.h`.

Referenced by `mtp_http_Destroy()`.

15.65.2.4 char* mtp_http_s::host

Definition at line 117 of file mtp_http.h.

Referenced by MC_AclSend(), mtp_http_CreateMessage(), and mtp_http_Destroy().

15.65.2.5 char* mtp_http_s::return_code

Definition at line 118 of file mtp_http.h.

Referenced by mtp_http_Destroy().

15.65.2.6 char* mtp_http_s::target

Definition at line 119 of file mtp_http.h.

Referenced by acc_Thread(), http_ParseRequest(), MC_AclSend(), mtp_http_CreateMessage(), and mtp_http_Destroy().

15.65.2.7 char* mtp_http_s::date

Definition at line 121 of file mtp_http.h.

Referenced by mtp_http_Destroy().

15.65.2.8 char* mtp_http_s::server

Definition at line 122 of file mtp_http.h.

Referenced by mtp_http_Destroy().

15.65.2.9 char* mtp_http_s::accept_ranges

Definition at line 123 of file mtp_http.h.

Referenced by mtp_http_Destroy().

15.65.2.10 char* mtp_http_s::content_length

Definition at line 124 of file mtp_http.h.

Referenced by mtp_http_Destroy(), and mtp_http_InitializeFromConnection().

15.65.2.11 char* mtp_http_s::connection

Definition at line 125 of file mtp_http.h.

Referenced by mtp_http_Destroy().

15.65.2.12 char* mtp_http_s::content_type

Definition at line 126 of file mtp_http.h.

Referenced by `mtp_http_Destroy()`, and `mtp_http_Parse()`.

15.65.2.13 char* mtp_http_s::user_agent

Definition at line 127 of file `mtp_http.h`.

Referenced by `mtp_http_Destroy()`.

15.65.2.14 char* mtp_http_s::cache_control

Definition at line 129 of file `mtp_http.h`.

15.65.2.15 char* mtp_http_s::mime_version

Definition at line 130 of file `mtp_http.h`.

15.65.2.16 int mtp_http_s::response_code

Definition at line 133 of file `mtp_http.h`.

Referenced by `http_ParseRequest()`.

15.65.2.17 char* mtp_http_s::response_string

Definition at line 134 of file `mtp_http.h`.

Referenced by `http_ParseRequest()`.

15.65.2.18 int mtp_http_s::message_parts

Definition at line 138 of file `mtp_http.h`.

Referenced by `acc_Thread()`, `MC_AclSend()`, `mtp_http_CreateMessage()`, `mtp_http_Destroy()`, and `mtp_http_Parse()`.

15.65.2.19 char* mtp_http_s::boundary

Definition at line 139 of file `mtp_http.h`.

Referenced by `mtp_http_Destroy()`, and `mtp_http_Parse()`.

15.65.2.20 struct mtp_http_content_s* mtp_http_s::content [read]

Definition at line 140 of file `mtp_http.h`.

Referenced by `acc_Thread()`, `MC_AclSend()`, `mtp_http_CreateMessage()`, `mtp_http_Destroy()`, `mtp_http_New()`, and `mtp_http_Parse()`.

15.65.2.21 int mtp_http_s::header_length

Definition at line 143 of file mtp_http.h.

Referenced by mtp_http_InitializeFromConnection(), and mtp_http_ParseHeader().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/include/mtp_http.h](#)

15.66 mxml_attr_s Struct Reference

```
#include <mxml.h>
```

Data Fields

- char * [name](#)
- char * [value](#)

15.66.1 Detailed Description

Definition at line 86 of file mxml.h.

15.66.2 Field Documentation

15.66.2.1 char* mxml_attr_s::name

Definition at line 88 of file mxml.h.

Referenced by [mxml_write_node\(\)](#), [mxmlDelete\(\)](#), [mxmlElementGetAttr\(\)](#), and [mxmlElementSetAttr\(\)](#).

15.66.2.2 char* mxml_attr_s::value

Definition at line 89 of file mxml.h.

Referenced by [mxml_write_node\(\)](#), [mxmlDelete\(\)](#), [mxmlElementGetAttr\(\)](#), and [mxmlElementSetAttr\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h](#)

15.67 mxml_custom_s Struct Reference

```
#include <mxml.h>
```

Data Fields

- void * [data](#)
- void(* [destroy](#))(void *)

15.67.1 Detailed Description

Definition at line 105 of file mxml.h.

15.67.2 Field Documentation

15.67.2.1 void* mxml_custom_s::data

Definition at line 107 of file mxml.h.

Referenced by [mxmlDelete\(\)](#), [mxmlNewCustom\(\)](#), and [mxmlSetCustom\(\)](#).

15.67.2.2 void(* mxml_custom_s::destroy)(void *)

Referenced by [mxmlDelete\(\)](#), [mxmlNewCustom\(\)](#), and [mxmlSetCustom\(\)](#).

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h](#)

15.68 mxml_fdbuf_s Struct Reference

Data Fields

- `int fd`
- `unsigned char * current`
- `unsigned char * end`
- `unsigned char buffer [8192]`

15.68.1 Detailed Description

Definition at line 83 of file mxml-file.c.

15.68.2 Field Documentation

15.68.2.1 `int mxml_fdbuf_s::fd`

Definition at line 85 of file mxml-file.c.

Referenced by `mxml_fd_read()`, `mxml_fd_write()`, `mxmlLoadFd()`, and `mxmlSaveFd()`.

15.68.2.2 `unsigned char* mxml_fdbuf_s::current`

Definition at line 86 of file mxml-file.c.

Referenced by `mxml_fd_getc()`, `mxml_fd_putc()`, `mxml_fd_read()`, `mxml_fd_write()`, `mxmlLoadFd()`, and `mxmlSaveFd()`.

15.68.2.3 `unsigned char * mxml_fdbuf_s::end`

Definition at line 86 of file mxml-file.c.

Referenced by `mxml_fd_getc()`, `mxml_fd_putc()`, `mxml_fd_read()`, `mxmlLoadFd()`, and `mxmlSaveFd()`.

15.68.2.4 `unsigned char mxml_fdbuf_s::buffer[8192]`

Definition at line 86 of file mxml-file.c.

Referenced by `mxml_fd_read()`, `mxml_fd_write()`, `mxmlLoadFd()`, and `mxmlSaveFd()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-file.c`

15.69 mxml_index_s Struct Reference

```
#include <mxml.h>
```

Data Fields

- [char * attr](#)
- [int num_nodes](#)
- [int alloc_nodes](#)
- [int cur_node](#)
- [mxml_node_t ** nodes](#)

15.69.1 Detailed Description

Definition at line 133 of file mxml.h.

15.69.2 Field Documentation

15.69.2.1 char* mxml_index_s::attr

Definition at line 135 of file mxml.h.

Referenced by [index_compare\(\)](#), [index_find\(\)](#), [mxmlIndexDelete\(\)](#), [mxmlIndexFind\(\)](#), and [mxmlIndexNew\(\)](#).

15.69.2.2 int mxml_index_s::num_nodes

Definition at line 136 of file mxml.h.

Referenced by [main\(\)](#), [mxmlIndexEnum\(\)](#), [mxmlIndexFind\(\)](#), [mxmlIndexNew\(\)](#), and [mxmlIndexReset\(\)](#).

15.69.2.3 int mxml_index_s::alloc_nodes

Definition at line 137 of file mxml.h.

Referenced by [mxmlIndexDelete\(\)](#), and [mxmlIndexNew\(\)](#).

15.69.2.4 int mxml_index_s::cur_node

Definition at line 138 of file mxml.h.

Referenced by [mxmlIndexEnum\(\)](#), [mxmlIndexFind\(\)](#), and [mxmlIndexReset\(\)](#).

15.69.2.5 mxml_node_t** mxml_index_s::nodes

Definition at line 139 of file mxml.h.

Referenced by [index_sort\(\)](#), [mxmlIndexDelete\(\)](#), [mxmlIndexEnum\(\)](#), [mxmlIndexFind\(\)](#), [mxmlIndexNew\(\)](#), and [mxmlIndexReset\(\)](#).

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h>

15.70 mxml_node_s Struct Reference

```
#include <mxml.h>
```

Data Fields

- [mxml_type_t](#) type
- struct [mxml_node_s](#) * [next](#)
- struct [mxml_node_s](#) * [prev](#)
- struct [mxml_node_s](#) * [parent](#)
- struct [mxml_node_s](#) * [child](#)
- struct [mxml_node_s](#) * [last_child](#)
- [mxml_value_t](#) value

15.70.1 Detailed Description

Definition at line 122 of file mxml.h.

15.70.2 Field Documentation

15.70.2.1 mxml_type_t mxml_node_s::type

Definition at line 124 of file mxml.h.

Referenced by [agent_xml_parse__fill_row_data\(\)](#), [fipa_envelope_HandleAclRepresentation\(\)](#), [fipa_envelope_HandleComments\(\)](#), [fipa_envelope_HandleDate\(\)](#), [fipa_envelope_HandlePayloadEncoding\(\)](#), [fipa_envelope_HandlePayloadLength\(\)](#), [fipa_envelope_ParseAddresses\(\)](#), [fipa_envelope_ParseAgentIdentifier\(\)](#), [main\(\)](#), [mxml_new\(\)](#), [mxml_write_node\(\)](#), [mxmlDelete\(\)](#), [mxmlElementGetAttr\(\)](#), [mxmlElementSetAttr\(\)](#), [mxmlFindElement\(\)](#), [mxmlSetCustom\(\)](#), [mxmlSetElement\(\)](#), [mxmlSetInteger\(\)](#), [mxmlSetOpaque\(\)](#), [mxmlSetReal\(\)](#), [mxmlSetText\(\)](#), [mxmlSetTextf\(\)](#), [write_element\(\)](#), [xml_get_cdata\(\)](#), [xml_get_element_name\(\)](#), [xml_get_next_element\(\)](#), and [xml_get_text\(\)](#).

15.70.2.2 struct mxml_node_s* mxml_node_s::next [read]

Definition at line 125 of file mxml.h.

Referenced by [add_variable\(\)](#), [main\(\)](#), [mxml_write_node\(\)](#), [mxmlAdd\(\)](#), [mxmlFindElement\(\)](#), [mxmlRemove\(\)](#), [mxmlWalkNext\(\)](#), [scan_file\(\)](#), [sort_node\(\)](#), [xml_get_next_element\(\)](#), and [xml_get_text\(\)](#).

15.70.2.3 struct mxml_node_s* mxml_node_s::prev [read]

Definition at line 126 of file mxml.h.

Referenced by [mxml_write_node\(\)](#), [mxmlAdd\(\)](#), [mxmlRemove\(\)](#), and [mxmlWalkPrev\(\)](#).

15.70.2.4 struct mxml_node_s* mxml_node_s::parent [read]

Definition at line 127 of file mxml.h.

Referenced by [agent_xml_parse__data\(\)](#), [mxml_load_data\(\)](#), [mxmlAdd\(\)](#), [mxmlRemove\(\)](#), [mxmlWalkNext\(\)](#), [mxmlWalkPrev\(\)](#), [sort_node\(\)](#), [whitespace_cb\(\)](#), [ws_cb\(\)](#), and [xml_find_sibling\(\)](#).

15.70.2.5 struct mxml_node_s* mxml_node_s::child [read]

Definition at line 128 of file mxml.h.

Referenced by `add_variable()`, `agent_xml_parse__fill_row_data()`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseAgentIdentifier()`, `main()`, `mxml_write_node()`, `mxmlAdd()`, `mxmlDelete()`, `mxmlRemove()`, `mxmlWalkNext()`, `scan_file()`, `sort_node()`, `whitespace_cb()`, `write_documentation()`, `write_element()`, and `xml_get_text()`.

15.70.2.6 struct mxml_node_s* mxml_node_s::last_child [read]

Definition at line 129 of file mxml.h.

Referenced by `add_variable()`, `main()`, `mxmlAdd()`, `mxmlRemove()`, `mxmlWalkPrev()`, and `scan_file()`.

15.70.2.7 mxml_value_t mxml_node_s::value

Definition at line 130 of file mxml.h.

Referenced by `add_variable()`, `agent_xml_parse__fill_row_data()`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseAgentIdentifier()`, `index_compare()`, `index_find()`, `main()`, `mxml_get_entity()`, `mxml_load_data()`, `mxml_parse_element()`, `mxml_write_node()`, `mxmlDelete()`, `mxmlElementGetAttr()`, `mxmlElementSetAttr()`, `mxmlFindElement()`, `mxmlIndexNew()`, `mxmlNewCustom()`, `mxmlNewElement()`, `mxmlNewInteger()`, `mxmlNewOpaque()`, `mxmlNewReal()`, `mxmlNewText()`, `mxmlNewTextf()`, `mxmlSetCustom()`, `mxmlSetElement()`, `mxmlSetInteger()`, `mxmlSetOpaque()`, `mxmlSetReal()`, `mxmlSetText()`, `mxmlSetTextf()`, `scan_file()`, `sort_node()`, `type_cb()`, `update_comment()`, `whitespace_cb()`, `write_element()`, `ws_cb()`, `xml_get_element_name()`, and `xml_get_text()`.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h>

15.71 mxml_text_s Struct Reference

```
#include <mxml.h>
```

Data Fields

- [int whitespace](#)
- [char * string](#)

15.71.1 Detailed Description

Definition at line 99 of file mxml.h.

15.71.2 Field Documentation

15.71.2.1 int mxml_text_s::whitespace

Definition at line 101 of file mxml.h.

Referenced by `add_variable()`, `main()`, `mxml_write_node()`, `mxmlNewText()`, `mxmlNewTextf()`, `mxmlSetText()`, `mxmlSetTextf()`, `scan_file()`, and `write_element()`.

15.71.2.2 char* mxml_text_s::string

Definition at line 102 of file mxml.h.

Referenced by `add_variable()`, `agent_xml_parse__fill_row_data()`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseAgentIdentifier()`, `main()`, `mxml_write_node()`, `mxmlDelete()`, `mxmlNewText()`, `mxmlNewTextf()`, `mxmlSetText()`, `mxmlSetTextf()`, `scan_file()`, `update_comment()`, `write_element()`, and `xml_get_text()`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h](#)

15.72 mxml_value_s Struct Reference

```
#include <mxml.h>
```

Data Fields

- `char * name`
- `int num_attrs`
- `mxml_attr_t * attrs`

15.72.1 Detailed Description

Definition at line 92 of file `mxml.h`.

15.72.2 Field Documentation

15.72.2.1 `char* mxml_value_s::name`

Definition at line 94 of file `mxml.h`.

Referenced by `index_compare()`, `index_find()`, `main()`, `mxml_get_entity()`, `mxml_load_data()`, `mxml_parse_element()`, `mxml_write_node()`, `mxmlDelete()`, `mxmlElementSetAttr()`, `mxmlFindElement()`, `mxmlIndexNew()`, `mxmlNewElement()`, `mxmlSetElement()`, `scan_file()`, `sort_node()`, `type_cb()`, `update_comment()`, `whitespace_cb()`, `ws_cb()`, `xml_get_element_name()`, and `xml_get_text()`.

15.72.2.2 `int mxml_value_s::num_attrs`

Definition at line 95 of file `mxml.h`.

Referenced by `mxml_write_node()`, `mxmlDelete()`, `mxmlElementGetAttr()`, and `mxmlElementSetAttr()`.

15.72.2.3 `mxml_attr_t* mxml_value_s::attrs`

Definition at line 96 of file `mxml.h`.

Referenced by `mxml_write_node()`, `mxmlDelete()`, `mxmlElementGetAttr()`, and `mxmlElementSetAttr()`.

The documentation for this struct was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h`

15.73 mxml_value_u Union Reference

```
#include <mxml.h>
```

Data Fields

- [mxml_element_t](#) element
- [int](#) integer
- [char *](#) opaque
- [double](#) real
- [mxml_text_t](#) text
- [mxml_custom_t](#) custom

15.73.1 Detailed Description

Definition at line 112 of file mxml.h.

15.73.2 Field Documentation

15.73.2.1 mxml_element_t mxml_value_u::element

Definition at line 114 of file mxml.h.

Referenced by [index_compare\(\)](#), [index_find\(\)](#), [main\(\)](#), [mxml_get_entity\(\)](#), [mxml_load_data\(\)](#), [mxml_parse_element\(\)](#), [mxml_write_node\(\)](#), [mxmlDelete\(\)](#), [mxmlElementGetAttr\(\)](#), [mxmlElementSetAttr\(\)](#), [mxmlFindElement\(\)](#), [mxmlIndexNew\(\)](#), [mxmlNewElement\(\)](#), [mxmlSetElement\(\)](#), [scan_file\(\)](#), [sort_node\(\)](#), [type_cb\(\)](#), [update_comment\(\)](#), [whitespace_cb\(\)](#), [ws_cb\(\)](#), [xml_get_element_name\(\)](#), and [xml_get_text\(\)](#).

15.73.2.2 int mxml_value_u::integer

Definition at line 115 of file mxml.h.

Referenced by [main\(\)](#), [mxml_write_node\(\)](#), [mxmlNewInteger\(\)](#), and [mxmlSetInteger\(\)](#).

15.73.2.3 char* mxml_value_u::opaque

Definition at line 116 of file mxml.h.

Referenced by [main\(\)](#), [mxml_write_node\(\)](#), [mxmlDelete\(\)](#), [mxmlNewOpaque\(\)](#), and [mxmlSetOpaque\(\)](#).

15.73.2.4 double mxml_value_u::real

Definition at line 117 of file mxml.h.

Referenced by [main\(\)](#), [mxml_write_node\(\)](#), [mxmlNewReal\(\)](#), and [mxmlSetReal\(\)](#).

15.73.2.5 mxml_text_t mxml_value_u::text

Definition at line 118 of file mxml.h.

Referenced by `add_variable()`, `agent_xml_parse__fill_row_data()`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseAgentIdentifier()`, `main()`, `mxml_write_node()`, `mxmlDelete()`, `mxmlNewText()`, `mxmlNewTextf()`, `mxmlSetText()`, `mxmlSetTextf()`, `scan_file()`, `update_comment()`, `write_element()`, and `xml_get_text()`.

15.73.2.6 `mxml_custom_t mxml_value_u::custom`

Definition at line 119 of file `mxml.h`.

Referenced by `mxmlDelete()`, `mxmlNewCustom()`, and `mxmlSetCustom()`.

The documentation for this union was generated from the following file:

- `/home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h`

15.74 options Struct Reference

Data Fields

- [int opmode](#)
- [int iomode](#)
- [char * server_name](#)
- [int server_port](#)
- [int command](#)
- [int buffer_size](#)
- [int max_bytes](#)
- [int debug_level](#)
- [int conn_timeout](#)
- [int max_connections](#)
- [int session_reuse](#)
- [int session_lifetime](#)
- [int force_cipher](#) [2]

15.74.1 Detailed Description

Definition at line 75 of file `ssl_test.c`.

15.74.2 Field Documentation

15.74.2.1 `int options::opmode`

Definition at line 77 of file `ssl_test.c`.

Referenced by `main()`, and `ssl_test()`.

15.74.2.2 `int options::iomode`

Definition at line 78 of file `ssl_test.c`.

Referenced by `main()`, and `ssl_test()`.

15.74.2.3 `char* options::server_name`

Definition at line 79 of file `ssl_test.c`.

Referenced by `main()`, and `ssl_test()`.

15.74.2.4 `int options::server_port`

Definition at line 80 of file `ssl_test.c`.

Referenced by `main()`, and `ssl_test()`.

15.74.2.5 int options::command

Definition at line 81 of file ssl_test.c.

Referenced by main(), and ssl_test().

15.74.2.6 int options::buffer_size

Definition at line 82 of file ssl_test.c.

Referenced by main(), and ssl_test().

15.74.2.7 int options::max_bytes

Definition at line 83 of file ssl_test.c.

Referenced by main(), and ssl_test().

15.74.2.8 int options::debug_level

Definition at line 84 of file ssl_test.c.

Referenced by main().

15.74.2.9 int options::conn_timeout

Definition at line 85 of file ssl_test.c.

Referenced by main(), and ssl_test().

15.74.2.10 int options::max_connections

Definition at line 86 of file ssl_test.c.

Referenced by main().

15.74.2.11 int options::session_reuse

Definition at line 87 of file ssl_test.c.

Referenced by main(), and ssl_test().

15.74.2.12 int options::session_lifetime

Definition at line 88 of file ssl_test.c.

Referenced by main(), and ssl_test().

15.74.2.13 int options::force_cipher[2]

Definition at line 89 of file ssl_test.c.

Referenced by main(), and ssl_test().

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/test/ssl_test.c](#)

15.75 rsa_context Struct Reference

RSA context structure.

```
#include <rsa.h>
```

Data Fields

- [int ver](#)
- [int len](#)
- [mpi N](#)
- [mpi E](#)
- [mpi D](#)
- [mpi P](#)
- [mpi Q](#)
- [mpi DP](#)
- [mpi DQ](#)
- [mpi QP](#)
- [mpi RN](#)
- [mpi RP](#)
- [mpi RQ](#)
- [int padding](#)
- [int hash_id](#)
- [int\(* f_rng\)\(void *\)](#)
- [void * p_rng](#)

15.75.1 Detailed Description

RSA context structure.

Definition at line 56 of file rsa.h.

15.75.2 Field Documentation

15.75.2.1 int rsa_context::ver

always 0

Definition at line 58 of file rsa.h.

15.75.2.2 int rsa_context::len

size(N) in chars

Definition at line 59 of file rsa.h.

Referenced by [d2i_RSA_PUBKEY\(\)](#), and [main\(\)](#).

15.75.2.3 mpi rsa_context::N

public modulus

Definition at line 61 of file rsa.h.

Referenced by d2i_RSA_PUBKEY(), and main().

15.75.2.4 mpi rsa_context::E

public exponent

Definition at line 62 of file rsa.h.

Referenced by d2i_RSA_PUBKEY(), and main().

15.75.2.5 mpi rsa_context::D

private exponent

Definition at line 64 of file rsa.h.

Referenced by main().

15.75.2.6 mpi rsa_context::P

1st prime factor

Definition at line 65 of file rsa.h.

Referenced by main().

15.75.2.7 mpi rsa_context::Q

2nd prime factor

Definition at line 66 of file rsa.h.

Referenced by main().

15.75.2.8 mpi rsa_context::DP

$D \% (P - 1)$

Definition at line 67 of file rsa.h.

Referenced by main().

15.75.2.9 mpi rsa_context::DQ

$D \% (Q - 1)$

Definition at line 68 of file rsa.h.

Referenced by main().

15.75.2.10 mpi rsa_context::QP

$1 / (Q \% P)$

Definition at line 69 of file rsa.h.

Referenced by main().

15.75.2.11 mpi rsa_context::RN

cached $R^2 \bmod N$

Definition at line 71 of file rsa.h.

15.75.2.12 mpi rsa_context::RP

cached $R^2 \bmod P$

Definition at line 72 of file rsa.h.

15.75.2.13 mpi rsa_context::RQ

cached $R^2 \bmod Q$

Definition at line 73 of file rsa.h.

15.75.2.14 int rsa_context::padding

1.5 or OAEP/PSS

Definition at line 75 of file rsa.h.

15.75.2.15 int rsa_context::hash_id

hash identifier

Definition at line 76 of file rsa.h.

15.75.2.16 int(* rsa_context::f_rng)(void *)

RNG function

15.75.2.17 void* rsa_context::p_rng

RNG parameter

Definition at line 78 of file rsa.h.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/rsa.h>

15.76 LibMC::Properties::Settings Class Reference

Public Member Functions

- [Settings](#) ()

Properties

- static [Settings Default](#) [get]

Private Member Functions

- void [SettingChangingEventHandler](#) (object sender, System.Configuration.SettingChangingEventArgs e)
- void [SettingsSavingEventHandler](#) (object sender, System.ComponentModel.CancelEventArgs e)

Static Private Attributes

- static [Settings defaultInstance](#) = (([Settings](#))(global::System.Configuration.ApplicationSettingsBase.Synchronized(new [Settings](#)())))

15.76.1 Detailed Description

Definition at line 16 of file Settings.Designer.cs.

15.76.2 Constructor & Destructor Documentation

15.76.2.1 LibMC::Properties::Settings::Settings () [inline]

Definition at line 19 of file Settings.cs.

15.76.3 Member Function Documentation

15.76.3.1 void LibMC::Properties::Settings::SettingChangingEventHandler (object sender, System.Configuration.SettingChangingEventArgs e) [inline, private]

Definition at line 28 of file Settings.cs.

15.76.3.2 void LibMC::Properties::Settings::SettingsSavingEventHandler (object sender, System.ComponentModel.CancelEventArgs e) [inline, private]

Definition at line 32 of file Settings.cs.

15.76.4 Field Documentation

15.76.4.1 Settings LibMC::Properties::Settings::defaultInstance =
((Settings)(global::System.Configuration.ApplicationSettingsBase.Synchronized(new
Settings()))) [static, private]

Definition at line 18 of file Settings.Designer.cs.

15.76.5 Property Documentation

15.76.5.1 Settings LibMC::Properties::Settings::Default [static, get]

Definition at line 20 of file Settings.Designer.cs.

The documentation for this class was generated from the following files:

- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/Properties/Settings.Designer.cs](#)
- [/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/Settings.cs](#)

15.77 sha1_context Struct Reference

SHA-1 context structure.

```
#include <sha1.h>
```

Data Fields

- unsigned long [total](#) [2]
- unsigned long [state](#) [5]
- unsigned char [buffer](#) [64]
- unsigned char [ipad](#) [64]
- unsigned char [opad](#) [64]

15.77.1 Detailed Description

SHA-1 context structure.

Definition at line 10 of file sha1.h.

15.77.2 Field Documentation

15.77.2.1 unsigned long sha1_context::total[2]

number of bytes processed

Definition at line 12 of file sha1.h.

15.77.2.2 unsigned long sha1_context::state[5]

intermediate digest state

Definition at line 13 of file sha1.h.

15.77.2.3 unsigned char sha1_context::buffer[64]

data block being processed

Definition at line 14 of file sha1.h.

15.77.2.4 unsigned char sha1_context::ipad[64]

HMAC: inner padding

Definition at line 16 of file sha1.h.

15.77.2.5 unsigned char sha1_context::opad[64]

HMAC: outer padding

Definition at line 17 of file sha1.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/sha1.h](#)

15.78 sha2_context Struct Reference

SHA-256 context structure.

```
#include <sha2.h>
```

Data Fields

- unsigned long [total](#) [2]
- unsigned long [state](#) [8]
- unsigned char [buffer](#) [64]
- unsigned char [ipad](#) [64]
- unsigned char [opad](#) [64]
- [int is224](#)

15.78.1 Detailed Description

SHA-256 context structure.

Definition at line 10 of file sha2.h.

15.78.2 Field Documentation

15.78.2.1 unsigned long sha2_context::total[2]

number of bytes processed

Definition at line 12 of file sha2.h.

15.78.2.2 unsigned long sha2_context::state[8]

intermediate digest state

Definition at line 13 of file sha2.h.

15.78.2.3 unsigned char sha2_context::buffer[64]

data block being processed

Definition at line 14 of file sha2.h.

15.78.2.4 unsigned char sha2_context::ipad[64]

HMAC: inner padding

Definition at line 16 of file sha2.h.

15.78.2.5 unsigned char sha2_context::opad[64]

HMAC: outer padding

Definition at line 17 of file sha2.h.

15.78.2.6 int sha2_context::is224

0 => SHA-256, else SHA-224

Definition at line 18 of file sha2.h.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/sha2.h](#)

15.79 sha4_context Struct Reference

SHA-512 context structure.

```
#include <sha4.h>
```

Data Fields

- unsigned int64 [total](#) [2]
- unsigned int64 [state](#) [8]
- unsigned char [buffer](#) [128]
- unsigned char [ipad](#) [128]
- unsigned char [opad](#) [128]
- [int is384](#)

15.79.1 Detailed Description

SHA-512 context structure.

Definition at line 18 of file sha4.h.

15.79.2 Field Documentation

15.79.2.1 unsigned int64 sha4_context::total[2]

number of bytes processed

Definition at line 20 of file sha4.h.

15.79.2.2 unsigned int64 sha4_context::state[8]

intermediate digest state

Definition at line 21 of file sha4.h.

15.79.2.3 unsigned char sha4_context::buffer[128]

data block being processed

Definition at line 22 of file sha4.h.

15.79.2.4 unsigned char sha4_context::ipad[128]

HMAC: inner padding

Definition at line 24 of file sha4.h.

15.79.2.5 unsigned char sha4_context::opad[128]

HMAC: outer padding

Definition at line 25 of file sha4.h.

15.79.2.6 int sha4_context::is384

0 => SHA-512, else SHA-384

Definition at line 26 of file sha4.h.

The documentation for this struct was generated from the following file:

- </home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/sha4.h>

15.80 syncList_s Struct Reference

```
#include <sync_list.h>
```

Data Fields

- RWLOCK_T * [lock](#)
- MUTEX_T * [giant_lock](#)
- [list_p](#) list
- [int](#) size

15.80.1 Detailed Description

Definition at line 26 of file `sync_list.h`.

15.80.2 Field Documentation

15.80.2.1 RWLOCK_T* syncList_s::lock

Definition at line 27 of file `sync_list.h`.

Referenced by `syncListAddNode()`, `syncListDelete()`, `syncListFind()`, `syncListInit()`, and `syncListRemove()`.

15.80.2.2 MUTEX_T* syncList_s::giant_lock

Definition at line 28 of file `sync_list.h`.

Referenced by `MC_SyncDelete()`, and `MC_SyncInit()`.

15.80.2.3 list_p syncList_s::list

Definition at line 30 of file `sync_list.h`.

Referenced by `syncListAddNode()`, `syncListDelete()`, `syncListFind()`, and `syncListRemove()`.

15.80.2.4 int syncList_s::size

Definition at line 31 of file `sync_list.h`.

The documentation for this struct was generated from the following file:

- [/home/dko/projects/mobilec/trunk/src/mc_sync/sync_list.h](#)

15.81 syncListNode_s Struct Reference

```
#include <sync_list.h>
```

Data Fields

- `MUTEX_T * lock`
- `COND_T * cond`
- `SEMAPHORE_T * sem`
- `int id`
- `int signalled`

15.81.1 Detailed Description

Definition at line 16 of file `sync_list.h`.

15.81.2 Field Documentation

15.81.2.1 `MUTEX_T* syncListNode_s::lock`

Definition at line 17 of file `sync_list.h`.

Referenced by `MC_CondBroadcast()`, `MC_CondReset()`, `MC_CondSignal()`, `MC_CondWait()`, `MC_MutexLock()`, `MC_MutexUnlock()`, `MC_SyncDelete()`, `syncListNodeDestroy()`, `syncListNodeInit()`, and `syncListNodeNew()`.

15.81.2.2 `COND_T* syncListNode_s::cond`

Definition at line 18 of file `sync_list.h`.

Referenced by `MC_CondBroadcast()`, `MC_CondSignal()`, `MC_CondWait()`, `syncListNodeDestroy()`, `syncListNodeInit()`, and `syncListNodeNew()`.

15.81.2.3 `SEMAPHORE_T* syncListNode_s::sem`

Definition at line 19 of file `sync_list.h`.

Referenced by `MC_SemaphorePost()`, `MC_SemaphoreWait()`, `syncListNodeDestroy()`, `syncListNodeInit()`, and `syncListNodeNew()`.

15.81.2.4 `int syncListNode_s::id`

Definition at line 20 of file `sync_list.h`.

Referenced by `MC_SyncInit()`, `syncListAddNode()`, `syncListDelete()`, and `syncListRemove()`.

15.81.2.5 `int syncListNode_s::signalled`

Definition at line 21 of file `sync_list.h`.

Referenced by MC_CondBroadcast(), MC_CondReset(), MC_CondSignal(), MC_CondWait(), and syncListNodeNew().

The documentation for this struct was generated from the following file:

- /home/dko/projects/mobilec/trunk/src/mc_sync/sync_list.h

Chapter 16

File Documentation

16.1 /home/dko/projects/mobilec/trunk/src/acc.c File Reference

```
#include <sys/socket.h>
#include <arpa/inet.h>
#include <netinet/in.h>
#include <netdb.h>
#include <sys/un.h>
#include <unistd.h>
#include <sys/time.h>
#include <pthread.h>
#include <stdlib.h>
#include "include/acc.h"
#include "include/connection.h"
#include "include/data_structures.h"
#include "include/macros.h"
#include "include/mc_error.h"
#include "include/mc_platform.h"
#include "include/message.h"
#include "include/mtp_http.h"
#include "include/xml_parser.h"
#include "include/fipa_acl_envelope.h"
```

Defines

- #define [BACKLOG](#) 10

Functions

- `acc_p acc_Initialize` (struct `mc_platform_s *mc_platform`)
- `int acc_Destroy` (`acc_p acc`)
- `void * acc_MessageHandlerThread` (`void *arg`)
- `void * acc_Thread` (`void *arg`)
- `void acc_Start` (`mc_platform_p mc_platform`)
- `void * listen_Thread` (`void *arg`)

16.1.1 Define Documentation

16.1.1.1 #define BACKLOG 10

Definition at line 63 of file `acc.c`.

Referenced by `listen_Thread()`.

16.1.2 Function Documentation

16.1.2.1 int acc_Destroy (acc_p acc)

Definition at line 82 of file `acc.c`.

References `MC_SUCCESS`.

Referenced by `mc_platform_Destroy()`.

16.1.2.2 acc_p acc_Initialize (struct mc_platform_s * mc_platform)

Definition at line 66 of file `acc.c`.

References `COND_INIT`, `COND_T`, `MUTEX_INIT`, and `MUTEX_T`.

Referenced by `mc_platform_Initialize()`.

16.1.2.3 void* acc_MessageHandlerThread (void * arg)

Definition at line 94 of file `acc.c`.

References `agent_Initialize()`, `mc_platform_s::agent_queue`, `agent_s::agent_status`, `AGENT_UPDATE`, `mc_platform_s::ams`, `mc_platform_s::asm_message_queue`, `CANCEL`, `COND_BROADCAST`, `COND_SIGNAL`, `COND_WAIT`, `agent_s::datastate`, `ENCRYPTED_DATA`, `ENCRYPTION_INITIALIZE`, `FIPA_ACL`, `message_s::from_address`, `mc_platform_s::giant`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `agent_s::lock`, `MC_AGENT_NEUTRAL`, `mc_platform`, `MC_RECV_AGENT`, `MC_RECV_MESSAGE`, `MC_RECV_RETURN`, `mc_platform_s::MC_signal`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `message_Destroy()`, `mc_platform_s::message_queue`, `message_Send()`, `message_s::message_type`, `MOBILE_AGENT`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `N_UNDRSTD`, `agent_s::name`, `agent_datastate_s::persistent`, `QUER_IF`, `QUER_REF`, `mc_platform_s::quit`, `mc_platform_s::quit_lock`, `RELAY`, `REQUEST`, `REQUEST_ENCRYPTION_INITIALIZE`, `RETURN_MSG`, `SUBSCRIBE`, `message_s::to_address`, and `WARN`.

Referenced by `acc_Start()`.

16.1.2.4 void acc_Start (mc_platform_p mc_platform)

Definition at line 542 of file acc.c.

References mc_platform_s::acc, acc_MessageHandlerThread(), acc_Thread(), listen_Thread(), MC_THREAD_ACC, mc_platform_s::stack_size, and THREAD_CREATE.

Referenced by mc_platform_Initialize().

16.1.2.5 void* acc_Thread (void * arg)

Definition at line 329 of file acc.c.

References agent_mailbox_Post(), mc_platform_s::agent_queue, AGENT_UPDATE, mc_platform_s::asm_message_queue, CANCEL, COND_BROADCAST, COND_WAIT, connection_Destroy(), mc_platform_s::connection_queue, mtp_http_s::content, mtp_http_content_s::data, ENCRYPTED_DATA, ENCRYPTION_INITIALIZE, FIPA_ACL, fipa_acl_envelope_Destroy(), fipa_acl_envelope_New(), fipa_acl_message_Destroy(), fipa_acl_message_New(), fipa_acl_Parse(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_envelope_Parse(), fipa_message_string_Destroy(), fipa_message_string_New(), mc_platform_s::giant, mc_platform_s::giant_cond, mc_platform_s::giant_lock, mtp_http_s::http_performative, HTTP_POST, HTTP_PUT, agent_s::mailbox, mc_platform, MC_RECV_CONNECTION, mc_platform_s::MC_signal, mc_platform_s::MC_signal_cond, mc_platform_s::MC_signal_lock, fipa_message_string_s::message, message_s::message_body, message_Destroy(), message_New(), mtp_http_s::message_parts, mc_platform_s::message_queue, message_s::message_type, message_xml_parse(), MOBILE_AGENT, mtp_http_Destroy(), mtp_http_InitializeFromConnection(), mtp_http_New(), MUTEX_LOCK, MUTEX_UNLOCK, MXML_NO_CALLBACK, mxxmlLoadString(), N_UNDRSTD, fipa_agent_identifier_s::name, fipa_agent_identifier_set_s::num, fipa_acl_envelope_s::num_params, fipa_acl_envelope_s::params, fipa_message_string_s::parse, QUER_IF, QUER_REF, mc_platform_s::quit, mc_platform_s::quit_lock, RELAY, REQUEST, REQUEST_ENCRYPTION_INITIALIZE, RETURN_MSG, SUBSCRIBE, mtp_http_s::target, fipa_acl_Param_s::to, WARN, and message_s::xml_root.

Referenced by acc_Start().

16.1.2.6 void* listen_Thread (void * arg)

Definition at line 586 of file acc.c.

References mc_platform_s::acc, BACKLOG, CHECK_NULL, COND_BROADCAST, mc_platform_s::connection_queue, mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, and mc_platform_s::port.

Referenced by acc_Start().

16.2 /home/dko/projects/mobilec/trunk/src/agent.c File Reference

```
#include <unistd.h>
#include <embedch.h>
#include "include/libmc.h"
#include "include/agent.h"
#include "include/mc_platform.h"
#include "include/message.h"
#include "include/agent_lib.h"
#include "include/interpreter_variable_data.h"
#include "include/xml_parser.h"
```

Functions

- [int agent_AddPersistentVariable](#) ([agent_p](#) agent, [int](#) task_num, const char *var_name)
- [agent_p agent_Copy](#) (const [agent_p](#) agent)
- [agent_p agent_New](#) (void)
- [agent_p agent_Initialize](#) (struct [mc_platform_s](#) *mc_platform, [message_p](#) message, [int](#) id)
- [int agent_Destroy](#) ([agent_p](#) agent)
- void [agent_RunChScript](#) ([agent_p](#) agent, [mc_platform_p](#) mc_platform)
- void * [agent_RunChScriptThread](#) (void *ChAgent)

16.2.1 Function Documentation

16.2.1.1 int agent_AddPersistentVariable (agent_p agent, int task_num, const char * var_name)

Definition at line 49 of file agent.c.

References [agent_s::agent_interp](#), [agent_task_s::agent_variable_list](#), [interpreter_variable_data_s::array_dim](#), [interpreter_variable_data_s::array_extent](#), [CH_DATATYPE_SIZE](#), [CHECK_NULL](#), [interpreter_variable_data_s::data](#), [interpreter_variable_data_s::data_type](#), [agent_s::datastate](#), [MC_ERR](#), [agent_s::name](#), [interpreter_variable_data_s::name](#), [interpreter_variable_data_s::size](#), [size](#), [agent_datastate_s::task_progress](#), and [agent_datastate_s::tasks](#).

16.2.1.2 agent_p agent_Copy (const agent_p agent)

Definition at line 131 of file agent.c.

References [agent_datastate_Copy\(\)](#), [agent_s::agent_interp](#), [agent_s::agent_persistent](#), [agent_s::agent_status](#), [agent_s::agent_thread](#), [agent_s::agent_type](#), [agent_s::arrival_time](#), [agent_s::datastate](#), [agent_s::home](#), [agent_s::home_port](#), [agent_s::id](#), [agent_s::lock](#), [MUTEX_INIT](#), [MUTEX_LOCK](#), [MUTEX_T](#), [agent_s::name](#), [agent_s::orphan](#), [agent_s::owner](#), [agent_s::return_data](#), and [agent_s::run_lock](#).

Referenced by [MC_CopyAgent\(\)](#).

16.2.1.3 int agent_Destroy (agent_p agent)

Definition at line 323 of file agent.c.

References `agent_datastate_Destroy()`, `agent_s::agent_interp`, `agent_mailbox_Destroy()`, `agent_s::agent_status`, `agent_s::agent_thread`, `agent_s::datastate`, `agent_s::home`, `agent_s::lock`, `agent_s::mailbox`, `MC_AGENT_NEUTRAL`, `MC_SUCCESS`, `MUTEX_DESTROY`, `MUTEX_LOCK`, `agent_s::name`, `agent_s::owner`, and `agent_s::run_lock`.

Referenced by `agent_Initialize()`.

16.2.1.4 `agent_p agent_Initialize (struct mc_platform_s * mc_platform, message_p message, int id)`

Definition at line 216 of file `agent.c`.

References `agent_datastate_New()`, `agent_Destroy()`, `agent_mailbox_New()`, `agent_s::agent_pipe_active`, `agent_s::agent_pipe_ready_to_read`, `agent_s::agent_ready_to_send`, `agent_s::agent_script_ready`, `agent_s::agent_status`, `agent_s::agent_thread`, `agent_s::agent_thread_id`, `agent_s::agent_type`, `message_s::agent_xml_flag`, `agent_xml_parse()`, `agent_s::arrival_time`, `agent_s::datastate`, `mc_platform_s::default_agentstatus`, `mc_platform_s::err`, `agent_s::id`, `agent_s::lock`, `agent_s::mailbox`, `MC_ERR_PARSE`, `agent_s::mc_platform`, `MC_REMOTE_AGENT`, `MC_RETURN_AGENT`, `MC_WAIT_CH`, `message_s::message_type`, `MOBILE_AGENT`, `MUTEX_DESTROY`, `MUTEX_INIT`, `MUTEX_T`, `agent_s::orphan`, `RETURN_MSG`, `agent_s::run_lock`, `agent_datastate_s::xml_agent_root`, `message_s::xml_payload`, `message_s::xml_root`, and `agent_datastate_s::xml_root`.

Referenced by `acc_MessageHandlerThread()`.

16.2.1.5 `agent_p agent_New (void)`

Definition at line 193 of file `agent.c`.

References `agent_s::lock`, `MUTEX_INIT`, `MUTEX_NEW`, and `agent_s::run_lock`.

Referenced by `MC_ComposeAgent()`.

16.2.1.6 `void agent_RunChScript (agent_p agent, mc_platform_p mc_platform)`

Definition at line 357 of file `agent.c`.

References `agent_RunChScriptThread()`, `agent_s::agent_status`, `agent_s::agent_thread`, `MC_AGENT_ACTIVE`, `agent_s::mc_platform`, `MC_THREAD_AGENT`, `mc_platform_s::stack_size`, `THREAD_CREATE`, and `THREAD_T`.

Referenced by `ams_ManageAgentList()`.

16.2.1.7 `void* agent_RunChScriptThread (void * ChAgent)`

Definition at line 399 of file `agent.c`.

References `agent_s::agent_interp`, `mc_platform_s::ams`, `COND_SIGNAL`, `agent_s::datastate`, `agent_s::id`, `mc_platform_s::interp_options`, `interpreter_variable_data_Destroy()`, `interpreter_variable_data_Initialize()`, `interpreter_variable_data_InitializeFromAgent()`, `MC_AclAddReceiver_chdl()`, `MC_AclAddReplyTo_chdl()`, `MC_AclDestroy_chdl()`, `MC_AclNew_chdl()`, `MC_AclPost_chdl()`, `MC_AclReply_chdl()`, `MC_AclRetrieve_chdl()`, `MC_AclSend_chdl()`, `MC_AclSetContent_chdl()`, `MC_AclSetPerformative_chdl()`, `MC_AclSetSender_chdl()`, `MC_AclWaitRetrieve_chdl()`, `MC_AddAgent_chdl()`, `MC_AGENT_NEUTRAL`, `MC_AgentVariableRetrieve_chdl()`, `MC_AgentVariableSave_chdl()`, `MC_Barrier_chdl()`, `MC_BarrierDelete_chdl()`, `MC_BarrierInit_chdl()`, `MC_CallAgentFunc_chdl()`,

MC_ComposeAgent_chdl(), MC_CondBroadcast_chdl(), MC_CondReset_chdl(), MC_CondSignal_chdl(), MC_CondWait_chdl(), MC_DeleteAgent_chdl(), MC_DeregisterService_chdl(), MC_DestroyServiceSearchResult_chdl(), MC_End_chdl(), MC_EXEC_AGENT, MC_FindAgentByID_chdl(), MC_FindAgentByName_chdl(), MC_GetAgentID_chdl(), MC_GetAgentName_chdl(), MC_GetAgentStatus_chdl(), MC_GetAgentXMLString_chdl(), MC_GetTimeOfDay_chdl(), MC_HaltAgency_chdl(), MC_MutexLock_chdl(), MC_MutexUnlock_chdl(), agent_s::mc_platform, mc_platform, MC_PrintAgentCode_chdl(), MC_RegisterService_chdl(), MC_ResumeAgency_chdl(), MC_RetrieveAgent_chdl(), MC_RetrieveAgentCode_chdl(), MC_RETURN_AGENT, MC_SaveData_chdl(), MC_SearchForService_chdl(), MC_SemaphorePost_chdl(), MC_SemaphoreWait_chdl(), MC_SendAgentMigrationMessage_chdl(), MC_SendAgentMigrationMessageFile_chdl(), MC_SendSteerCommand_chdl(), MC_SetAgentStatus_chdl(), MC_SetDefaultAgentStatus_chdl(), mc_platform_s::MC_signal, mc_platform_s::MC_signal_cond, mc_platform_s::MC_signal_lock, MC_SyncDelete_chdl(), MC_SyncInit_chdl(), MC_TerminateAgent_chdl(), MC_WAIT_FINISHED, MC_WAIT_MESSGSEND, MUTEX_LOCK, MUTEX_UNLOCK, agent_s::name, SIGNAL, and agent_datastate_s::task_progress.

Referenced by agent_RunChScript().

16.3 /home/dko/projects/mobilec/trunk/src/agent_datastate.c File Reference

```
#include <mxml.h>
#include "include/agent_datastate.h"
#include "include/macros.h"
#include "include/mc_error.h"
```

Functions

- [agent_datastate_p agent_datastate_Copy](#) (const [agent_datastate_p](#) *datastate*)
- [agent_datastate_p agent_datastate_New](#) (void)
- [int agent_datastate_Destroy](#) ([agent_datastate_p](#) *agent_datastate*)

16.3.1 Function Documentation

16.3.1.1 [agent_datastate_p agent_datastate_Copy](#) (const [agent_datastate_p](#) *datastate*)

Definition at line 41 of file `agent_datastate.c`.

References `agent_datastate_s::agent_code`, `agent_datastate_s::agent_code_ids`, `agent_datastate_s::agent_codes`, `agent_datastate_New()`, `agent_task_Copy()`, `agent_datastate_s::init_agent_status`, `agent_datastate_s::number_of_tasks`, `agent_datastate_s::persistent`, `agent_datastate_s::return_data`, `agent_datastate_s::task_progress`, and `agent_datastate_s::tasks`.

Referenced by `agent_Copy()`.

16.3.1.2 [int agent_datastate_Destroy](#) ([agent_datastate_p](#) *agent_datastate*)

Definition at line 129 of file `agent_datastate.c`.

References `agent_datastate_s::agent_code_ids`, `agent_datastate_s::agent_codes`, `agent_task_Destroy()`, `MC_SUCCESS`, `mxmlDelete()`, `agent_datastate_s::number_of_tasks`, `agent_datastate_s::tasks`, and `agent_datastate_s::xml_root`.

Referenced by `agent_Destroy()`.

16.3.1.3 [agent_datastate_p agent_datastate_New](#) (void)

Definition at line 109 of file `agent_datastate.c`.

References `agent_datastate_s::agent_code`, `CHECK_NULL`, `agent_datastate_s::init_agent_status`, `agent_datastate_s::number_of_tasks`, `agent_datastate_s::persistent`, `agent_datastate_s::return_data`, `agent_datastate_s::task_progress`, `agent_datastate_s::tasks`, `agent_datastate_s::xml_agent_root`, and `agent_datastate_s::xml_root`.

Referenced by `agent_datastate_Copy()`, `agent_Initialize()`, and `MC_ComposeAgent()`.

16.4 /home/dko/projects/mobilec/trunk/src/agent_mailbox.c File Reference

```
#include "include/data_structures.h"
```

Functions

- [agent_mailbox_p agent_mailbox_New](#) (void)
- [agent_mailbox_p agent_mailbox_Copy](#) (agent_mailbox_p src)
- [int agent_mailbox_Destroy](#) (agent_mailbox_t *mailbox)
- [int agent_mailbox_Post](#) (agent_mailbox_p mailbox, fipa_acl_message_t *message)
- [fipa_acl_message_t * agent_mailbox_Retrieve](#) (agent_mailbox_p mailbox)
- [fipa_acl_message_t * agent_mailbox_WaitRetrieve](#) (agent_mailbox_p mailbox)

16.4.1 Function Documentation

16.4.1.1 agent_mailbox_p agent_mailbox_Copy (agent_mailbox_p src)

Definition at line 15 of file agent_mailbox.c.

References agent_mailbox_New(), and agent_mailbox_s::mail_queue.

16.4.1.2 int agent_mailbox_Destroy (agent_mailbox_t * mailbox)

Definition at line 23 of file agent_mailbox.c.

References agent_mailbox_s::mail_queue.

Referenced by agent_Destroy().

16.4.1.3 agent_mailbox_p agent_mailbox_New (void)

Definition at line 6 of file agent_mailbox.c.

References agent_mailbox_s::mail_queue.

Referenced by agent_Initialize(), and agent_mailbox_Copy().

16.4.1.4 int agent_mailbox_Post (agent_mailbox_p mailbox, fipa_acl_message_t * message)

Definition at line 32 of file agent_mailbox.c.

References agent_mailbox_s::mail_queue.

Referenced by acc_Thread(), and MC_AclPost().

16.4.1.5 fipa_acl_message_t* agent_mailbox_Retrieve (agent_mailbox_p mailbox)

Definition at line 38 of file agent_mailbox.c.

References agent_mailbox_s::mail_queue.

Referenced by agent_mailbox_WaitRetrieve(), and MC_AclRetrieve().

16.4.1.6 fipa_acl_message_t* agent_mailbox_WaitRetrieve (agent_mailbox_p mailbox)

Definition at line 43 of file agent_mailbox.c.

References agent_mailbox_Retrieve(), COND_WAIT, agent_mailbox_s::mail_queue, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_AclWaitRetrieve().

16.5 /home/dko/projects/mobilec/trunk/src/agent_return_data.c File Reference

```
#include "include/interpreter_variable_data.h"
#include "include/agent.h"
```

Functions

- [interpreter_variable_data_p interpreter_variable_data_New](#) (void)
- [interpreter_variable_data_p interpreter_variable_data_InitializeFromAgent](#) (agent_p agent)
- [interpreter_variable_data_p interpreter_variable_data_Initialize](#) (agent_p agent, const char *varname)
- [int interpreter_variable_data_Destroy](#) (interpreter_variable_data_p agent_variable_data)
- [interpreter_variable_data_p interpreter_variable_data_Copy](#) (interpreter_variable_data_p src)

16.5.1 Function Documentation

16.5.1.1 [interpreter_variable_data_p interpreter_variable_data_Copy](#) ([interpreter_variable_data_p src](#))

Definition at line 229 of file agent_return_data.c.

References [interpreter_variable_data_s::array_dim](#), [interpreter_variable_data_s::array_extent](#), [interpreter_variable_data_s::data](#), [interpreter_variable_data_s::data_type](#), [interpreter_variable_data_New\(\)](#), [interpreter_variable_data_s::name](#), and [interpreter_variable_data_s::size](#).

16.5.1.2 [int interpreter_variable_data_Destroy](#) ([interpreter_variable_data_p agent_variable_data](#))

Definition at line 210 of file agent_return_data.c.

References [interpreter_variable_data_s::array_extent](#), [interpreter_variable_data_s::data](#), [MC_SUCCESS](#), and [interpreter_variable_data_s::name](#).

Referenced by [agent_RunChScriptThread\(\)](#), and [agent_task_Destroy\(\)](#).

16.5.1.3 [interpreter_variable_data_p interpreter_variable_data_Initialize](#) ([agent_p agent](#), const char * *varname*)

Definition at line 139 of file agent_return_data.c.

References [agent_s::agent_interp](#), [interpreter_variable_data_s::array_dim](#), [interpreter_variable_data_s::array_extent](#), [CH_DATATYPE_SIZE](#), [CHECK_NULL](#), [interpreter_variable_data_s::data](#), [interpreter_variable_data_s::data_type](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), [interpreter_variable_data_s::name](#), [agent_s::run_lock](#), [interpreter_variable_data_s::size](#), and [size](#).

Referenced by [agent_RunChScriptThread\(\)](#).

16.5.1.4 [interpreter_variable_data_p interpreter_variable_data_InitializeFromAgent](#) ([agent_p agent](#))

Definition at line 55 of file agent_return_data.c.

References `agent_s::agent_interp`, `interpreter_variable_data_s::array_dim`, `interpreter_variable_data_s::array_extent`, `CH_DATATYPE_SIZE`, `CHECK_NULL`, `interpreter_variable_data_s::data`, `interpreter_variable_data_s::data_type`, `agent_s::datastate`, `interpreter_variable_data_s::name`, `interpreter_variable_data_s::size`, `size`, `agent_datastate_s::task_progress`, `agent_datastate_s::tasks`, and `agent_task_s::var_name`.

Referenced by `agent_RunChScriptThread()`.

16.5.1.5 `interpreter_variable_data_p` `interpreter_variable_data_New` (void)

Definition at line 40 of file `agent_return_data.c`.

References `interpreter_variable_data_s::array_dim`, `interpreter_variable_data_s::array_extent`, `CHECK_NULL`, `interpreter_variable_data_s::data`, `interpreter_variable_data_s::data_type`, `interpreter_variable_data_s::name`, and `interpreter_variable_data_s::size`.

Referenced by `agent_xml_parse__data()`, `interpreter_variable_data_Copy()`, and `MC_SaveData_chdl()`.

16.6 /home/dko/projects/mobilec/trunk/src/agent_task.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "include/agent_task.h"
#include "include/mc_error.h"
```

Functions

- [agent_task_p agent_task_New](#) (void)
- [agent_task_p agent_task_Copy](#) (agent_task_p task)
- [int agent_task_Destroy](#) (agent_task_p agent_task)

16.6.1 Function Documentation

16.6.1.1 agent_task_p agent_task_Copy (agent_task_p task)

Definition at line 60 of file agent_task.c.

References [agent_task_s::agent_return_data](#), [agent_task_s::code_id](#), [agent_task_s::init_agent_status](#), [agent_task_s::number_of_elements](#), [agent_task_s::persistent](#), [agent_task_s::server_name](#), [agent_task_s::size_of_element_array](#), [agent_task_s::task_completed](#), and [agent_task_s::var_name](#).

Referenced by [agent_datastate_Copy](#)().

16.6.1.2 int agent_task_Destroy (agent_task_p agent_task)

Definition at line 102 of file agent_task.c.

References [agent_task_s::agent_return_data](#), [agent_task_s::agent_variable_list](#), [agent_task_s::code_id](#), [interpreter_variable_data_Destroy](#)(), [MC_SUCCESS](#), [agent_task_s::saved_variables](#), [agent_task_s::server_name](#), and [agent_task_s::var_name](#).

Referenced by [agent_datastate_Destroy](#)().

16.6.1.3 agent_task_p agent_task_New (void)

Definition at line 42 of file agent_task.c.

References [agent_task_s::agent_variable_list](#), [agent_task_s::num_saved_variables](#), and [agent_task_s::saved_variables](#).

Referenced by [agent_xml_parse__tasks](#)(), and [MC_ComposeAgent](#)().

16.7 /home/dko/projects/mobilec/trunk/src/ams.c File Reference

```
#include "include/ams.h"  
#include "include/agent.h"  
#include "include/data_structures.h"  
#include "include/mc_platform.h"
```

Functions

- [int ams_Destroy](#) (ams_p ams)
- [ams_p ams_Initialize](#) (mc_platform_p mc_platform)
- [void ams_Print](#) (ams_p ams)
- [int ams_ManageAgentList](#) (ams_p ams)
- [void ams_Start](#) (mc_platform_p mc_platform)
- [void * ams_Thread](#) (void *arg)

16.7.1 Function Documentation

16.7.1.1 int ams_Destroy (ams_p ams)

Definition at line 41 of file ams.c.

References COND_DESTROY, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by mc_platform_Destroy().

16.7.1.2 ams_p ams_Initialize (mc_platform_p mc_platform)

Definition at line 52 of file ams.c.

References CHECK_NULL, COND_INIT, COND_T, MUTEX_INIT, and MUTEX_T.

Referenced by mc_platform_Initialize().

16.7.1.3 int ams_ManageAgentList (ams_p ams)

Definition at line 111 of file ams.c.

References [agent_RunChScript\(\)](#), [agent_s::agent_status](#), [ListSearch\(\)](#), [agent_s::lock](#), [MC_AGENT_ACTIVE](#), [MC_AGENT_NEUTRAL](#), [MC_WAIT_CH](#), [MC_WAIT_FINISHED](#), [MC_WAIT_MESSGSEND](#), [message_Destroy\(\)](#), [message_InitializeFromAgent\(\)](#), [message_New\(\)](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), and [agent_s::orphan](#).

Referenced by [ams_Thread\(\)](#).

16.7.1.4 void ams_Print (ams_p ams)

Definition at line 79 of file ams.c.

References [agent_s::agent_status](#), [agent_s::connect_id](#), [agent_s::id](#), [ListSearch\(\)](#), [MUTEX_LOCK](#), and [MUTEX_UNLOCK](#).

16.7.1.5 void ams_Start (mc_platform_p mc_platform)

Definition at line 195 of file ams.c.

References mc_platform_s::ams, ams_Thread(), MC_THREAD_AMS, mc_platform_s::stack_size, and THREAD_CREATE.

Referenced by mc_platform_Initialize().

16.7.1.6 void* ams_Thread (void * arg)

Definition at line 226 of file ams.c.

References mc_platform_s::ams, ams_ManageAgentList(), COND_BROADCAST, COND_WAIT, mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::quit, and mc_platform_s::quit_lock.

Referenced by ams_Start().

16.8 /home/dko/projects/mobilec/trunk/src/barrier.c File Reference

```
#include "include/barrier.h"
#include "include/mc_error.h"
```

Functions

- [barrier_node_p barrier_node_Initialize](#) ([int id](#), [int num_registered](#))
- [int barrier_node_Destroy](#) ([barrier_node_p node](#))
- [int barrier_queue_Add](#) ([barrier_queue_p list](#), [barrier_node_p node](#))
- [int barrier_queue_Delete](#) ([int id](#), [barrier_queue_p list](#))
- [int barrier_queue_Destroy](#) ([barrier_queue_p queue](#))
- [barrier_node_p barrier_queue_Get](#) ([barrier_queue_p list](#), [int id](#))
- [barrier_queue_p barrier_queue_New](#) ([void](#))
- [barrier_node_p barrier_queue_Pop](#) ([barrier_queue_p queue](#))

16.8.1 Function Documentation

16.8.1.1 [int barrier_node_Destroy](#) ([barrier_node_p node](#))

Definition at line 65 of file barrier.c.

References [barrier_node_s::cond](#), [COND_DESTROY](#), [barrier_node_s::lock](#), [MC_SUCCESS](#), and [MUTEX_DESTROY](#).

Referenced by [barrier_queue_Delete\(\)](#), and [barrier_queue_Destroy\(\)](#).

16.8.1.2 [barrier_node_p barrier_node_Initialize](#) ([int id](#), [int num_registered](#))

Definition at line 40 of file barrier.c.

References [CHECK_NULL](#), [barrier_node_s::cond](#), [COND_INIT](#), [COND_T](#), [barrier_node_s::id](#), [barrier_node_s::lock](#), [MUTEX_INIT](#), [MUTEX_T](#), [node](#), [barrier_node_s::num_registered](#), and [barrier_node_s::num_waiting](#).

Referenced by [MC_BarrierInit\(\)](#).

16.8.1.3 [int barrier_queue_Add](#) ([barrier_queue_p list](#), [barrier_node_p node](#))

Definition at line 82 of file barrier.c.

References [DATA](#), [barrier_node_s::id](#), [barrier_queue_s::list](#), [ListAdd\(\)](#), [list_s::listhead](#), [barrier_queue_s::lock](#), [MC_SUCCESS](#), [MC_WARN_DUPLICATE](#), [listNode_s::next](#), [listNode_s::node_data](#), [RWLOCK_WRLOCK](#), [RWLOCK_WRUNLOCK](#), and [barrier_queue_s::size](#).

Referenced by [MC_BarrierInit\(\)](#).

16.8.1.4 [int barrier_queue_Delete](#) ([int id](#), [barrier_queue_p list](#))

Definition at line 106 of file barrier.c.

References `barrier_node_Destroy()`, `barrier_node_s::id`, `barrier_queue_s::list`, `ListDelete()`, `ListSearch()`, `barrier_queue_s::lock`, `MC_ERR_NOT_FOUND`, `MC_SUCCESS`, `RWLOCK_WRLOCK`, `RWLOCK_WRUNLOCK`, `barrier_queue_s::size`, and `list_s::size`.

Referenced by `MC_BarrierDelete()`.

16.8.1.5 `int barrier_queue_Destroy (barrier_queue_p queue)`

Definition at line 126 of file `barrier.c`.

References `barrier_node_Destroy()`, `barrier_queue_Pop()`, `barrier_queue_s::list`, `ListTerminate()`, `barrier_queue_s::lock`, `MC_SUCCESS`, `node`, and `RWLOCK_DESTROY`.

Referenced by `mc_platform_Destroy()`.

16.8.1.6 `barrier_node_p barrier_queue_Get (barrier_queue_p list, int id)`

Definition at line 140 of file `barrier.c`.

References `barrier_queue_s::list`, `list_s::listhead`, `barrier_queue_s::lock`, `listNode_s::next`, `listNode_s::node_data`, `RWLOCK_RDLOCK`, and `RWLOCK_RDUNLOCK`.

Referenced by `MC_Barrier()`, and `MC_BarrierInit()`.

16.8.1.7 `barrier_queue_p barrier_queue_New (void)`

Definition at line 157 of file `barrier.c`.

References `CHECK_NULL`, `barrier_queue_s::list`, `ListInitialize()`, `barrier_queue_s::lock`, `RWLOCK_INIT`, and `RWLOCK_T`.

Referenced by `mc_platform_Initialize()`.

16.8.1.8 `barrier_node_p barrier_queue_Pop (barrier_queue_p queue)`

Definition at line 171 of file `barrier.c`.

References `barrier_queue_s::list`, `ListPop()`, and `node`.

Referenced by `barrier_queue_Destroy()`.

16.9 /home/dko/projects/mobilec/trunk/src/cmd_prompt.c File Reference

```
#include <stdio.h>
#include <unistd.h>
#include <stdlib.h>
#include <string.h>
#include "include/cmd_prompt.h"
#include "include/commands.h"
#include "config.h"
```

Functions

- [cmd_prompt_p cmd_prompt_Initialize \(mc_platform_p mc_platform\)](#)
- [int cmd_prompt_Destroy \(cmd_prompt_p cmd_prompt\)](#)
- [void cmd_prompt_Start \(mc_platform_p mc_platform\)](#)
- [void * cmd_prompt_Thread \(void *arg\)](#)
- [int split_string \(char ***args, const char *buf\)](#)
- [int process_command \(command_t *cmd\)](#)
- [int exec_command \(command_t cmd, mc_platform_p global\)](#)
- [int dealloc_command \(command_t *cmd\)](#)
- [int handler_QUIT \(void *arg, mc_platform_p global\)](#)
- [int handler_HELP \(void *arg, mc_platform_p global\)](#)
- [int handler_SEND \(void *arg, mc_platform_p global\)](#)
- [int handler_PRINT_CONNECTLIST \(void *arg, mc_platform_p global\)](#)
- [int handler_PRINTLIST_MESSAGE \(void *arg, mc_platform_p global\)](#)
- [int handler_PRINTLIST_AGENTS \(void *arg, mc_platform_p global\)](#)

16.9.1 Function Documentation

16.9.1.1 [int cmd_prompt_Destroy \(cmd_prompt_p *cmd_prompt*\)](#)

Definition at line 63 of file cmd_prompt.c.

References [MC_SUCCESS](#).

Referenced by [mc_platform_Destroy\(\)](#).

16.9.1.2 [cmd_prompt_p cmd_prompt_Initialize \(mc_platform_p *mc_platform*\)](#)

Definition at line 55 of file cmd_prompt.c.

Referenced by [mc_platform_Initialize\(\)](#).

16.9.1.3 void cmd_prompt_Start (mc_platform_p mc_platform)

Definition at line 70 of file cmd_prompt.c.

References mc_platform_s::cmd_prompt, cmd_prompt_Thread(), MC_THREAD_CP, mc_platform_s::stack_size, cmd_prompt_s::thread, and THREAD_CREATE.

Referenced by mc_platform_Initialize().

16.9.1.4 void* cmd_prompt_Thread (void * arg)

Definition at line 102 of file cmd_prompt.c.

References command_s::args, buf, dealloc_command(), exec_command(), command_s::index, mc_platform, command_s::num_args, process_command(), and split_string().

Referenced by cmd_prompt_Start().

16.9.1.5 int dealloc_command (command_t * cmd)

Definition at line 231 of file cmd_prompt.c.

References command_s::args, and command_s::num_args.

Referenced by cmd_prompt_Thread().

16.9.1.6 int exec_command (command_t cmd, mc_platform_p global)

Definition at line 215 of file cmd_prompt.c.

References command_s::args, cmd_handlers, command_s::index, and command_s::num_args.

Referenced by cmd_prompt_Thread().

16.9.1.7 int handler_HELP (void * arg, mc_platform_p global)

Definition at line 253 of file cmd_prompt.c.

References command_s::args, command_cmds, command_descriptions, and command_s::num_args.

16.9.1.8 int handler_PRINT_CONNECTLIST (void * arg, mc_platform_p global)

Definition at line 306 of file cmd_prompt.c.

References mc_platform_s::connection_queue.

16.9.1.9 int handler_PRINTLIST_AGENTS (void * arg, mc_platform_p global)

Definition at line 318 of file cmd_prompt.c.

References mc_platform_s::agent_queue.

16.9.1.10 int handler_PRINTLIST_MESSAGE (void * arg, mc_platform_p global)

Definition at line 312 of file cmd_prompt.c.

References mc_platform_s::message_queue.

16.9.1.11 int handler_QUIT (void * *arg*, mc_platform_p *global*)

Definition at line 246 of file cmd_prompt.c.

References mc_platform_Destroy().

16.9.1.12 int handler_SEND (void * *arg*, mc_platform_p *global*)

Definition at line 291 of file cmd_prompt.c.

References command_s::args, command_descriptions, MC_SendAgentMigrationMessageFile(), and command_s::num_args.

16.9.1.13 int process_command (command_t * *cmd*)

Definition at line 197 of file cmd_prompt.c.

References command_s::args, command_cmds, command_s::index, and command_s::num_args.

Referenced by cmd_prompt_Thread().

16.9.1.14 int split_string (char *** *args*, const char * *buf*)

Definition at line 149 of file cmd_prompt.c.

References int.

Referenced by cmd_prompt_Thread().

16.10 /home/dko/projects/mobilec/trunk/src/connection.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "include/connection.h"
#include "include/mc_error.h"
```

Functions

- [int connection_Destroy](#) ([connection_p](#) connection)
- [connection_p connection_New](#) (void)
- [connection_p connection_Copy](#) ([connection_p](#) connection)

16.10.1 Function Documentation

16.10.1.1 [connection_p connection_Copy](#) ([connection_p](#) *connection*)

Definition at line 73 of file connection.c.

References [connection_s::addr](#), [connection_s::clientfd](#), [connection_s::connect_id](#), [connection_New\(\)](#), [connection_s::remote_hostname](#), and [connection_s::serverfd](#).

16.10.1.2 [int connection_Destroy](#) ([connection_p](#) *connection*)

Definition at line 42 of file connection.c.

References [connection_s::clientfd](#), [MC_SUCCESS](#), and [connection_s::remote_hostname](#).

Referenced by [acc_Thread\(\)](#).

16.10.1.3 [connection_p connection_New](#) (void)

Definition at line 62 of file connection.c.

Referenced by [connection_Copy\(\)](#).

16.11 /home/dko/projects/mobilec/trunk/src/data_structures.c File Reference

```
#include "include/ap_queue_template.h"
#include "include/data_structures.h"
#include "include/interpreter_variable_data.h"
#include "include/agent.h"
```

Functions

- [AP_QUEUE_SEARCH_TEMPLATE](#) (AP_QUEUE_REMOVE_TEMPLATE(connection_queue, [Search](#), AP_QUEUE_REMOVE_TEMPLATE(connection, AP_QUEUE_REMOVE_TEMPLATE(int,(node → connect_id==key)))
- [AP_QUEUE_SEARCH_TEMPLATE](#) (AP_QUEUE_REMOVE_TEMPLATE(agent_variable_list, AP_QUEUE_REMOVE_TEMPLATE([Search](#), AP_QUEUE_REMOVE_TEMPLATE(interpreter_variable_data, char *,(!strcmp(node → name, key))))
- [AP_QUEUE_STD_DEFN_TEMPLATE](#) (AP_QUEUE_SEARCH_TEMPLATE(agent_queue, AP_QUEUE_SEARCH_TEMPLATE(agent)
- [AP_QUEUE_STD_DEFN_TEMPLATE](#) (fipa_acl_message_p mail_queue_SearchReceivers(mail_queue_p mail_queue, fipa_acl_message)

16.11.1 Function Documentation

16.11.1.1 [AP_QUEUE_SEARCH_TEMPLATE](#) (AP_QUEUE_REMOVE_TEMPLATE(*agent_variable_list*, AP_QUEUE_REMOVE_TEMPLATE(*Search*, AP_QUEUE_REMOVE_TEMPLATE(*interpreter_variable_data*, char *, (!strcmp(*node* → *name*, *key*))))

Definition at line 79 of file data_structures.c.

References [message_s::from_address](#), [ListSearch\(\)](#), [message_s::message_id](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), [node](#), and [message_s::to_address](#).

16.11.1.2 [AP_QUEUE_SEARCH_TEMPLATE](#) (AP_QUEUE_REMOVE_TEMPLATE(*connection_queue*, [Search](#), AP_QUEUE_REMOVE_TEMPLATE(*connection*, AP_QUEUE_REMOVE_TEMPLATE(*int*, (*node* → *connect_id==key*)))

Definition at line 40 of file data_structures.c.

References [connection_s::connect_id](#), [ListSearch\(\)](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), [node](#), and [connection_s::remote_hostname](#).

16.11.1.3 [AP_QUEUE_STD_DEFN_TEMPLATE](#) (fipa_acl_message_p mail_queue_SearchReceivers(*mail_queue_p mail_queue*, fipa_acl_message)

Definition at line 193 of file data_structures.c.

References [fipa_agent_identifier_set_s::fipa_agent_identifiers](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), [fipa_agent_identifier_s::name](#), [listNode_s::next](#), [node](#), [listNode_s::node_data](#), and [fipa_acl_message_s::receiver](#).

**16.11.1.4 AP_QUEUE_STD_DEFN_TEMPLATE (AP_QUEUE_SEARCH_TEMPLATE(
agent_queue, AP_QUEUE_SEARCH_TEMPLATE(*agent*))**

Definition at line 140 of file data_structures.c.

References `agent_s::id`, `ListSearch()`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `agent_s::name`, and `node`.

16.12 /home/dko/projects/mobilec/trunk/src/df.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include "include/mc_platform.h"
#include "include/df.h"
#include "include/df_request.x.h"
```

Defines

- #define [REQUEST](#)(name, string, description)

Functions

- [int df_Add](#) (struct df_s *df, struct df_node_s *node)
- [int df_AddRequest](#) (struct df_s *df, struct df_request_list_node_s *node)
- [int df_Destroy](#) (df_p df)
- [df_p df_Initialize](#) (mc_platform_p mc_platform)
- [int df_ProcessRequest](#) (struct mc_platform_s *global)
- [int df_SearchForService](#) (df_p df, const char *searchstring, char ***agent_names, char ***service_names, int **agent_ids, int *num_entries)
- [void df_Start](#) (mc_platform_p mc_platform)
- [int df_request_list_node_Destroy](#) (df_request_list_node_p node)
- [df_request_list_node_p df_request_list_node_New](#) (void)
- [int df_request_list_Destroy](#) (df_request_list_p df_request_list)
- [df_request_list_p df_request_list_New](#) (void)
- [df_request_list_node_p df_request_list_Pop](#) (df_request_list_p requests)
- [df_request_search_p df_request_search_New](#) (void)
- [int df_request_search_Destroy](#) (df_request_search_p node)
- [int df_node_Destroy](#) (df_node_p df_node)
- [void * df_Thread](#) (void *arg)
- [int request_handler_REGISTER](#) (struct mc_platform_s *global, void *data)
- [int request_handler_SEARCH](#) (struct mc_platform_s *global, void *data)
- [int request_handler_SUBSCRIBE](#) (struct mc_platform_s *global, void *data)
- [int request_handler_DEREGISTER](#) (struct mc_platform_s *global, void *data)

16.12.1 Define Documentation

16.12.1.1 #define REQUEST(name, string, description)

Value:

```
if ( !strcmp(request->command, string ) ) { \
    return_code = MC_SUCCESS; \
    handler_code = request_handler_##name( \
        global, \
        request->data ); \
    request_code = REQUEST_##name; \
} else
```

Referenced by `acc_MessageHandlerThread()`, and `acc_Thread()`.

16.12.2 Function Documentation

16.12.2.1 `int df_Add (struct df_s * df, struct df_node_s * node)`

Definition at line 47 of file `df.c`.

References `ListAdd()`, `MC_SUCCESS`, and `SIGNAL`.

Referenced by `request_handler_REGISTER()`.

16.12.2.2 `int df_AddRequest (struct df_s * df, struct df_request_list_node_s * node)`

Definition at line 63 of file `df.c`.

References `ListAdd()`, and `SIGNAL`.

Referenced by `MC_DeregisterService()`, `MC_RegisterService()`, and `MC_SearchForService()`.

16.12.2.3 `int df_Destroy (df_p df)`

Definition at line 80 of file `df.c`.

References `COND_DESTROY`, `df_node_Destroy()`, `df_request_list_Destroy()`, `ListPop()`, `ListTerminate()`, `MC_SUCCESS`, `MUTEX_DESTROY`, and `MUTEX_LOCK`.

Referenced by `mc_platform_Destroy()`.

16.12.2.4 `df_p df_Initialize (mc_platform_p mc_platform)`

Definition at line 98 of file `df.c`.

References `COND_INIT`, `COND_T`, `df_request_list_New()`, `ListInitialize()`, `MUTEX_INIT`, and `MUTEX_T`.

Referenced by `mc_platform_Initialize()`.

16.12.2.5 `int df_node_Destroy (df_node_p df_node)`

Definition at line 409 of file `df.c`.

References `MC_SUCCESS`, and `MUTEX_LOCK`.

Referenced by `df_Destroy()`.

16.12.2.6 `int df_ProcessRequest (struct mc_platform_s * global)`

Definition at line 129 of file `df.c`.

References `mc_platform_s::df`, `df_request_list_Pop()`, `MC_ERR_EMPTY`, and `MC_ERR_INVALID`.

Referenced by `df_Thread()`.

16.12.2.7 int df_request_list_Destroy (df_request_list_p df_request_list)

Definition at line 318 of file df.c.

References df_request_list_node_Destroy(), ListPop(), ListTerminate(), MC_SUCCESS, and node.

Referenced by df_Destroy().

16.12.2.8 df_request_list_p df_request_list_New (void)

Definition at line 340 of file df.c.

References CHECK_NULL, COND_INIT, COND_T, ListInitialize(), MUTEX_INIT, and MUTEX_T.

Referenced by df_Initialize().

16.12.2.9 int df_request_list_node_Destroy (df_request_list_node_p node)

Definition at line 289 of file df.c.

References COND_DESTROY, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by df_request_list_Destroy(), and MC_SearchForService().

16.12.2.10 df_request_list_node_p df_request_list_node_New (void)

Definition at line 300 of file df.c.

References CHECK_NULL, COND_INIT, COND_T, MUTEX_INIT, MUTEX_T, and node.

Referenced by MC_DeregisterService(), MC_RegisterService(), and MC_SearchForService().

16.12.2.11 df_request_list_node_p df_request_list_Pop (df_request_list_p requests)

Definition at line 365 of file df.c.

References ListPop(), MUTEX_LOCK, MUTEX_UNLOCK, and node.

Referenced by df_ProcessRequest().

16.12.2.12 int df_request_search_Destroy (df_request_search_p node)

Definition at line 396 of file df.c.

References COND_DESTROY, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by MC_SearchForService().

16.12.2.13 df_request_search_p df_request_search_New (void)

Definition at line 381 of file df.c.

References CHECK_NULL, COND_INIT, COND_T, MUTEX_INIT, MUTEX_T, and search.

Referenced by MC_SearchForService().

16.12.2.14 int df_SearchForService (df_p df, const char * searchstring, char * agent_names, char *** service_names, int ** agent_ids, int * num_entries)**

Definition at line 173 of file df.c.

References MC_ERR_NOT_FOUND, MC_SUCCESS, MUTEX_LOCK, MUTEX_UNLOCK, listNode_s::next, and listNode_s::node_data.

Referenced by request_handler_SEARCH().

16.12.2.15 void df_Start (mc_platform_p mc_platform)

Definition at line 258 of file df.c.

References mc_platform_s::df, df_Thread(), MC_THREAD_DF, mc_platform_s::stack_size, and THREAD_CREATE.

Referenced by mc_platform_Initialize().

16.12.2.16 void* df_Thread (void * arg)

Definition at line 423 of file df.c.

References COND_BROADCAST, COND_WAIT, mc_platform_s::df, df_ProcessRequest(), MC_SUCCESS, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::quit, and mc_platform_s::quit_lock.

Referenced by df_Start().

16.12.2.17 int request_handler_DEREGISTER (struct mc_platform_s * global, void * data)

Definition at line 517 of file df.c.

References mc_platform_s::df, MC_SUCCESS, MUTEX_LOCK, MUTEX_UNLOCK, listNode_s::next, node, and listNode_s::node_data.

16.12.2.18 int request_handler_REGISTER (struct mc_platform_s * global, void * data)

Definition at line 487 of file df.c.

References mc_platform_s::df, and df_Add().

16.12.2.19 int request_handler_SEARCH (struct mc_platform_s * global, void * data)

Definition at line 493 of file df.c.

References mc_platform_s::df, df_SearchForService(), MC_SUCCESS, search, and SIGNAL.

16.12.2.20 int request_handler_SUBSCRIBE (struct mc_platform_s * global, void * data)

Definition at line 512 of file df.c.

16.13 /home/dko/projects/mobilec/trunk/src/dynstring.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "include/dynstring.h"
```

Functions

- [dynstring_t * dynstring_New](#) (void)
- [int dynstring_Append](#) (dynstring_t *msg, char *str)
- [int dynstring_Destroy](#) (dynstring_t *dynstring)

16.13.1 Function Documentation

16.13.1.1 int dynstring_Append (dynstring_t * msg, char * str)

Definition at line 24 of file dynstring.c.

References COMPOSE_BLOCKSIZE, dynstring_s::len, dynstring_s::message, and dynstring_s::size.

Referenced by fipa_acl_Compose(), fipa_agent_identifier_Compose(), fipa_agent_identifier_set_Compose(), fipa_DateTime_Compose(), fipa_envelope_Compose__from(), fipa_number_Compose(), fipa_performative_Compose(), fipa_string_Compose(), fipa_url_Compose(), fipa_url_sequence_Compose(), fipa_word_Compose(), mtp_http_CreateMessage(), and mtp_http_InitializeFromConnection().

16.13.1.2 int dynstring_Destroy (dynstring_t * dynstring)

Definition at line 49 of file dynstring.c.

References dynstring_s::message.

Referenced by fipa_envelope_Compose__from(), MC_AclSend(), mtp_http_CreateMessage(), and mtp_http_InitializeFromConnection().

16.13.1.3 dynstring_t* dynstring_New (void)

Definition at line 8 of file dynstring.c.

References COMPOSE_BLOCKSIZE, dynstring_s::len, dynstring_s::message, and dynstring_s::size.

Referenced by fipa_acl_Compose(), fipa_envelope_Compose__from(), mtp_http_CreateMessage(), and mtp_http_InitializeFromConnection().

16.14 /home/dko/projects/mobilec/trunk/src/fipa_acl.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <strings.h>
#include "include/fipa_acl.h"
#include "include/mc_error.h"
#include "include/macros.h"
```

Defines

- #define [FREEMEM\(x\)](#) if (x != NULL) free(x)

Functions

- [fipa_acl_message_t * fipa_acl_message_New](#) (void)
- [int fipa_acl_message_Destroy](#) (fipa_acl_message_t *message)
- [fipa_acl_message_t * fipa_acl_message_Copy](#) (fipa_acl_message_t *src)
- [fipa_message_string_t * fipa_message_string_New](#) (void)
- [int fipa_message_string_Destroy](#) (fipa_message_string_t *message)
- [fipa_message_string_t * fipa_message_string_Copy](#) (fipa_message_string_t *src)
- [fipa_url_sequence_t * fipa_url_sequence_New](#) (void)
- [int fipa_url_sequence_Destroy](#) (fipa_url_sequence_t *sequence)
- [fipa_url_sequence_t * fipa_url_sequence_Copy](#) (fipa_url_sequence_t *src)
- [fipa_agent_identifier_set_t * fipa_agent_identifier_set_New](#) (void)
- [int fipa_agent_identifier_set_Destroy](#) (fipa_agent_identifier_set_t *idset)
- [fipa_agent_identifier_set_t * fipa_agent_identifier_set_Copy](#) (fipa_agent_identifier_set_t *src)
- [fipa_agent_identifier_t * fipa_agent_identifier_New](#) (void)
- [int fipa_agent_identifier_Destroy](#) (fipa_agent_identifier_t *id)
- [fipa_agent_identifier_t * fipa_agent_identifier_Copy](#) (fipa_agent_identifier_t *src)
- [fipa_expression_t * fipa_expression_New](#) (void)
- [int fipa_expression_Destroy](#) (fipa_expression_t *expr)
- [fipa_expression_t * fipa_expression_Copy](#) (fipa_expression_t *src)
- [fipa_word_t * fipa_word_New](#) (void)
- [int fipa_word_Destroy](#) (fipa_word_t *word)
- [fipa_word_t * fipa_word_Copy](#) (fipa_word_t *src)
- [fipa_string_t * fipa_string_New](#) (void)
- [int fipa_string_Destroy](#) (fipa_string_t *str)
- [fipa_string_t * fipa_string_Copy](#) (fipa_string_t *src)
- [fipa_DateTime_t * fipa_DateTime_New](#) (void)
- [int fipa_DateTime_Destroy](#) (fipa_DateTime_t *dt)
- [fipa_DateTime_t * fipa_DateTime_Copy](#) (fipa_DateTime_t *src)
- [fipa_url_t * fipa_url_New](#) (void)
- [int fipa_url_Destroy](#) (fipa_url_t *url)

- `fipa_url_t * fipa_url_Copy (fipa_url_t *src)`
- `fipa_number_t * fipa_number_New (void)`
- `int fipa_number_Destroy (fipa_number_t *number)`
- `fipa_number_t * fipa_number_Copy (fipa_number_t *src)`
- `int fipa_acl_Parse (fipa_acl_message_p acl, fipa_message_string_p message)`
- `int fipa_message_parameter_Parse (fipa_acl_message_p acl, fipa_message_string_p message)`
- `int fipa_message_type_Parse (enum fipa_performative_e *performative, fipa_message_string_p message)`
- `int fipa_GetAtom (fipa_message_string_p message, char expected_atom)`
- `int fipa_word_Parse (fipa_word_t **word, fipa_message_string_p message)`
- `int fipa_CheckNextToken (const fipa_message_string_p message, const char *token)`
- `int fipa_expression_Parse (fipa_expression_t **expression, fipa_message_string_p message)`
- `int fipa_GetNextWord (char **word, const fipa_message_string_p message)`
- `int fipa_GetWholeToken (char **word, fipa_message_string_p message)`
- `int fipa_datetime_Parse (fipa_DateTime_p *datetime, fipa_message_string_p message)`
- `int fipa_string_Parse (fipa_string_p *fipa_string, fipa_message_string_p message)`
- `int fipa_agent_identifier_Parse (fipa_agent_identifier_p *aid, fipa_message_string_p message)`
- `int fipa_url_sequence_Parse (fipa_url_sequence_p *urls, fipa_message_string_p message)`
- `int fipa_url_Parse (fipa_url_p *url, fipa_message_string_p message)`
- `int fipa_agent_identifier_set_Parse (fipa_agent_identifier_set_p *agent_ids, fipa_message_string_p message)`
- `int fipa_acl_Compose (dynstring_t **msg, fipa_acl_message_t *acl)`
- `int fipa_performative_Compose (dynstring_t *msg, enum fipa_performative_e performative)`
- `int fipa_url_sequence_Compose (dynstring_t *msg, fipa_url_sequence_t *urls)`
- `int fipa_agent_identifier_set_Compose (dynstring_t *msg, fipa_agent_identifier_set_t *ids)`
- `int fipa_agent_identifier_Compose (dynstring_t *msg, fipa_agent_identifier_t *id)`
- `int fipa_expression_Compose (dynstring_t *msg, fipa_expression_t *expr)`
- `int fipa_word_Compose (dynstring_t *msg, fipa_word_t *word)`
- `int fipa_string_Compose (dynstring_t *msg, fipa_string_t *string)`
- `int fipa_DateTime_Compose (dynstring_t *msg, fipa_DateTime_t *date)`
- `int fipa_url_Compose (dynstring_t *msg, fipa_url_t *url)`
- `int fipa_number_Compose (dynstring_t *msg, fipa_number_t *number)`
- `struct fipa_acl_message_s * fipa_Reply (struct fipa_acl_message_s *acl)`

16.14.1 Define Documentation

16.14.1.1 #define FREEMEM(x) if (x != NULL) free(x)

Definition at line 48 of file `fipa_acl.c`.

Referenced by `fipa_expression_Destroy()`.

16.14.2 Function Documentation

16.14.2.1 int fipa_acl_Compose (dynstring_t **msg, fipa_acl_message_t *acl)

Definition at line 1185 of file `fipa_acl.c`.

References `fipa_acl_message_s::content`, `fipa_acl_message_s::conversation_id`, `dynstring_Append()`, `dynstring_New()`, `fipa_acl_message_s::encoding`, `fipa_agent_identifier_Compose()`, `fipa_agent_identifier_set_Compose()`, `fipa_DateTime_Compose()`, `fipa_expression_Compose()`, `fipa_performative_Compose()`, `fipa_string_Compose()`, `fipa_word_Compose()`, `fipa_acl_message_s::in_reply_to`, `fipa_acl_message_s::language`, `fipa_acl_message_s::ontology`, `fipa_acl_message_s::performative`, `fipa_acl_message_s::protocol`, `fipa_acl_message_s::receiver`, `fipa_acl_message_s::reply_by`, `fipa_acl_message_s::reply_to`, `fipa_acl_message_s::reply_with`, and `fipa_acl_message_s::sender`.

Referenced by `MC_AclSend()`.

16.14.2.2 `fipa_acl_message_t* fipa_acl_message_Copy (fipa_acl_message_t * src)`

Definition at line 81 of file `fipa_acl.c`.

References `fipa_acl_message_s::content`, `fipa_acl_message_s::conversation_id`, `fipa_acl_message_s::encoding`, `fipa_acl_message_New()`, `fipa_agent_identifier_Copy()`, `fipa_agent_identifier_set_Copy()`, `fipa_DateTime_Copy()`, `fipa_expression_Copy()`, `fipa_string_Copy()`, `fipa_word_Copy()`, `fipa_acl_message_s::in_reply_to`, `fipa_acl_message_s::language`, `fipa_acl_message_s::ontology`, `fipa_acl_message_s::performative`, `fipa_acl_message_s::protocol`, `fipa_acl_message_s::receiver`, `fipa_acl_message_s::reply_by`, `fipa_acl_message_s::reply_to`, `fipa_acl_message_s::reply_with`, and `fipa_acl_message_s::sender`.

16.14.2.3 `int fipa_acl_message_Destroy (fipa_acl_message_t * message)`

Definition at line 60 of file `fipa_acl.c`.

References `fipa_acl_message_s::content`, `fipa_acl_message_s::conversation_id`, `fipa_acl_message_s::encoding`, `fipa_agent_identifier_Destroy()`, `fipa_agent_identifier_set_Destroy()`, `fipa_DateTime_Destroy()`, `fipa_expression_Destroy()`, `fipa_string_Destroy()`, `fipa_word_Destroy()`, `fipa_acl_message_s::in_reply_to`, `fipa_acl_message_s::language`, `fipa_acl_message_s::ontology`, `fipa_acl_message_s::protocol`, `fipa_acl_message_s::receiver`, `fipa_acl_message_s::reply_by`, `fipa_acl_message_s::reply_to`, `fipa_acl_message_s::reply_with`, and `fipa_acl_message_s::sender`.

Referenced by `acc_Thread()`, and `MC_AclDestroy()`.

16.14.2.4 `fipa_acl_message_t* fipa_acl_message_New (void)`

Definition at line 52 of file `fipa_acl.c`.

Referenced by `acc_Thread()`, `fipa_acl_message_Copy()`, `fipa_Reply()`, and `MC_AclNew()`.

16.14.2.5 `int fipa_acl_Parse (fipa_acl_message_p acl, fipa_message_string_p message)`

Definition at line 458 of file `fipa_acl.c`.

References `fipa_GetAtom()`, `fipa_message_parameter_Parse()`, `fipa_message_type_Parse()`, `MC_ERR_PARSE`, and `fipa_acl_message_s::performative`.

Referenced by `acc_Thread()`.

16.14.2.6 `int fipa_agent_identifier_Compose (dynstring_t * msg, fipa_agent_identifier_t * id)`

Definition at line 1355 of file `fipa_acl.c`.

References `fipa_agent_identifier_s::addresses`, `dynstring_Append()`, `fipa_agent_identifier_set_Compose()`, `fipa_url_sequence_Compose()`, `fipa_agent_identifier_s::name`, `fipa_agent_identifier_set_s::num`, `fipa_url_sequence_s::num`, and `fipa_agent_identifier_s::resolvers`.

Referenced by `fipa_acl_Compose()`, and `fipa_agent_identifier_set_Compose()`.

16.14.2.7 `fipa_agent_identifier_t*` `fipa_agent_identifier_Copy` (`fipa_agent_identifier_t * src`)

Definition at line 229 of file `fipa_acl.c`.

References `fipa_agent_identifier_s::addresses`, `fipa_agent_identifier_New()`, `fipa_agent_identifier_set_Copy()`, `fipa_url_sequence_Copy()`, `fipa_agent_identifier_s::name`, and `fipa_agent_identifier_s::resolvers`.

Referenced by `fipa_acl_message_Copy()`, `fipa_acl_Param_Copy()`, `fipa_agent_identifier_set_Copy()`, and `fipa_Reply()`.

16.14.2.8 `int` `fipa_agent_identifier_Destroy` (`fipa_agent_identifier_t * id`)

Definition at line 217 of file `fipa_acl.c`.

References `fipa_agent_identifier_s::addresses`, `fipa_agent_identifier_set_Destroy()`, `fipa_url_sequence_Destroy()`, `fipa_agent_identifier_s::name`, and `fipa_agent_identifier_s::resolvers`.

Referenced by `fipa_acl_message_Destroy()`, `fipa_acl_Param_Destroy()`, `fipa_agent_identifier_set_Destroy()`, and `MC_AclSetSender()`.

16.14.2.9 `fipa_agent_identifier_t*` `fipa_agent_identifier_New` (`void`)

Definition at line 209 of file `fipa_acl.c`.

Referenced by `fipa_agent_identifier_Copy()`, `fipa_envelope_ParseAgentIdentifier()`, `MC_AclAddReceiver()`, `MC_AclAddReplyTo()`, and `MC_AclSetSender()`.

16.14.2.10 `int` `fipa_agent_identifier_Parse` (`fipa_agent_identifier_p * aid`, `fipa_message_string_p message`)

Definition at line 985 of file `fipa_acl.c`.

References `CHECK_NULL`, `fipa_word_s::content`, `fipa_agent_identifier_set_Parse()`, `fipa_GetAtom()`, `fipa_url_sequence_Parse()`, `fipa_word_Destroy()`, `fipa_word_Parse()`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_message_string_s::parse`.

Referenced by `fipa_agent_identifier_set_Parse()`, and `fipa_message_parameter_Parse()`.

16.14.2.11 `int` `fipa_agent_identifier_set_Compose` (`dynstring_t * msg`, `fipa_agent_identifier_set_t * ids`)

Definition at line 1342 of file `fipa_acl.c`.

References `dynstring_Append()`, `fipa_agent_identifier_Compose()`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, and `fipa_agent_identifier_set_s::num`.

Referenced by `fipa_acl_Compose()`, and `fipa_agent_identifier_Compose()`.

16.14.2.12 **fipa_agent_identifier_set_t* fipa_agent_identifier_set_Copy (fipa_agent_identifier_set_t * src)**

Definition at line 188 of file fipa_acl.c.

References fipa_agent_identifier_Copy(), fipa_agent_identifier_set_New(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_agent_identifier_set_s::num, and fipa_agent_identifier_set_s::retain_order.

Referenced by fipa_acl_message_Copy(), fipa_acl_Param_Copy(), fipa_agent_identifier_Copy(), and fipa_Reply().

16.14.2.13 **int fipa_agent_identifier_set_Destroy (fipa_agent_identifier_set_t * idset)**

Definition at line 176 of file fipa_acl.c.

References fipa_agent_identifier_Destroy(), fipa_agent_identifier_set_s::fipa_agent_identifiers, and fipa_agent_identifier_set_s::num.

Referenced by fipa_acl_message_Destroy(), fipa_acl_Param_Destroy(), and fipa_agent_identifier_Destroy().

16.14.2.14 **fipa_agent_identifier_set_t* fipa_agent_identifier_set_New (void)**

Definition at line 168 of file fipa_acl.c.

Referenced by fipa_agent_identifier_set_Copy(), fipa_envelope_HandleIntendedReceiver(), fipa_envelope_HandleTo(), fipa_Reply(), MC_AclAddReceiver(), and MC_AclAddReplyTo().

16.14.2.15 **int fipa_agent_identifier_set_Parse (fipa_agent_identifier_set_p * agent_ids, fipa_message_string_p message)**

Definition at line 1144 of file fipa_acl.c.

References fipa_word_s::content, fipa_agent_identifier_Parse(), fipa_GetAtom(), fipa_word_Parse(), MC_ERR_PARSE, MC_SUCCESS, and fipa_agent_identifier_set_s::retain_order.

Referenced by fipa_agent_identifier_Parse(), and fipa_message_parameter_Parse().

16.14.2.16 **int fipa_CheckNextToken (const fipa_message_string_p message, const char * token)**

Definition at line 647 of file fipa_acl.c.

References fipa_message_string_s::parse.

Referenced by fipa_expression_Parse().

16.14.2.17 **int fipa_DateTime_Compose (dynstring_t * msg, fipa_DateTime_t * date)**

Definition at line 1428 of file fipa_acl.c.

References buf, fipa_DateTime_s::day, dynstring_Append(), fipa_DateTime_s::hour, fipa_DateTime_s::millisecond, fipa_DateTime_s::minute, fipa_DateTime_s::month, fipa_DateTime_s::second, fipa_DateTime_s::sign, and fipa_DateTime_s::year.

Referenced by fipa_acl_Compose(), and fipa_expression_Compose().

16.14.2.18 fipa_DateTime_t* fipa_DateTime_Copy (fipa_DateTime_t * src)

Definition at line 392 of file fipa_acl.c.

References fipa_DateTime_New().

Referenced by fipa_acl_envelope_Received_Copy(), fipa_acl_message_Copy(), fipa_acl_Param_Copy(), and fipa_expression_Copy().

16.14.2.19 int fipa_DateTime_Destroy (fipa_DateTime_t * dt)

Definition at line 385 of file fipa_acl.c.

Referenced by fipa_acl_envelope_Received_Destroy(), fipa_acl_message_Destroy(), fipa_acl_Param_Destroy(), and fipa_expression_Destroy().

16.14.2.20 fipa_DateTime_t* fipa_DateTime_New (void)

Definition at line 377 of file fipa_acl.c.

Referenced by fipa_DateTime_Copy().

16.14.2.21 int fipa_datetime_Parse (fipa_DateTime_p * datetime, fipa_message_string_p message)

Definition at line 802 of file fipa_acl.c.

References buf, fipa_GetWholeToken(), MC_ERR_PARSE, MC_SUCCESS, fipa_message_string_s::parse, and fipa_DateTime_s::sign.

Referenced by fipa_envelope_HandleDate(), fipa_envelope_HandleReceived(), fipa_expression_Parse(), and fipa_message_parameter_Parse().

16.14.2.22 int fipa_expression_Compose (dynstring_t * msg, fipa_expression_t * expr)

Definition at line 1381 of file fipa_acl.c.

References fipa_expression_s::content, fipa_expression_s::content_u::datetime, fipa_expression_s::content_u::expression, fipa_DateTime_Compose(), FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION, FIPA_EXPR_NUMBER, FIPA_EXPR_STRING, FIPA_EXPR_WORD, fipa_expression_Compose(), fipa_number_Compose(), fipa_string_Compose(), fipa_word_Compose(), MC_ERR_PARSE, fipa_expression_s::content_u::number, fipa_expression_s::content_u::string, fipa_expression_s::type, and fipa_expression_s::content_u::word.

Referenced by fipa_acl_Compose(), and fipa_expression_Compose().

16.14.2.23 fipa_expression_t* fipa_expression_Copy (fipa_expression_t * src)

Definition at line 280 of file fipa_acl.c.

References fipa_expression_s::content, fipa_expression_s::content_u::datetime, fipa_expression_s::content_u::expression, fipa_DateTime_Copy(), FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION, FIPA_EXPR_NUMBER, FIPA_EXPR_STRING, FIPA_EXPR_WORD, fipa_expression_Copy(), fipa_expression_Destroy(), fipa_expression_New(), fipa_number_Copy(), fipa_string_Copy(), fipa_word_Copy(), fipa_expression_s::content_u::number, fipa_expression_s::content_u::string, fipa_expression_s::type, and fipa_expression_s::content_u::word.

Referenced by `fipa_acl_message_Copy()`, and `fipa_expression_Copy()`.

16.14.2.24 `int fipa_expression_Destroy (fipa_expression_t * expr)`

Definition at line 249 of file `fipa_acl.c`.

References `fipa_expression_s::content`, `fipa_expression_s::content_u::datetime`, `fipa_expression_s::content_u::expression`, `fipa_DateTime_Destroy()`, `FIPA_EXPR_DATETIME`, `FIPA_EXPR_EXPRESSION`, `FIPA_EXPR_NUMBER`, `FIPA_EXPR_STRING`, `FIPA_EXPR_WORD`, `fipa_expression_Destroy()`, `fipa_number_Destroy()`, `fipa_string_Destroy()`, `fipa_word_Destroy()`, `FREEMEM`, `fipa_expression_s::content_u::number`, `fipa_expression_s::content_u::string`, `fipa_expression_s::type`, and `fipa_expression_s::content_u::word`.

Referenced by `fipa_acl_message_Destroy()`, `fipa_expression_Copy()`, and `fipa_expression_Destroy()`.

16.14.2.25 `fipa_expression_t* fipa_expression_New (void)`

Definition at line 241 of file `fipa_acl.c`.

Referenced by `fipa_expression_Copy()`.

16.14.2.26 `int fipa_expression_Parse (fipa_expression_t ** expression, fipa_message_string_p message)`

Definition at line 666 of file `fipa_acl.c`.

References `fipa_CheckNextToken()`, `fipa_datetime_Parse()`, `FIPA_EXPR_DATETIME`, `FIPA_EXPR_EXPRESSION`, `FIPA_EXPR_STRING`, `FIPA_EXPR_WORD`, `fipa_expression_Parse()`, `fipa_GetAtom()`, `fipa_string_Parse()`, `fipa_word_Parse()`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_expression_s::type`.

Referenced by `fipa_expression_Parse()`, and `fipa_message_parameter_Parse()`.

16.14.2.27 `int fipa_GetAtom (fipa_message_string_p message, char expected_atom)`

Definition at line 582 of file `fipa_acl.c`.

References `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_message_string_s::parse`.

Referenced by `fipa_acl_Parse()`, `fipa_agent_identifier_Parse()`, `fipa_agent_identifier_set_Parse()`, `fipa_expression_Parse()`, `fipa_message_parameter_Parse()`, `fipa_string_Parse()`, and `fipa_url_sequence_Parse()`.

16.14.2.28 `int fipa_GetNextWord (char ** word, const fipa_message_string_p message)`

Definition at line 717 of file `fipa_acl.c`.

References `ERR`, `MC_SUCCESS`, and `fipa_message_string_s::parse`.

16.14.2.29 `int fipa_GetWholeToken (char ** word, fipa_message_string_p message)`

Definition at line 765 of file `fipa_acl.c`.

References `MC_SUCCESS`, and `fipa_message_string_s::parse`.

Referenced by `fipa_datetime_Parse()`.

16.14.2.30 `int fipa_message_parameter_Parse (fipa_acl_message_p acl, fipa_message_string_p message)`

Definition at line 478 of file fipa_acl.c.

References `fipa_acl_message_s::content`, `fipa_word_s::content`, `fipa_acl_message_s::conversation_id`, `fipa_acl_message_s::encoding`, `fipa_agent_identifier_Parse()`, `fipa_agent_identifier_set_Parse()`, `fipa_datetime_Parse()`, `fipa_expression_Parse()`, `fipa_GetAtom()`, `fipa_string_Parse()`, `fipa_word_Destroy()`, `fipa_word_Parse()`, `fipa_acl_message_s::in_reply_to`, `fipa_acl_message_s::language`, `MC_ERR_PARSE`, `fipa_acl_message_s::ontology`, `fipa_acl_message_s::protocol`, `fipa_acl_message_s::receiver`, `fipa_acl_message_s::reply_by`, `fipa_acl_message_s::reply_to`, `fipa_acl_message_s::reply_with`, and `fipa_acl_message_s::sender`.

Referenced by `fipa_acl_Parse()`.

16.14.2.31 `fipa_message_string_t* fipa_message_string_Copy (fipa_message_string_t * src)`

Definition at line 122 of file fipa_acl.c.

References `fipa_message_string_s::message`, and `fipa_message_string_s::parse`.

16.14.2.32 `int fipa_message_string_Destroy (fipa_message_string_t * message)`

Definition at line 112 of file fipa_acl.c.

References `fipa_message_string_s::message`.

Referenced by `acc_Thread()`.

16.14.2.33 `fipa_message_string_t* fipa_message_string_New (void)`

Definition at line 104 of file fipa_acl.c.

Referenced by `acc_Thread()`.

16.14.2.34 `int fipa_message_type_Parse (enum fipa_performative_e * performative, fipa_message_string_p message)`

Definition at line 520 of file fipa_acl.c.

References `fipa_word_s::content`, `FIPA_ACCEPT_PROPOSAL`, `FIPA_AGREE`, `FIPA_CALL_FOR_PROPOSAL`, `FIPA_CANCEL`, `FIPA_CONFIRM`, `FIPA_DISCONFIRM`, `FIPA_FAILURE`, `FIPA_INFORM`, `FIPA_INFORM_IF`, `FIPA_INFORM_REF`, `FIPA_NOT_UNDERSTOOD`, `FIPA_PROPOGATE`, `FIPA_PROPOSE`, `FIPA_PROXY`, `FIPA_QUERY_IF`, `FIPA_QUERY_REF`, `FIPA_REFUSE`, `FIPA_REJECT_PROPOSAL`, `FIPA_REQUEST`, `FIPA_REQUEST_WHEN`, `FIPA_REQUEST_WHENEVER`, `FIPA_SUBSCRIBE`, `fipa_word_Destroy()`, `fipa_word_Parse()`, and `MC_ERR_PARSE`.

Referenced by `fipa_acl_Parse()`.

16.14.2.35 `int fipa_number_Compose (dynstring_t * msg, fipa_number_t * number)`

Definition at line 1456 of file fipa_acl.c.

References `dynstring_Append()`, and `fipa_number_s::str`.

Referenced by `fipa_expression_Compose()`.

16.14.2.36 `fipa_number_t* fipa_number_Copy (fipa_number_t * src)`

Definition at line 448 of file `fipa_acl.c`.

References `fipa_number_New()`, and `fipa_number_s::str`.

Referenced by `fipa_expression_Copy()`.

16.14.2.37 `int fipa_number_Destroy (fipa_number_t * number)`

Definition at line 438 of file `fipa_acl.c`.

References `fipa_number_s::str`.

Referenced by `fipa_expression_Destroy()`.

16.14.2.38 `fipa_number_t* fipa_number_New (void)`

Definition at line 430 of file `fipa_acl.c`.

Referenced by `fipa_number_Copy()`.

16.14.2.39 `int fipa_performative_Compose (dynstring_t * msg, enum fipa_performative_e performative)`

Definition at line 1254 of file `fipa_acl.c`.

References `dynstring_Append()`, `FIPA_ACCEPT_PROPOSAL`, `FIPA_AGREE`, `FIPA_CALL_FOR_PROPOSAL`, `FIPA_CANCEL`, `FIPA_CONFIRM`, `FIPA_DISCONFIRM`, `FIPA_FAILURE`, `FIPA_INFORM`, `FIPA_INFORM_IF`, `FIPA_INFORM_REF`, `FIPA_NOT_UNDERSTOOD`, `FIPA_PROPOGATE`, `FIPA_PROPOSE`, `FIPA_PROXY`, `FIPA_QUERY_IF`, `FIPA_QUERY_REF`, `FIPA_REFUSE`, `FIPA_REJECT_PROPOSAL`, `FIPA_REQUEST`, `FIPA_REQUEST_WHEN`, `FIPA_REQUEST_WHENEVER`, `FIPA_SUBSCRIBE`, and `MC_ERR_PARSE`.

Referenced by `fipa_acl_Compose()`.

16.14.2.40 `struct fipa_acl_message_s* fipa_Reply (struct fipa_acl_message_s * acl) [read]`

Definition at line 1464 of file `fipa_acl.c`.

References `fipa_acl_message_New()`, `fipa_agent_identifier_Copy()`, `fipa_agent_identifier_set_Copy()`, `fipa_agent_identifier_set_New()`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `fipa_agent_identifier_set_s::num`, `fipa_acl_message_s::receiver`, `fipa_acl_message_s::reply_to`, `fipa_agent_identifier_set_s::retain_order`, and `fipa_acl_message_s::sender`.

Referenced by `MC_AclReply()`.

16.14.2.41 `int fipa_string_Compose (dynstring_t * msg, fipa_string_t * string)`

Definition at line 1419 of file `fipa_acl.c`.

References `fipa_string_s::content`, and `dynstring_Append()`.

Referenced by `fipa_acl_Compose()`, and `fipa_expression_Compose()`.

16.14.2.42 `fipa_string_t* fipa_string_Copy (fipa_string_t * src)`

Definition at line 367 of file `fipa_acl.c`.

References `fipa_string_s::content`, and `fipa_string_New()`.

Referenced by `fipa_acl_message_Copy()`, and `fipa_expression_Copy()`.

16.14.2.43 `int fipa_string_Destroy (fipa_string_t * str)`

Definition at line 357 of file `fipa_acl.c`.

References `fipa_string_s::content`.

Referenced by `fipa_acl_message_Destroy()`, `fipa_expression_Destroy()`, and `MC_AclSetContent()`.

16.14.2.44 `fipa_string_t* fipa_string_New (void)`

Definition at line 349 of file `fipa_acl.c`.

Referenced by `fipa_string_Copy()`, and `MC_AclSetContent()`.

16.14.2.45 `int fipa_string_Parse (fipa_string_p * fipa_string, fipa_message_string_p message)`

Definition at line 940 of file `fipa_acl.c`.

References `fipa_string_s::content`, `fipa_GetAtom()`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_message_string_s::parse`.

Referenced by `fipa_expression_Parse()`, and `fipa_message_parameter_Parse()`.

16.14.2.46 `int fipa_url_Compose (dynstring_t * msg, fipa_url_t * url)`

Definition at line 1448 of file `fipa_acl.c`.

References `dynstring_Append()`, and `fipa_url_s::str`.

Referenced by `fipa_url_sequence_Compose()`.

16.14.2.47 `fipa_url_t* fipa_url_Copy (fipa_url_t * src)`

Definition at line 420 of file `fipa_acl.c`.

References `fipa_url_New()`, and `fipa_url_s::str`.

Referenced by `fipa_acl_envelope_Received_Copy()`, and `fipa_url_sequence_Copy()`.

16.14.2.48 `int fipa_url_Destroy (fipa_url_t * url)`

Definition at line 410 of file `fipa_acl.c`.

References `fipa_url_s::str`.

Referenced by `fipa_acl_envelope_Received_Destroy()`, and `fipa_url_sequence_Destroy()`.

16.14.2.49 fipa_url_t* fipa_url_New (void)

Definition at line 402 of file fipa_acl.c.

Referenced by fipa_envelope_HandleReceived(), fipa_envelope_ParseAddresses(), fipa_url_Copy(), MC_AclAddReceiver(), MC_AclAddReplyTo(), and MC_AclSetSender().

16.14.2.50 int fipa_url_Parse (fipa_url_p * url, fipa_message_string_p message)

Definition at line 1124 of file fipa_acl.c.

References fipa_word_s::content, fipa_word_Destroy(), and fipa_word_Parse().

Referenced by fipa_url_sequence_Parse().

16.14.2.51 int fipa_url_sequence_Compose (dynstring_t * msg, fipa_url_sequence_t * urls)

Definition at line 1329 of file fipa_acl.c.

References dynstring_Append(), fipa_url_Compose(), fipa_url_sequence_s::num, and fipa_url_sequence_s::urls.

Referenced by fipa_agent_identifier_Compose().

16.14.2.52 fipa_url_sequence_t* fipa_url_sequence_Copy (fipa_url_sequence_t * src)

Definition at line 152 of file fipa_acl.c.

References fipa_url_Copy(), fipa_url_sequence_New(), fipa_url_sequence_s::num, and fipa_url_sequence_s::urls.

Referenced by fipa_agent_identifier_Copy().

16.14.2.53 int fipa_url_sequence_Destroy (fipa_url_sequence_t * sequence)

Definition at line 140 of file fipa_acl.c.

References fipa_url_Destroy(), fipa_url_sequence_s::num, and fipa_url_sequence_s::urls.

Referenced by fipa_agent_identifier_Destroy().

16.14.2.54 fipa_url_sequence_t* fipa_url_sequence_New (void)

Definition at line 132 of file fipa_acl.c.

Referenced by fipa_url_sequence_Copy(), fipa_url_sequence_Parse(), MC_AclAddReceiver(), MC_AclAddReplyTo(), and MC_AclSetSender().

16.14.2.55 int fipa_url_sequence_Parse (fipa_url_sequence_p * urls, fipa_message_string_p message)

Definition at line 1092 of file fipa_acl.c.

References fipa_word_s::content, fipa_GetAtom(), fipa_url_Parse(), fipa_url_sequence_New(), fipa_word_Destroy(), fipa_word_Parse(), and MC_ERR_PARSE.

Referenced by `fipa_agent_identifier_Parse()`.

16.14.2.56 `int fipa_word_Compose (dynstring_t * msg, fipa_word_t * word)`

Definition at line 1411 of file `fipa_acl.c`.

References `fipa_word_s::content`, and `dynstring_Append()`.

Referenced by `fipa_acl_Compose()`, and `fipa_expression_Compose()`.

16.14.2.57 `fipa_word_t* fipa_word_Copy (fipa_word_t * src)`

Definition at line 339 of file `fipa_acl.c`.

References `fipa_word_s::content`, and `fipa_word_New()`.

Referenced by `fipa_acl_message_Copy()`, and `fipa_expression_Copy()`.

16.14.2.58 `int fipa_word_Destroy (fipa_word_t * word)`

Definition at line 329 of file `fipa_acl.c`.

References `fipa_word_s::content`.

Referenced by `fipa_acl_message_Destroy()`, `fipa_agent_identifier_Parse()`, `fipa_expression_Destroy()`, `fipa_message_parameter_Parse()`, `fipa_message_type_Parse()`, `fipa_url_Parse()`, and `fipa_url_sequence_Parse()`.

16.14.2.59 `fipa_word_t* fipa_word_New (void)`

Definition at line 321 of file `fipa_acl.c`.

Referenced by `fipa_word_Copy()`.

16.14.2.60 `int fipa_word_Parse (fipa_word_t ** word, fipa_message_string_p message)`

Definition at line 605 of file `fipa_acl.c`.

References `CHECK_NULL`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_message_string_s::parse`.

Referenced by `fipa_agent_identifier_Parse()`, `fipa_agent_identifier_set_Parse()`, `fipa_expression_Parse()`, `fipa_message_parameter_Parse()`, `fipa_message_type_Parse()`, `fipa_url_Parse()`, and `fipa_url_sequence_Parse()`.

16.15 /home/dko/projects/mobilec/trunk/src/fipa_envelope.c File Reference

```
#include <stdio.h>
#include <mxml.h>
#include <time.h>
#include "include/fipa_acl_envelope.h"
#include "include/mc_error.h"
#include "include/mc_platform.h"
```

Functions

- [fipa_acl_envelope_Received_t * fipa_acl_envelope_Received_New](#) (void)
- [int fipa_acl_envelope_Received_Destroy](#) (fipa_acl_envelope_Received_t *received)
- [fipa_acl_envelope_Received_t * fipa_acl_envelope_Received_Copy](#) (fipa_acl_envelope_Received_t *received)
- [fipa_acl_Param_t * fipa_acl_Param_New](#) (void)
- [int fipa_acl_Param_Destroy](#) (fipa_acl_Param_t *param)
- [fipa_acl_Param_t * fipa_acl_Param_Copy](#) (fipa_acl_Param_t *param)
- [fipa_acl_envelope_t * fipa_acl_envelope_New](#) (void)
- [int fipa_acl_envelope_Destroy](#) (fipa_acl_envelope_t *envelope)
- [fipa_acl_envelope_t * fipa_acl_envelope_Copy](#) (fipa_acl_envelope_t *envelope)
- [int fipa_envelope_Parse](#) (struct fipa_acl_envelope_s *envelope, const char *message)
- [int fipa_envelope_HandleEnvelope](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *node)
- [int fipa_envelope_HandleParams](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *node)
- [int fipa_envelope_HandleTo](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandleFrom](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandleComments](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandleAclRepresentation](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandlePayloadLength](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandlePayloadEncoding](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandleDate](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandleIntendedReceiver](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_HandleReceived](#) (struct fipa_acl_envelope_s *envelope, mxml_node_t *param_node, int cur_param)
- [int fipa_envelope_ParseAgentIdentifier](#) (struct fipa_agent_identifier_s **aid, mxml_node_t *agent_node)
- [int fipa_envelope_ParseAddresses](#) (struct fipa_agent_identifier_s *aid, mxml_node_t *addresses_node)

- `int fipa_envelope_ParseResolvers` (struct `fipa_agent_identifier_s` *aid, `mxml_node_t` *resolvers_node)
- `char * fipa_envelope_Compose` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__envelope` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__params` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__to` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__from` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__acl_representation` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__payload_encoding` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__date` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__intended_receiver` (`fipa_acl_message_t` *fipa_acl)

16.15.1 Function Documentation

16.15.1.1 `fipa_acl_envelope_t* fipa_acl_envelope_Copy` (`fipa_acl_envelope_t` * *envelope*)

Definition at line 145 of file `fipa_envelope.c`.

References `fipa_acl_envelope_New()`, `fipa_acl_Param_Copy()`, `fipa_acl_envelope_s::num_params`, and `fipa_acl_envelope_s::params`.

16.15.1.2 `int fipa_acl_envelope_Destroy` (`fipa_acl_envelope_t` * *envelope*)

Definition at line 132 of file `fipa_envelope.c`.

References `fipa_acl_Param_Destroy()`, `fipa_acl_envelope_s::num_params`, and `fipa_acl_envelope_s::params`.

Referenced by `acc_Thread()`.

16.15.1.3 `fipa_acl_envelope_t* fipa_acl_envelope_New` (`void`)

Definition at line 124 of file `fipa_envelope.c`.

Referenced by `acc_Thread()`, and `fipa_acl_envelope_Copy()`.

16.15.1.4 `fipa_acl_envelope_Received_t* fipa_acl_envelope_Received_Copy` (`fipa_acl_envelope_Received_t` * *received*)

Definition at line 64 of file `fipa_envelope.c`.

References `fipa_acl_envelope_Received_New()`, `fipa_DateTime_Copy()`, `fipa_url_Copy()`, `fipa_acl_envelope_Received_s::received_by`, `fipa_acl_envelope_Received_s::received_date`, `fipa_acl_envelope_Received_s::received_from`, `fipa_acl_envelope_Received_s::received_id`, and `fipa_acl_envelope_Received_s::received_via`.

Referenced by `fipa_acl_Param_Copy()`.

16.15.1.5 `int fipa_acl_envelope_Received_Destroy` (`fipa_acl_envelope_Received_t` * *received*)

Definition at line 52 of file `fipa_envelope.c`.

References `fipa_DateTime_Destroy()`, `fipa_url_Destroy()`, `fipa_acl_envelope_Received_s::received_by`, `fipa_acl_envelope_Received_s::received_date`, `fipa_acl_envelope_Received_s::received_from`, `fipa_acl_envelope_Received_s::received_id`, and `fipa_acl_envelope_Received_s::received_via`.

Referenced by `fipa_acl_Param_Destroy()`.

16.15.1.6 `fipa_acl_envelope_Received_t* fipa_acl_envelope_Received_New (void)`

Definition at line 43 of file `fipa_envelope.c`.

Referenced by `fipa_acl_envelope_Received_Copy()`, and `fipa_envelope_HandleReceived()`.

16.15.1.7 `fipa_acl_Param_t* fipa_acl_Param_Copy (fipa_acl_Param_t * param)`

Definition at line 105 of file `fipa_envelope.c`.

References `fipa_acl_Param_s::acl_representation`, `fipa_acl_Param_s::comments`, `fipa_acl_Param_s::date`, `fipa_acl_envelope_Received_Copy()`, `fipa_acl_Param_New()`, `fipa_agent_identifier_Copy()`, `fipa_agent_identifier_set_Copy()`, `fipa_DateTime_Copy()`, `fipa_acl_Param_s::from`, `fipa_acl_Param_s::intended_receiver`, `fipa_acl_Param_s::payload_encoding`, `fipa_acl_Param_s::payload_length`, `fipa_acl_Param_s::received`, and `fipa_acl_Param_s::to`.

Referenced by `fipa_acl_envelope_Copy()`.

16.15.1.8 `int fipa_acl_Param_Destroy (fipa_acl_Param_t * param)`

Definition at line 88 of file `fipa_envelope.c`.

References `fipa_acl_Param_s::acl_representation`, `fipa_acl_Param_s::comments`, `fipa_acl_Param_s::date`, `fipa_acl_envelope_Received_Destroy()`, `fipa_agent_identifier_Destroy()`, `fipa_agent_identifier_set_Destroy()`, `fipa_DateTime_Destroy()`, `fipa_acl_Param_s::from`, `fipa_acl_Param_s::intended_receiver`, `fipa_acl_Param_s::payload_encoding`, `fipa_acl_Param_s::payload_length`, `fipa_acl_Param_s::received`, and `fipa_acl_Param_s::to`.

Referenced by `fipa_acl_envelope_Destroy()`.

16.15.1.9 `fipa_acl_Param_t* fipa_acl_Param_New (void)`

Definition at line 80 of file `fipa_envelope.c`.

Referenced by `fipa_acl_Param_Copy()`, and `fipa_envelope_HandleTo()`.

16.15.1.10 `char* fipa_envelope_Compose (fipa_acl_message_t * fipa_acl)`

Definition at line 864 of file `fipa_envelope.c`.

References `fipa_envelope_Compose__envelope()`, `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `MXML_NO_CALLBACK`, `mxmlAdd()`, `mxmlDelete()`, `mxmlLoadString()`, `mxmlSaveAllocString()`, and `node`.

Referenced by `MC_AclSend()`.

16.15.1.11 mxml_node_t* fipa_envelope_Compose__acl_representation (fipa_acl_message_t * fipa_acl)

Definition at line 1081 of file fipa_envelope.c.

References mxmlNewElement(), mxmlNewText(), and node.

Referenced by fipa_envelope_Compose__params().

16.15.1.12 mxml_node_t* fipa_envelope_Compose__date (fipa_acl_message_t * fipa_acl)

Definition at line 1109 of file fipa_envelope.c.

References buf, mxmlNewElement(), mxmlNewText(), and node.

Referenced by fipa_envelope_Compose__params().

16.15.1.13 mxml_node_t* fipa_envelope_Compose__envelope (fipa_acl_message_t * fipa_acl)

Definition at line 889 of file fipa_envelope.c.

References fipa_envelope_Compose__params(), MXML_ADD_AFTER, MXML_ADD_TO_PARENT, mxmlAdd(), mxmlNewElement(), and node.

Referenced by fipa_envelope_Compose().

16.15.1.14 mxml_node_t* fipa_envelope_Compose__from (fipa_acl_message_t * fipa_acl)

Definition at line 1016 of file fipa_envelope.c.

References fipa_agent_identifier_s::addresses, buf, dynstring_Append(), dynstring_Destroy(), dynstring_New(), g_mc_platform, mc_platform_s::hostname, dynstring_s::message, mxmlNewElement(), mxmlNewText(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, mc_platform_s::port, and fipa_acl_message_s::sender.

Referenced by fipa_envelope_Compose__params().

16.15.1.15 mxml_node_t* fipa_envelope_Compose__intended_receiver (fipa_acl_message_t * fipa_acl)

Definition at line 1138 of file fipa_envelope.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_set_s::fipa_agent_identifiers, mxmlNewElement(), mxmlNewText(), fipa_agent_identifier_s::name, node, fipa_url_sequence_s::num, fipa_acl_message_s::receiver, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by fipa_envelope_Compose__params().

16.15.1.16 mxml_node_t* fipa_envelope_Compose__params (fipa_acl_message_t * fipa_acl)

Definition at line 909 of file fipa_envelope.c.

References fipa_envelope_Compose__acl_representation(), fipa_envelope_Compose__date(), fipa_envelope_Compose__from(), fipa_envelope_Compose__intended_receiver(), fipa_envelope_Compose__payload_encoding(), fipa_envelope_Compose__to(), MXML_ADD_AFTER, MXML_ADD_TO_PARENT, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), and node.

Referenced by `fipa_envelope_Compose__envelope()`.

16.15.1.17 `mxml_node_t* fipa_envelope_Compose__payload_encoding (fipa_acl_message_t * fipa_acl)`

Definition at line 1095 of file `fipa_envelope.c`.

References `mxmlNewElement()`, `mxmlNewText()`, and `node`.

Referenced by `fipa_envelope_Compose__params()`.

16.15.1.18 `mxml_node_t* fipa_envelope_Compose__to (fipa_acl_message_t * fipa_acl)`

Definition at line 970 of file `fipa_envelope.c`.

References `fipa_agent_identifier_s::addresses`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `mxmlNewElement()`, `mxmlNewText()`, `fipa_agent_identifier_s::name`, `node`, `fipa_url_sequence_s::num`, `fipa_agent_identifier_set_s::num`, `fipa_acl_message_s::receiver`, `fipa_url_s::str`, and `fipa_url_sequence_s::urls`.

Referenced by `fipa_envelope_Compose__params()`.

16.15.1.19 `int fipa_envelope_HandleAclRepresentation (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 376 of file `fipa_envelope.c`.

References `fipa_acl_Param_s::acl_representation`, `mxml_node_s::child`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.15.1.20 `int fipa_envelope_HandleComments (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 352 of file `fipa_envelope.c`.

References `mxml_node_s::child`, `fipa_acl_Param_s::comments`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.15.1.21 `int fipa_envelope_HandleDate (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 447 of file `fipa_envelope.c`.

References `mxml_node_s::child`, `fipa_acl_Param_s::date`, `fipa_datetime_Parse()`, `MC_ERR_PARSE`, `fipa_message_string_s::message`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `fipa_message_string_s::parse`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.15.1.22 `int fipa_envelope_HandleEnvelope (struct fipa_acl_envelope_s * envelope, mxml_node_t * node)`

Definition at line 173 of file fipa_envelope.c.

References `fipa_envelope_HandleParams()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, and `mxmlFindElement()`.

Referenced by `fipa_envelope_Parse()`.

16.15.1.23 `int fipa_envelope_HandleFrom (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 323 of file fipa_envelope.c.

References `fipa_envelope_ParseAgentIdentifier()`, `fipa_acl_Param_s::from`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `mxmlFindElement()`, and `fipa_acl_envelope_s::params`.

Referenced by `fipa_envelope_HandleParams()`.

16.15.1.24 `int fipa_envelope_HandleIntendedReceiver (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 477 of file fipa_envelope.c.

References `fipa_agent_identifier_set_New()`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `fipa_envelope_ParseAgentIdentifier()`, `fipa_acl_Param_s::intended_receiver`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_NO_DESCEND`, `mxmlFindElement()`, `fipa_agent_identifier_set_s::num`, `fipa_acl_envelope_s::params`, and `fipa_agent_identifier_set_s::retain_order`.

Referenced by `fipa_envelope_HandleParams()`.

16.15.1.25 `int fipa_envelope_HandleParams (struct fipa_acl_envelope_s * envelope, mxml_node_t * node)`

Definition at line 193 of file fipa_envelope.c.

References `buf`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandleFrom()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_HandleReceived()`, `fipa_envelope_HandleTo()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `mxmlFindElement()`, `fipa_acl_envelope_s::num_params`, and `fipa_acl_envelope_s::params`.

Referenced by `fipa_envelope_HandleEnvelope()`.

16.15.1.26 `int fipa_envelope_HandlePayloadEncoding (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 423 of file fipa_envelope.c.

References `mxml_node_s::child`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `fipa_acl_Param_s::payload_encoding`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.15.1.27 int fipa_envelope_HandlePayloadLength (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)

Definition at line 400 of file fipa_envelope.c.

References mxml_node_s::child, MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_TEXT, mxmlFindElement(), fipa_acl_envelope_s::params, fipa_acl_Param_s::payload_length, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, and mxml_node_s::value.

Referenced by fipa_envelope_HandleParams().

16.15.1.28 int fipa_envelope_HandleReceived (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)

Definition at line 555 of file fipa_envelope.c.

References fipa_acl_envelope_Received_New(), fipa_datetime_Parse(), fipa_url_New(), MC_ERR_PARSE, fipa_message_string_s::message, MXML_DESCEND_FIRST, mxmlElementGetAttr(), mxmlFindElement(), node, fipa_acl_envelope_s::params, fipa_message_string_s::parse, fipa_acl_Param_s::received, fipa_acl_envelope_Received_s::received_by, fipa_acl_envelope_Received_s::received_date, fipa_acl_envelope_Received_s::received_from, fipa_acl_envelope_Received_s::received_id, fipa_acl_envelope_Received_s::received_via, and fipa_url_s::str.

Referenced by fipa_envelope_HandleParams().

16.15.1.29 int fipa_envelope_HandleTo (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)

Definition at line 245 of file fipa_envelope.c.

References fipa_acl_Param_New(), fipa_agent_identifier_set_New(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_envelope_ParseAgentIdentifier(), MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_NO_DESCEND, mxmlFindElement(), fipa_agent_identifier_set_s::num, fipa_acl_envelope_s::params, fipa_agent_identifier_set_s::retain_order, and fipa_acl_Param_s::to.

Referenced by fipa_envelope_HandleParams().

16.15.1.30 int fipa_envelope_Parse (struct fipa_acl_envelope_s * envelope, const char * message)

Definition at line 160 of file fipa_envelope.c.

References fipa_envelope_HandleEnvelope(), MXML_NO_CALLBACK, mxmlDelete(), and mxmlLoadString().

Referenced by acc_Thread().

16.15.1.31 int fipa_envelope_ParseAddresses (struct fipa_agent_identifier_s * aid, mxml_node_t * addresses_node)

Definition at line 732 of file fipa_envelope.c.

References fipa_agent_identifier_s::addresses, mxml_node_s::child, fipa_url_New(), MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_NO_DESCEND, MXML_TEXT, mxmlFindElement(), fipa_url_sequence_s::num, fipa_url_s::str, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, fipa_url_sequence_s::urls, and mxml_node_s::value.

Referenced by `fipa_envelope_ParseAgentIdentifier()`.

16.15.1.32 `int fipa_envelope_ParseAgentIdentifier (struct fipa_agent_identifier_s ** aid, mxml_node_t * agent_identifier_node)`

Definition at line 682 of file `fipa_envelope.c`.

References `mxml_node_s::child`, `fipa_agent_identifier_New()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseResolvers()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleFrom()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleTo()`, and `fipa_envelope_ParseResolvers()`.

16.15.1.33 `int fipa_envelope_ParseResolvers (struct fipa_agent_identifier_s * aid, mxml_node_t * resolvers_node)`

Definition at line 799 of file `fipa_envelope.c`.

References `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `fipa_envelope_ParseAgentIdentifier()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_NO_DESCEND`, `mxmlFindElement()`, `fipa_agent_identifier_set_s::num`, `fipa_agent_identifier_s::resolvers`, and `fipa_agent_identifier_set_s::retain_order`.

Referenced by `fipa_envelope_ParseAgentIdentifier()`.

16.16 /home/dko/projects/mobilec/trunk/src/include/acc.h File Reference

```
#include <sys/socket.h>
#include "macros.h"
```

Functions

- **STRUCT** (acc, struct [mc_platform_s](#) *[mc_platform](#); [THREAD_T](#) [thread](#); [THREAD_T](#) [message_handler_thread](#); [THREAD_T](#) [listen_thread](#); [int](#) [waiting](#); [MUTEX_T](#) *[waiting_lock](#); [COND_T](#) *[waiting_cond](#);) [STRUCT](#)([listen_thread_arg](#)
- [acc_p](#) [acc_Initialize](#) (struct [mc_platform_s](#) *[mc_platform](#))
- [int](#) [acc_Destroy](#) ([acc_p](#) [acc](#))
- [void](#) [acc_Start](#) (struct [mc_platform_s](#) *[mc_platform](#))
- [void](#) * [acc_MessageHandlerThread](#) ([void](#) *[arg](#))
- [void](#) * [acc_Thread](#) ([void](#) *[arg](#))
- [void](#) * [listen_Thread](#) ([void](#) *[arg](#))

Variables

- [u_long](#) [port](#)
- struct [sockaddr_in](#) * [addr](#)
- unsigned long [int](#) [client_fd](#)
- unsigned long [int](#) [server_fd](#)

16.16.1 Function Documentation

16.16.1.1 [int](#) [acc_Destroy](#) ([acc_p](#) [acc](#))

Definition at line 82 of file [acc.c](#).

References [MC_SUCCESS](#).

Referenced by [mc_platform_Destroy](#)() .

16.16.1.2 [acc_p](#) [acc_Initialize](#) (struct [mc_platform_s](#) * [mc_platform](#))

Definition at line 66 of file [acc.c](#).

References [COND_INIT](#), [COND_T](#), [MUTEX_INIT](#), and [MUTEX_T](#).

Referenced by [mc_platform_Initialize](#)() .

16.16.1.3 [void](#)* [acc_MessageHandlerThread](#) ([void](#) * [arg](#))

Definition at line 94 of file [acc.c](#).

References `agent_Initialize()`, `mc_platform_s::agent_queue`, `agent_s::agent_status`, `AGENT_UPDATE`, `mc_platform_s::ams`, `mc_platform_s::asm_message_queue`, `CANCEL`, `COND_BROADCAST`, `COND_SIGNAL`, `COND_WAIT`, `agent_s::datastate`, `ENCRYPTED_DATA`, `ENCRYPTION_INITIALIZE`, `FIPA_ACL`, `message_s::from_address`, `mc_platform_s::giant`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `agent_s::lock`, `MC_AGENT_NEUTRAL`, `mc_platform`, `MC_RECV_AGENT`, `MC_RECV_MESSAGE`, `MC_RECV_RETURN`, `mc_platform_s::MC_signal`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `message_Destroy()`, `mc_platform_s::message_queue`, `message_Send()`, `message_s::message_type`, `MOBILE_AGENT`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `N_UNDRSTD`, `agent_s::name`, `agent_datastate_s::persistent`, `QUER_IF`, `QUER_REF`, `mc_platform_s::quit`, `mc_platform_s::quit_lock`, `RELAY`, `REQUEST`, `REQUEST_ENCRYPTION_INITIALIZE`, `RETURN_MSG`, `SUBSCRIBE`, `message_s::to_address`, and `WARN`.

Referenced by `acc_Start()`.

16.16.1.4 void acc_Start (struct mc_platform_s * mc_platform)

16.16.1.5 void* acc_Thread (void * arg)

Definition at line 329 of file `acc.c`.

References `agent_mailbox_Post()`, `mc_platform_s::agent_queue`, `AGENT_UPDATE`, `mc_platform_s::asm_message_queue`, `CANCEL`, `COND_BROADCAST`, `COND_WAIT`, `connection_Destroy()`, `mc_platform_s::connection_queue`, `mtp_http_s::content`, `mtp_http_content_s::data`, `ENCRYPTED_DATA`, `ENCRYPTION_INITIALIZE`, `FIPA_ACL`, `fipa_acl_envelope_Destroy()`, `fipa_acl_envelope_New()`, `fipa_acl_message_Destroy()`, `fipa_acl_message_New()`, `fipa_acl_Parse()`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `fipa_envelope_Parse()`, `fipa_message_string_Destroy()`, `fipa_message_string_New()`, `mc_platform_s::giant`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `mtp_http_s::http_performative`, `HTTP_POST`, `HTTP_PUT`, `agent_s::mailbox`, `mc_platform`, `MC_RECV_CONNECTION`, `mc_platform_s::MC_signal`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `fipa_message_string_s::message`, `message_s::message_body`, `message_Destroy()`, `message_New()`, `mtp_http_s::message_parts`, `mc_platform_s::message_queue`, `message_s::message_type`, `message_xml_parse()`, `MOBILE_AGENT`, `mtp_http_Destroy()`, `mtp_http_InitializeFromConnection()`, `mtp_http_New()`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `MXML_NO_CALLBACK`, `mxmlLoadString()`, `N_UNDRSTD`, `fipa_agent_identifier_s::name`, `fipa_agent_identifier_set_s::num`, `fipa_acl_envelope_s::num_params`, `fipa_acl_envelope_s::params`, `fipa_message_string_s::parse`, `QUER_IF`, `QUER_REF`, `mc_platform_s::quit`, `mc_platform_s::quit_lock`, `RELAY`, `REQUEST`, `REQUEST_ENCRYPTION_INITIALIZE`, `RETURN_MSG`, `SUBSCRIBE`, `mtp_http_s::target`, `fipa_acl_Param_s::to`, `WARN`, and `message_s::xml_root`.

Referenced by `acc_Start()`.

16.16.1.6 void* listen_Thread (void * arg)

Definition at line 586 of file `acc.c`.

References `mc_platform_s::acc`, `BACKLOG`, `CHECK_NULL`, `COND_BROADCAST`, `mc_platform_s::connection_queue`, `mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, and `mc_platform_s::port`.

Referenced by `acc_Start()`.

16.16.1.7 **STRUCT** (`acc, struct mc_platform_s *mc_platform;THREAD_T thread;THREAD_T message_handler_thread;THREAD_T listen_thread;int waiting;MUTEX_T *waiting_lock;COND_T *waiting_cond;`)

16.16.2 Variable Documentation

16.16.2.1 `struct sockaddr_in* addr`

Definition at line 64 of file `acc.h`.

16.16.2.2 `unsigned long int client_fd`

Definition at line 65 of file `acc.h`.

Referenced by `main()`, and `ssl_test()`.

16.16.2.3 `u_long port`

Definition at line 63 of file `acc.h`.

Referenced by `MC_AclSend()`, `MC_SendAgentMigrationMessage_chdl()`, `MC_SendAgentMigrationMessageFile_chdl()`, `message_Send()`, and `message_xml_parse__message()`.

16.16.2.4 `unsigned long int server_fd`

Definition at line 66 of file `acc.h`.

Referenced by `main()`, and `ssl_test()`.

16.17 /home/dko/projects/mobilec/trunk/src/include/agent.h File Reference

```
#include "agent_datastate.h"
#include "agent_task.h"
#include "libmc.h"
#include "message.h"
#include "macros.h"
#include "data_structures.h"
#include "agent_mailbox.h"
```

Data Structures

- struct [agent_s](#)

Functions

- [int agent_AddPersistentVariable](#) ([agent_p](#) agent, [int](#) task_num, const char *var_name)
- [agent_p agent_New](#) (void)
- [agent_p agent_Copy](#) (const [agent_p](#) agent)
- [int agent_Destroy](#) ([agent_p](#) agent)
- [agent_p agent_Initialize](#) (struct [mc_platform_s](#) *mc_platform, [message_p](#) message, [int](#) id)
- void [agent_RunChScript](#) ([MCAgent_t](#) agent, struct [mc_platform_s](#) *global)
- void * [agent_RunChScriptThread](#) (void *agent)

16.17.1 Function Documentation

16.17.1.1 [int agent_AddPersistentVariable](#) ([agent_p](#) agent, [int](#) task_num, const char * var_name)

Definition at line 49 of file agent.c.

References [agent_s::agent_interp](#), [agent_task_s::agent_variable_list](#), [interpreter_variable_data_s::array_dim](#), [interpreter_variable_data_s::array_extent](#), [CH_DATATYPE_SIZE](#), [CHECK_NULL](#), [interpreter_variable_data_s::data](#), [interpreter_variable_data_s::data_type](#), [agent_s::datastate](#), [MC_ERR](#), [agent_s::name](#), [interpreter_variable_data_s::name](#), [interpreter_variable_data_s::size](#), [size](#), [agent_datastate_s::task_progress](#), and [agent_datastate_s::tasks](#).

16.17.1.2 [agent_p agent_Copy](#) (const [agent_p](#) agent)

Definition at line 131 of file agent.c.

References [agent_datastate_Copy\(\)](#), [agent_s::agent_interp](#), [agent_s::agent_persistent](#), [agent_s::agent_status](#), [agent_s::agent_thread](#), [agent_s::agent_type](#), [agent_s::arrival_time](#), [agent_s::datastate](#), [agent_s::home](#), [agent_s::home_port](#), [agent_s::id](#), [agent_s::lock](#), [MUTEX_INIT](#), [MUTEX_LOCK](#), [MUTEX_T](#), [agent_s::name](#), [agent_s::orphan](#), [agent_s::owner](#), [agent_s::return_data](#), and [agent_s::run_lock](#).

Referenced by [MC_CopyAgent\(\)](#).

16.17.1.3 int agent_Destroy (agent_p agent)

Definition at line 323 of file agent.c.

References agent_datastate_Destroy(), agent_s::agent_interp, agent_mailbox_Destroy(), agent_s::agent_status, agent_s::agent_thread, agent_s::datastate, agent_s::home, agent_s::lock, agent_s::mailbox, MC_AGENT_NEUTRAL, MC_SUCCESS, MUTEX_DESTROY, MUTEX_LOCK, agent_s::name, agent_s::owner, and agent_s::run_lock.

Referenced by agent_Initialize().

16.17.1.4 agent_p agent_Initialize (struct mc_platform_s * mc_platform, message_p message, int id)

Definition at line 216 of file agent.c.

References agent_datastate_New(), agent_Destroy(), agent_mailbox_New(), agent_s::agent_pipe_active, agent_s::agent_pipe_ready_to_read, agent_s::agent_ready_to_send, agent_s::agent_script_ready, agent_s::agent_status, agent_s::agent_thread, agent_s::agent_thread_id, agent_s::agent_type, message_s::agent_xml_flag, agent_xml_parse(), agent_s::arrival_time, agent_s::datastate, mc_platform_s::default_agentstatus, mc_platform_s::err, agent_s::id, agent_s::lock, agent_s::mailbox, MC_ERR_PARSE, agent_s::mc_platform, MC_REMOTE_AGENT, MC_RETURN_AGENT, MC_WAIT_CH, message_s::message_type, MOBILE_AGENT, MUTEX_DESTROY, MUTEX_INIT, MUTEX_T, agent_s::orphan, RETURN_MSG, agent_s::run_lock, agent_datastate_s::xml_agent_root, message_s::xml_payload, message_s::xml_root, and agent_datastate_s::xml_root.

Referenced by acc_MessageHandlerThread().

16.17.1.5 agent_p agent_New (void)

Definition at line 193 of file agent.c.

References agent_s::lock, MUTEX_INIT, MUTEX_NEW, and agent_s::run_lock.

Referenced by MC_ComposeAgent().

16.17.1.6 void agent_RunChScript (MCAGENT_t agent, struct mc_platform_s * global)**16.17.1.7 void* agent_RunChScriptThread (void * agent)**

Definition at line 399 of file agent.c.

References agent_s::agent_interp, mc_platform_s::ams, COND_SIGNAL, agent_s::datastate, agent_s::id, mc_platform_s::interp_options, interpreter_variable_data_Destroy(), interpreter_variable_data_Initialize(), interpreter_variable_data_InitializeFromAgent(), MC_AclAddReceiver_chdl(), MC_AclAddReplyTo_chdl(), MC_AclDestroy_chdl(), MC_AclNew_chdl(), MC_AclPost_chdl(), MC_AclReply_chdl(), MC_AclRetrieve_chdl(), MC_AclSend_chdl(), MC_AclSetContent_chdl(), MC_AclSetPerformative_chdl(), MC_AclSetSender_chdl(), MC_AclWaitRetrieve_chdl(), MC_AddAgent_chdl(), MC_AGENT_NEUTRAL, MC_AgentVariableRetrieve_chdl(), MC_AgentVariableSave_chdl(), MC_Barrier_chdl(), MC_BarrierDelete_chdl(), MC_BarrierInit_chdl(), MC_CallAgentFunc_chdl(), MC_ComposeAgent_chdl(), MC_CondBroadcast_chdl(), MC_CondReset_chdl(), MC_CondSignal_chdl(), MC_CondWait_chdl(), MC_DeleteAgent_chdl(), MC_DeregisterService_chdl(), MC_DestroyServiceSearchResult_chdl(), MC_End_chdl(), MC_EXEC_AGENT, MC_FindAgentByID_chdl(), MC_FindAgentByName_chdl(), MC_GetAgentID_chdl(), MC_GetAgentName_chdl(),

MC_GetAgentStatus_chdl(), MC_GetAgentXMLString_chdl(), MC_GetTimeOfDay_chdl(), MC_HaltAgency_chdl(), MC_MutexLock_chdl(), MC_MutexUnlock_chdl(), agent_s::mc_platform, mc_platform, MC_PrintAgentCode_chdl(), MC_RegisterService_chdl(), MC_ResumeAgency_chdl(), MC_RetrieveAgent_chdl(), MC_RetrieveAgentCode_chdl(), MC_RETURN_AGENT, MC_SaveData_chdl(), MC_SearchForService_chdl(), MC_SemaphorePost_chdl(), MC_SemaphoreWait_chdl(), MC_SendAgentMigrationMessage_chdl(), MC_SendAgentMigrationMessageFile_chdl(), MC_SendSteerCommand_chdl(), MC_SetAgentStatus_chdl(), MC_SetDefaultAgentStatus_chdl(), mc_platform_s::MC_signal, mc_platform_s::MC_signal_cond, mc_platform_s::MC_signal_lock, MC_SyncDelete_chdl(), MC_SyncInit_chdl(), MC_TerminateAgent_chdl(), MC_WAIT_FINISHED, MC_WAIT_MESSGSEND, MUTEX_LOCK, MUTEX_UNLOCK, agent_s::name, SIGNAL, and agent_datastate_s::task_progress.

Referenced by agent_RunChScript().

16.18 /home/dko/projects/mobilec/trunk/src/include/agent_datastate.h File Reference

```
#include <mxml.h>
#include "agent_task.h"
```

Data Structures

- struct [agent_datastate_s](#)

Typedefs

- typedef struct [agent_datastate_s](#) [agent_datastate_t](#)
- typedef [agent_datastate_t](#) * [agent_datastate_p](#)

Functions

- [agent_datastate_p agent_datastate_Copy](#) (const [agent_datastate_p](#) *datastate*)
- [agent_datastate_p agent_datastate_New](#) (void)
- [int agent_datastate_Destroy](#) ([agent_datastate_p](#) *agent_datastate*)

16.18.1 Typedef Documentation

16.18.1.1 typedef [agent_datastate_t](#)* [agent_datastate_p](#)

Definition at line 66 of file [agent_datastate.h](#).

16.18.1.2 typedef struct [agent_datastate_s](#) [agent_datastate_t](#)

16.18.2 Function Documentation

16.18.2.1 [agent_datastate_p agent_datastate_Copy](#) (const [agent_datastate_p](#) *datastate*)

Definition at line 41 of file [agent_datastate.c](#).

References [agent_datastate_s::agent_code](#), [agent_datastate_s::agent_code_ids](#), [agent_datastate_s::agent_codes](#), [agent_datastate_New\(\)](#), [agent_task_Copy\(\)](#), [agent_datastate_s::init_agent_status](#), [agent_datastate_s::number_of_tasks](#), [agent_datastate_s::persistent](#), [agent_datastate_s::return_data](#), [agent_datastate_s::task_progress](#), and [agent_datastate_s::tasks](#).

Referenced by [agent_Copy\(\)](#).

16.18.2.2 [int agent_datastate_Destroy](#) ([agent_datastate_p](#) *agent_datastate*)

Definition at line 129 of file [agent_datastate.c](#).

References [agent_datastate_s::agent_code_ids](#), [agent_datastate_s::agent_codes](#), [agent_task_Destroy\(\)](#), [MC_SUCCESS](#), [mxmlDelete\(\)](#), [agent_datastate_s::number_of_tasks](#), [agent_datastate_s::tasks](#), and [agent_datastate_s::xml_root](#).

Referenced by agent_Destroy().

16.18.2.3 agent_datastate_p agent_datastate_New (void)

Definition at line 109 of file agent_datastate.c.

References agent_datastate_s::agent_code, CHECK_NULL, agent_datastate_s::init_agent_status, agent_datastate_s::number_of_tasks, agent_datastate_s::persistent, agent_datastate_s::return_data, agent_datastate_s::task_progress, agent_datastate_s::tasks, agent_datastate_s::xml_agent_root, and agent_datastate_s::xml_root.

Referenced by agent_datastate_Copy(), agent_Initialize(), and MC_ComposeAgent().

16.19 /home/dko/projects/mobilec/trunk/src/include/agent_lib.h File Reference

Functions

- EXPORTCH int MC_AclDestroy_chdl (void *varg)
- EXPORTCH void * MC_AclNew_chdl (void *varg)
- EXPORTCH void * MC_AclPost_chdl (void *varg)
- EXPORTCH void * MC_AclReply_chdl (void *varg)
- EXPORTCH void * MC_AclRetrieve_chdl (void *varg)
- EXPORTCH int MC_AclSend_chdl (void *varg)
- EXPORTCH void * MC_AclWaitRetrieve_chdl (void *varg)
- EXPORTCH void * MC_AclSetPerformative_chdl (void *varg)
- EXPORTCH void * MC_AclSetSender_chdl (void *varg)
- EXPORTCH void * MC_AclAddReceiver_chdl (void *varg)
- EXPORTCH void * MC_AclAddReplyTo_chdl (void *varg)
- EXPORTCH void * MC_AclSetContent_chdl (void *varg)
- EXPORTCH int MC_AddAgent_chdl (void *varg)
- EXPORTCH const void * MC_AgentVariableRetrieve_chdl (void *varg)
- EXPORTCH int MC_AgentVariableSave_chdl (void *varg)
- EXPORTCH int MC_Barrier_chdl (void *varg)
- EXPORTCH int MC_BarrierDelete_chdl (void *varg)
- EXPORTCH int MC_BarrierInit_chdl (void *varg)
- EXPORTCH int MC_CallAgentFunc_chdl (void *varg)
- EXPORTCH int MC_ComposeAgent_chdl (void *varg)
- EXPORTCH int MC_CondBroadcast_chdl (void *varg)
- EXPORTCH int MC_CondWait_chdl (void *varg)
- EXPORTCH int MC_CondReset_chdl (void *varg)
- EXPORTCH int MC_CondSignal_chdl (void *varg)
- EXPORTCH int MC_DeleteAgent_chdl (void *varg)
- EXPORTCH int MC_DeregisterService_chdl (void *varg)
- EXPORTCH int MC_DestroyServiceSearchResult_chdl (void *varg)
- EXPORTCH int MC_End_chdl (void *varg)
- EXPORTCH MCAgent_t MC_FindAgentByID_chdl (void *varg)
- EXPORTCH MCAgent_t MC_FindAgentByName_chdl (void *varg)
- EXPORTCH int MC_GetAgentID_chdl (void *varg)
- EXPORTCH char * MC_GetAgentName_chdl (void *varg)
- EXPORTCH int MC_GetAgentNumTasks_chdl (void *varg)
- EXPORTCH char * MC_GetAgentXMLString_chdl (void *varg)
- EXPORTCH int MC_GetTimeOfDay_chdl (void *varg)
- EXPORTCH int MC_HaltAgency_chdl (void *varg)
- EXPORTCH int MC_PrintAgentCode_chdl (void *varg)
- EXPORTCH int MC_MutexLock_chdl (void *varg)
- EXPORTCH int MC_MutexUnlock_chdl (void *varg)
- EXPORTCH int MC_RegisterService_chdl (void *varg)
- EXPORTCH int MC_ResumeAgency_chdl (void *varg)
- EXPORTCH MCAgent_t MC_RetrieveAgent_chdl (void *varg)
- EXPORTCH char * MC_RetrieveAgentCode_chdl (void *varg)
- EXPORTCH char * MC_SearchForService_chdl (void *varg)
- EXPORTCH int MC_SemaphorePost_chdl (void *varg)

- EXPORTCH int MC_SemaphoreWait_chdl (void *varg)
- EXPORTCH int MC_SendSteerCommand_chdl (void *varg)
- EXPORTCH int MC_TerminateAgent_chdl (void *varg)
- EXPORTCH int MC_GetAgentStatus_chdl (void *varg)
- EXPORTCH int MC_SaveData_chdl (void *varg)
- EXPORTCH int MC_SendAgentMigrationMessage_chdl (void *varg)
- EXPORTCH int MC_SendAgentMigrationMessageFile_chdl (void *varg)
- EXPORTCH int MC_SetAgentStatus_chdl (void *varg)
- EXPORTCH int MC_SetDefaultAgentStatus_chdl (void *varg)
- EXPORTCH int MC_SyncDelete_chdl (void *varg)
- EXPORTCH int MC_SyncInit_chdl (void *varg)

16.19.1 Function Documentation

16.19.1.1 EXPORTCH void* MC_AclAddReceiver_chdl (void * varg)

Definition at line 1916 of file libmc.c.

References MC_AclAddReceiver().

Referenced by agent_RunChScriptThread().

16.19.1.2 EXPORTCH void* MC_AclAddReplyTo_chdl (void * varg)

Definition at line 1936 of file libmc.c.

References MC_AclAddReplyTo().

Referenced by agent_RunChScriptThread().

16.19.1.3 EXPORTCH int MC_AclDestroy_chdl (void * varg)

Definition at line 1763 of file libmc.c.

References MC_AclDestroy().

Referenced by agent_RunChScriptThread().

16.19.1.4 EXPORTCH void* MC_AclNew_chdl (void * varg)

Definition at line 1778 of file libmc.c.

References MC_AclNew().

Referenced by agent_RunChScriptThread().

16.19.1.5 EXPORTCH void* MC_AclPost_chdl (void * varg)

Definition at line 1786 of file libmc.c.

References MC_AclPost().

Referenced by agent_RunChScriptThread().

16.19.1.6 EXPORTCH void* MC_AclReply_chdl (void * varg)

Definition at line 1804 of file libmc.c.

References MC_AclReply().

Referenced by agent_RunChScriptThread().

16.19.1.7 EXPORTCH void* MC_AclRetrieve_chdl (void * varg)

Definition at line 1820 of file libmc.c.

References MC_AclRetrieve().

Referenced by agent_RunChScriptThread().

16.19.1.8 EXPORTCH int MC_AclSend_chdl (void * varg)

Definition at line 1836 of file libmc.c.

References CHECK_NULL, MC_AclSend(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.9 EXPORTCH void* MC_AclSetContent_chdl (void * varg)

Definition at line 1956 of file libmc.c.

References fipa_acl_message_s::content, and MC_AclSetContent().

Referenced by agent_RunChScriptThread().

16.19.1.10 EXPORTCH void* MC_AclSetPerformative_chdl (void * varg)

Definition at line 1878 of file libmc.c.

References MC_AclSetPerformative(), and fipa_acl_message_s::performative.

Referenced by agent_RunChScriptThread().

16.19.1.11 EXPORTCH void* MC_AclSetSender_chdl (void * varg)

Definition at line 1896 of file libmc.c.

References MC_AclSetSender().

Referenced by agent_RunChScriptThread().

16.19.1.12 EXPORTCH void* MC_AclWaitRetrieve_chdl (void * varg)

Definition at line 1860 of file libmc.c.

References MC_AclWaitRetrieve().

Referenced by agent_RunChScriptThread().

16.19.1.13 EXPORTCH int MC_AddAgent_chdl (void * varg)

Definition at line 1976 of file libmc.c.

References CHECK_NULL, MC_AddAgent(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.14 EXPORTCH const void* MC_AgentVariableRetrieve_chdl (void * varg)

Definition at line 2000 of file libmc.c.

References MC_AgentVariableRetrieve().

Referenced by agent_RunChScriptThread().

16.19.1.15 EXPORTCH int MC_AgentVariableSave_chdl (void * varg)

Definition at line 2024 of file libmc.c.

References MC_AgentVariableSave().

Referenced by agent_RunChScriptThread().

16.19.1.16 EXPORTCH int MC_Barrier_chdl (void * varg)

Definition at line 2076 of file libmc.c.

References CHECK_NULL, MC_Barrier(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.17 EXPORTCH int MC_BarrierDelete_chdl (void * varg)

Definition at line 2099 of file libmc.c.

References CHECK_NULL, MC_BarrierDelete(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.18 EXPORTCH int MC_BarrierInit_chdl (void * varg)

Definition at line 2122 of file libmc.c.

References CHECK_NULL, MC_BarrierInit(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.19 EXPORTCH int MC_CallAgentFunc_chdl (void * varg)

Definition at line 2046 of file libmc.c.

References MC_CallAgentFuncVar().

Referenced by agent_RunChScriptThread().

16.19.1.20 EXPORTCH int MC_ComposeAgent_chdl (void * *varg*)

Definition at line 2170 of file libmc.c.

References MC_ComposeAgent().

Referenced by agent_RunChScriptThread().

16.19.1.21 EXPORTCH int MC_CondBroadcast_chdl (void * *varg*)

Definition at line 2147 of file libmc.c.

References CHECK_NULL, MC_CondBroadcast(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.22 EXPORTCH int MC_CondReset_chdl (void * *varg*)

Definition at line 2233 of file libmc.c.

References CHECK_NULL, MC_CondReset(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.23 EXPORTCH int MC_CondSignal_chdl (void * *varg*)

Definition at line 2210 of file libmc.c.

References CHECK_NULL, MC_CondSignal(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.24 EXPORTCH int MC_CondWait_chdl (void * *varg*)

Definition at line 2256 of file libmc.c.

References CHECK_NULL, MC_CondWait(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.25 EXPORTCH int MC_DeleteAgent_chdl (void * *varg*)

Definition at line 2278 of file libmc.c.

References MC_DeleteAgent().

Referenced by agent_RunChScriptThread().

16.19.1.26 EXPORTCH int MC_DeregisterService_chdl (void * *varg*)

Definition at line 2320 of file libmc.c.

References CHECK_NULL, MC_DeregisterService(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.27 EXPORTCH int MC_DestroyServiceSearchResult_chdl (void * varg)

Definition at line 2293 of file libmc.c.

References MC_DestroyServiceSearchResult().

Referenced by agent_RunChScriptThread().

16.19.1.28 EXPORTCH int MC_End_chdl (void * varg)

Definition at line 2347 of file libmc.c.

References CHECK_NULL, MC_End(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.29 EXPORTCH MCAgent_t MC_FindAgentByID_chdl (void * varg)

Definition at line 2364 of file libmc.c.

References CHECK_NULL, MC_FindAgentByID(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.30 EXPORTCH MCAgent_t MC_FindAgentByName_chdl (void * varg)

Definition at line 2387 of file libmc.c.

References CHECK_NULL, MC_FindAgentByName(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.31 EXPORTCH int MC_GetAgentID_chdl (void * varg)

Definition at line 2434 of file libmc.c.

References MC_GetAgentID().

Referenced by agent_RunChScriptThread().

16.19.1.32 EXPORTCH char* MC_GetAgentName_chdl (void * varg)

Definition at line 2450 of file libmc.c.

References MC_GetAgentName().

Referenced by agent_RunChScriptThread().

16.19.1.33 EXPORTCH int MC_GetAgentNumTasks_chdl (void * varg)

Definition at line 2466 of file libmc.c.

References MC_GetAgentNumTasks().

16.19.1.34 EXPORTCH int MC_GetAgentStatus_chdl (void * varg)

Definition at line 2482 of file libmc.c.

References MC_GetAgentStatus().

Referenced by agent_RunChScriptThread().

16.19.1.35 EXPORTCH char* MC_GetAgentXMLString_chdl (void * varg)

Definition at line 2498 of file libmc.c.

References MC_GetAgentXMLString().

Referenced by agent_RunChScriptThread().

16.19.1.36 EXPORTCH int MC_GetTimeOfDay_chdl (void * varg)

Definition at line 2514 of file libmc.c.

Referenced by agent_RunChScriptThread().

16.19.1.37 EXPORTCH int MC_HaltAgency_chdl (void * varg)

Definition at line 2529 of file libmc.c.

References CHECK_NULL, MC_HaltAgency(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.38 EXPORTCH int MC_MutexLock_chdl (void * varg)

Definition at line 2547 of file libmc.c.

References CHECK_NULL, MC_MutexLock(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.39 EXPORTCH int MC_MutexUnlock_chdl (void * varg)

Definition at line 2571 of file libmc.c.

References CHECK_NULL, MC_MutexUnlock(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.19.1.40 EXPORTCH int MC_PrintAgentCode_chdl (void * varg)

Definition at line 2595 of file libmc.c.

References MC_PrintAgentCode().

Referenced by agent_RunChScriptThread().

16.19.1.41 EXPORTCH int MC_RegisterService_chdl (void * varg)

Definition at line 2611 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_RegisterService().

Referenced by agent_RunChScriptThread().

16.19.1.42 EXPORTCH int MC_ResumeAgency_chdl (void * varg)

Definition at line 2648 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_ResumeAgency().

Referenced by agent_RunChScriptThread().

16.19.1.43 EXPORTCH MCAgent_t MC_RetrieveAgent_chdl (void * varg)

Definition at line 2666 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_RetrieveAgent().

Referenced by agent_RunChScriptThread().

16.19.1.44 EXPORTCH char* MC_RetrieveAgentCode_chdl (void * varg)

Definition at line 2683 of file libmc.c.

References MC_RetrieveAgentCode().

Referenced by agent_RunChScriptThread().

16.19.1.45 EXPORTCH int MC_SaveData_chdl (void * varg)

Definition at line 2699 of file libmc.c.

References agent_task_s::agent_variable_list, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, agent_s::datastate, interpreter_variable_data_New(), interpreter_variable_data_s::name, interpreter_variable_data_s::size, size, agent_datastate_s::task_progress, and agent_datastate_s::tasks.

Referenced by agent_RunChScriptThread().

16.19.1.46 EXPORTCH char* MC_SearchForService_chdl (void * varg)

Definition at line 2734 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SearchForService().

Referenced by agent_RunChScriptThread().

16.19.1.47 EXPORTCH int MC_SemaphorePost_chdl (void * varg)

Definition at line 2775 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SemaphorePost().

Referenced by agent_RunChScriptThread().

16.19.1.48 EXPORTCH int MC_SemaphoreWait_chdl (void * varg)

Definition at line 2799 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SemaphoreWait().

Referenced by agent_RunChScriptThread().

16.19.1.49 EXPORTCH int MC_SendAgentMigrationMessage_chdl (void * varg)

Definition at line 2823 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, MC_SendAgentMigrationMessage(), and port.

Referenced by agent_RunChScriptThread().

16.19.1.50 EXPORTCH int MC_SendAgentMigrationMessageFile_chdl (void * varg)

Definition at line 2848 of file libmc.c.

References MC_SendAgentMigrationMessageFile(), and port.

Referenced by agent_RunChScriptThread().

16.19.1.51 EXPORTCH int MC_SendSteerCommand_chdl (void * varg)

Definition at line 2868 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SendSteerCommand().

Referenced by agent_RunChScriptThread().

16.19.1.52 EXPORTCH int MC_SetAgentStatus_chdl (void * varg)

Definition at line 2891 of file libmc.c.

References MC_SetAgentStatus().

Referenced by agent_RunChScriptThread().

16.19.1.53 EXPORTCH int MC_SetDefaultAgentStatus_chdl (void * varg)

Definition at line 2909 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SetDefaultAgentStatus().

Referenced by agent_RunChScriptThread().

16.19.1.54 EXPORTCH int MC_SyncDelete_chdl (void * varg)

Definition at line 2932 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SyncDelete().

Referenced by agent_RunChScriptThread().

16.19.1.55 EXPORTCH int MC_SyncInit_chdl (void * *varg*)

Definition at line 2955 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SyncInit().

Referenced by agent_RunChScriptThread().

16.19.1.56 EXPORTCH int MC_TerminateAgent_chdl (void * *varg*)

Definition at line 2979 of file libmc.c.

References MC_TerminateAgent().

Referenced by agent_RunChScriptThread().

16.20 /home/dko/projects/mobilec/trunk/src/include/agent_mailbox.h File Reference

Data Structures

- struct [agent_mailbox_s](#)

Typedefs

- typedef struct [agent_mailbox_s](#) [agent_mailbox_t](#)
- typedef [agent_mailbox_t](#) * [agent_mailbox_p](#)

Functions

- [agent_mailbox_p](#) [agent_mailbox_New](#) (void)
- [agent_mailbox_p](#) [agent_mailbox_Copy](#) ([agent_mailbox_p](#) src)
- int [agent_mailbox_Destroy](#) ([agent_mailbox_t](#) *mailbox)
- int [agent_mailbox_Post](#) ([agent_mailbox_p](#) mailbox, [fipa_acl_message_t](#) *message)
- [fipa_acl_message_t](#) * [agent_mailbox_Retrieve](#) ([agent_mailbox_p](#) mailbox)
- [fipa_acl_message_t](#) * [agent_mailbox_WaitRetrieve](#) ([agent_mailbox_p](#) mailbox)

16.20.1 Typedef Documentation

16.20.1.1 typedef [agent_mailbox_t](#)* [agent_mailbox_p](#)

Definition at line 12 of file [agent_mailbox.h](#).

16.20.1.2 typedef struct [agent_mailbox_s](#) [agent_mailbox_t](#)

16.20.2 Function Documentation

16.20.2.1 [agent_mailbox_p](#) [agent_mailbox_Copy](#) ([agent_mailbox_p](#) src)

Definition at line 15 of file [agent_mailbox.c](#).

References [agent_mailbox_New\(\)](#), and [agent_mailbox_s::mail_queue](#).

16.20.2.2 int [agent_mailbox_Destroy](#) ([agent_mailbox_t](#) * mailbox)

Definition at line 23 of file [agent_mailbox.c](#).

References [agent_mailbox_s::mail_queue](#).

Referenced by [agent_Destroy\(\)](#).

16.20.2.3 [agent_mailbox_p](#) [agent_mailbox_New](#) (void)

Definition at line 6 of file [agent_mailbox.c](#).

References [agent_mailbox_s::mail_queue](#).

Referenced by agent_Initialize(), and agent_mailbox_Copy().

16.20.2.4 int agent_mailbox_Post (agent_mailbox_p mailbox, fipa_acl_message_t * message)

Definition at line 32 of file agent_mailbox.c.

References agent_mailbox_s::mail_queue.

Referenced by acc_Thread(), and MC_AclPost().

16.20.2.5 fipa_acl_message_t* agent_mailbox_Retrieve (agent_mailbox_p mailbox)

Definition at line 38 of file agent_mailbox.c.

References agent_mailbox_s::mail_queue.

Referenced by agent_mailbox_WaitRetrieve(), and MC_AclRetrieve().

16.20.2.6 fipa_acl_message_t* agent_mailbox_WaitRetrieve (agent_mailbox_p mailbox)

Definition at line 43 of file agent_mailbox.c.

References agent_mailbox_Retrieve(), COND_WAIT, agent_mailbox_s::mail_queue, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_AclWaitRetrieve().

16.21 /home/dko/projects/mobilec/trunk/src/include/agent_task.h File Reference

```
#include "interpreter_variable_data.h"
#include "data_structures.h"
```

Data Structures

- struct [agent_task_s](#)

Typedefs

- typedef struct [agent_task_s](#) [agent_task_t](#)
- typedef [agent_task_t](#) * [agent_task_p](#)

Functions

- [agent_task_p](#) [agent_task_New](#) (void)
- [agent_task_p](#) [agent_task_Copy](#) ([agent_task_p](#) task)
- int [agent_task_Destroy](#) ([agent_task_p](#) agent_task)

16.21.1 Typedef Documentation

16.21.1.1 typedef [agent_task_t](#)* [agent_task_p](#)

Definition at line 61 of file [agent_task.h](#).

16.21.1.2 typedef struct [agent_task_s](#) [agent_task_t](#)

16.21.2 Function Documentation

16.21.2.1 [agent_task_p](#) [agent_task_Copy](#) ([agent_task_p](#) task)

Definition at line 60 of file [agent_task.c](#).

References [agent_task_s::agent_return_data](#), [agent_task_s::code_id](#), [agent_task_s::init_agent_status](#), [agent_task_s::number_of_elements](#), [agent_task_s::persistent](#), [agent_task_s::server_name](#), [agent_task_s::size_of_element_array](#), [agent_task_s::task_completed](#), and [agent_task_s::var_name](#).

Referenced by [agent_datastate_Copy\(\)](#).

16.21.2.2 int [agent_task_Destroy](#) ([agent_task_p](#) *agent_task*)

Definition at line 102 of file [agent_task.c](#).

References [agent_task_s::agent_return_data](#), [agent_task_s::agent_variable_list](#), [agent_task_s::code_id](#), [interpreter_variable_data_Destroy\(\)](#), [MC_SUCCESS](#), [agent_task_s::saved_variables](#), [agent_task_s::server_name](#), and [agent_task_s::var_name](#).

Referenced by [agent_datastate_Destroy\(\)](#).

16.21.2.3 agent_task_p agent_task_New (void)

Definition at line 42 of file agent_task.c.

References agent_task_s::agent_variable_list, agent_task_s::num_saved_variables, and agent_task_s::saved_variables.

Referenced by agent_xml_parse__tasks(), and MC_ComposeAgent().

16.22 /home/dko/projects/mobilec/trunk/src/include/ams.h File Reference

```
#include "macros.h"
```

Functions

- **STRUCT** (ams, struct `mc_platform_s *mc_platform`;MUTEX_T *runflag_lock;COND_T *runflag_cond;int run;int waiting;MUTEX_T *waiting_lock;COND_T *waiting_cond;THREAD_T thread;) ams_p ams_Initialize(struct `mc_platform_s *_mc_platform`)
- **int** `ams_Destroy` (ams_p ams)
- **int** `ams_RemoveFinishedAgents` (ams_p ams)
- **int** `ams_ManageAgentList` (ams_p ams)
- **void** `ams_Print` (ams_p ams)
- **void** `ams_Start` (struct `mc_platform_s *mc_platform`)
- **void *** `ams_Thread` (void *arg)

16.22.1 Function Documentation

16.22.1.1 int ams_Destroy (ams_p ams)

Definition at line 41 of file ams.c.

References COND_DESTROY, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by mc_platform_Destroy().

16.22.1.2 int ams_ManageAgentList (ams_p ams)

Definition at line 111 of file ams.c.

References agent_RunChScript(), agent_s::agent_status, ListSearch(), agent_s::lock, MC_AGENT_ACTIVE, MC_AGENT_NEUTRAL, MC_WAIT_CH, MC_WAIT_FINISHED, MC_WAIT_MESSGSEND, message_Destroy(), message_InitializeFromAgent(), message_New(), MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::orphan.

Referenced by ams_Thread().

16.22.1.3 void ams_Print (ams_p ams)

Definition at line 79 of file ams.c.

References agent_s::agent_status, agent_s::connect_id, agent_s::id, ListSearch(), MUTEX_LOCK, and MUTEX_UNLOCK.

16.22.1.4 int ams_RemoveFinishedAgents (ams_p ams)

16.22.1.5 void ams_Start (struct mc_platform_s * mc_platform)

16.22.1.6 void* ams_Thread (void * arg)

Definition at line 226 of file ams.c.

References mc_platform_s::ams, ams_ManageAgentList(), COND_BROADCAST, COND_WAIT, mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::quit, and mc_platform_s::quit_lock.

Referenced by ams_Start().

16.22.1.7 **STRUCT** (ams, struct mc_platform_s *mc_platform;MUTEX_T *runflag_lock;COND_T *runflag_cond;int run;int waiting;MUTEX_T *waiting_lock;COND_T *waiting_cond;THREAD_T thread;)

16.23 /home/dko/projects/mobilec/trunk/src/include/ap_queue_template.h File Reference

```
#include "macros.h"
#include "mc_error.h"
```

Defines

- #define [AP_QUEUE_DECL_TEMPLATE](#)(name, node_type)
- #define [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(name, func_name, return_type, search_type) return_type name##_##_func_name(name##_p name, const search_type key);
- #define [AP_QUEUE_STD_DEFN_TEMPLATE](#)(name, node_type)
- #define [AP_QUEUE_SEARCH_TEMPLATE](#)(name, func_name, node_type, search_type, search_expression)
- #define [AP_QUEUE_REMOVE_TEMPLATE](#)(name, func_name, node_type, search_type, search_expression)

16.23.1 Define Documentation

16.23.1.1 #define AP_QUEUE_DECL_TEMPLATE(name, node_type)

Value:

```
typedef struct name##_s \
{ \
    int size; \
    list_p list; \
    MUTEX_T* lock; \
    COND_T* cond; \
} name##_t; \
\
typedef name##_t* name##_p; \
\
name##_p name##_New( void ); \
int name##_Destroy( name##_p name ); \
int name##_Add( name##_p name, struct node_type##_s* node ); \
name##_p name##_Copy( name##_p name ); \
struct node_type##_s* name##_Pop( name##_p name ); \
struct node_type##_s* name##_SearchIndex( name##_p name, int index ); \
int name##_RemoveIndex( name##_p name, int index );
```

Definition at line 40 of file ap_queue_template.h.

16.23.1.2 #define AP_QUEUE_GENERIC_DECL_TEMPLATE(name, func_name, return_type, search_type) return_type name##_##_func_name(name##_p name, const search_type key);

Definition at line 59 of file ap_queue_template.h.

16.23.1.3 #define AP_QUEUE_REMOVE_TEMPLATE(name, func_name, node_type, search_type, search_expression)

Value:


```

int name##_##_func_name( name##_p name, const search_type key ) \
{ \
    int err_code = MC_ERR_NOT_FOUND; \
    struct listNode_s* parsenode; \
    struct node_type##_s* node; \
    node = NULL; \
    \
    MUTEX_LOCK(name->lock); \
    if (name->list->listhead == NULL) { \
        MUTEX_UNLOCK(name->lock); \
        return MC_ERR_NOT_FOUND; \
    } \
    for( \
        parsenode = (listNode_t*)name->list->listhead; \
        parsenode->next != NULL; \
        parsenode = (listNode_t*)parsenode->next \
    ) \
    { \
        node = (node_type##_t*)parsenode->node_data; \
        if (search_expression) { \
            break; \
            err_code = MC_SUCCESS; \
        } \
    } \
    MUTEX_UNLOCK(name->lock); \
    return err_code; \
}

```

Definition at line 203 of file ap_queue_template.h.

16.23.1.4 #define AP_QUEUE_SEARCH_TEMPLATE(name, func_name, node_type, search_type, search_expression)

Value:

```

struct node_type##_s* name##_##_func_name( name##_p name, const search_type key ) \
{ \
    listNode_t* parsenode; \
    struct node_type##_s* node; \
    struct node_type##_s* ret = NULL; \
    node = NULL; \
    \
    MUTEX_LOCK(name->lock); \
    if (name->list->listhead == NULL) { \
        MUTEX_UNLOCK(name->lock); \
        return NULL; \
    } \
    for( \
        parsenode = (listNode_t*)name->list->listhead; \
        parsenode != NULL; \
        parsenode = (listNode_t*)parsenode->next \
    ) \
    { \
        node = (node_type##_t*)parsenode->node_data; \
        if (search_expression){ \
            ret = node; \
            break; \
        } \
    } \
    MUTEX_UNLOCK(name->lock); \
    return ret; \
}

```

Definition at line 173 of file ap_queue_template.h.

16.23.1.5 #define AP_QUEUE_STD_DEFN_TEMPLATE(name, node_type)

Definition at line 62 of file ap_queue_template.h.

16.24 /home/dko/projects/mobilec/trunk/src/include/barrier.h File Reference

```
#include "macros.h"
#include "../mc_list/list.h"
#include "mc_rwlock.h"
```

Data Structures

- struct [barrier_node_s](#)
- struct [barrier_queue_s](#)

Typedefs

- typedef struct [barrier_node_s](#) [barrier_node_t](#)
- typedef [barrier_node_t](#) * [barrier_node_p](#)
- typedef struct [barrier_queue_s](#) [barrier_queue_t](#)
- typedef [barrier_queue_t](#) * [barrier_queue_p](#)

Functions

- [barrier_node_p](#) [barrier_node_Initialize](#) (int id, int num_registered)
- int [barrier_node_Destroy](#) ([barrier_node_p](#) node)
- int [barrier_queue_Add](#) ([barrier_queue_p](#) list, [barrier_node_p](#) node)
- int [barrier_queue_Delete](#) (int id, [barrier_queue_p](#) list)
- int [barrier_queue_Destroy](#) ([barrier_queue_p](#) queue)
- [barrier_node_p](#) [barrier_queue_Get](#) ([barrier_queue_p](#) list, int id)
- [barrier_queue_p](#) [barrier_queue_New](#) (void)
- [barrier_node_p](#) [barrier_queue_Pop](#) ([barrier_queue_p](#) queue)

16.24.1 Typedef Documentation

16.24.1.1 typedef [barrier_node_t](#)* [barrier_node_p](#)

Definition at line 49 of file barrier.h.

16.24.1.2 typedef struct [barrier_node_s](#) [barrier_node_t](#)

16.24.1.3 typedef [barrier_queue_t](#)* [barrier_queue_p](#)

Definition at line 57 of file barrier.h.

16.24.1.4 typedef struct barrier_queue_s barrier_queue_t

16.24.2 Function Documentation

16.24.2.1 int barrier_node_Destroy (barrier_node_p node)

Definition at line 65 of file barrier.c.

References barrier_node_s::cond, COND_DESTROY, barrier_node_s::lock, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by barrier_queue_Delete(), and barrier_queue_Destroy().

16.24.2.2 barrier_node_p barrier_node_Initialize (int id, int num_registered)

Definition at line 40 of file barrier.c.

References CHECK_NULL, barrier_node_s::cond, COND_INIT, COND_T, barrier_node_s::id, barrier_node_s::lock, MUTEX_INIT, MUTEX_T, node, barrier_node_s::num_registered, and barrier_node_s::num_waiting.

Referenced by MC_BarrierInit().

16.24.2.3 int barrier_queue_Add (barrier_queue_p list, barrier_node_p node)

Definition at line 82 of file barrier.c.

References DATA, barrier_node_s::id, barrier_queue_s::list, ListAdd(), list_s::listhead, barrier_queue_s::lock, MC_SUCCESS, MC_WARN_DUPLICATE, listNode_s::next, listNode_s::node_data, RWLOCK_WRLOCK, RWLOCK_WRUNLOCK, and barrier_queue_s::size.

Referenced by MC_BarrierInit().

16.24.2.4 int barrier_queue_Delete (int id, barrier_queue_p list)

Definition at line 106 of file barrier.c.

References barrier_node_Destroy(), barrier_node_s::id, barrier_queue_s::list, ListDelete(), ListSearch(), barrier_queue_s::lock, MC_ERR_NOT_FOUND, MC_SUCCESS, RWLOCK_WRLOCK, RWLOCK_WRUNLOCK, barrier_queue_s::size, and list_s::size.

Referenced by MC_BarrierDelete().

16.24.2.5 int barrier_queue_Destroy (barrier_queue_p queue)

Definition at line 126 of file barrier.c.

References barrier_node_Destroy(), barrier_queue_Pop(), barrier_queue_s::list, ListTerminate(), barrier_queue_s::lock, MC_SUCCESS, node, and RWLOCK_DESTROY.

Referenced by mc_platform_Destroy().

16.24.2.6 barrier_node_p barrier_queue_Get (barrier_queue_p list, int id)

Definition at line 140 of file barrier.c.

References `barrier_queue_s::list`, `list_s::listhead`, `barrier_queue_s::lock`, `listNode_s::next`, `listNode_s::node_data`, `RWLOCK_RDLOCK`, and `RWLOCK_RDUNLOCK`.

Referenced by `MC_Barrier()`, and `MC_BarrierInit()`.

16.24.2.7 `barrier_queue_p barrier_queue_New (void)`

Definition at line 157 of file `barrier.c`.

References `CHECK_NULL`, `barrier_queue_s::list`, `ListInitialize()`, `barrier_queue_s::lock`, `RWLOCK_INIT`, and `RWLOCK_T`.

Referenced by `mc_platform_Initialize()`.

16.24.2.8 `barrier_node_p barrier_queue_Pop (barrier_queue_p queue)`

Definition at line 171 of file `barrier.c`.

References `barrier_queue_s::list`, `ListPop()`, and `node`.

Referenced by `barrier_queue_Destroy()`.

16.25 /home/dko/projects/mobilec/trunk/src/include/cmd_prompt.h File Reference

```
#include "macros.h"
```

Data Structures

- struct [cmd_prompt_s](#)
- struct [command_s](#)

Defines

- #define [CMDLINE_SIZE](#) 80

Typedefs

- typedef struct [cmd_prompt_s](#) [cmd_prompt_t](#)
- typedef [cmd_prompt_t](#) * [cmd_prompt_p](#)
- typedef struct [command_s](#) [command_t](#)
- typedef [command_t](#) * [command_p](#)

Functions

- [int cmd_prompt_Destroy](#) ([cmd_prompt_p](#) cmd_prompt)
- [cmd_prompt_p cmd_prompt_Initialize](#) ([struct mc_platform_s](#) *mc_platform)
- [void cmd_prompt_Start](#) ([struct mc_platform_s](#) *mc_platform)
- [int split_string](#) ([char ***args](#), [const char *buf](#))
- [int process_command](#) ([command_t](#) *cmd)
- [void * cmd_prompt_Thread](#) ([void *arg](#))
- [int exec_command](#) ([command_t](#) cmd, [struct mc_platform_s](#) *global)
- [int dealloc_command](#) ([command_t](#) *cmd)

16.25.1 Define Documentation

16.25.1.1 #define CMDLINE_SIZE 80

Definition at line 37 of file cmd_prompt.h.

16.25.2 Typedef Documentation

16.25.2.1 typedef cmd_prompt_t* cmd_prompt_p

Definition at line 44 of file cmd_prompt.h.

16.25.2.2 `typedef struct cmd_prompt_s cmd_prompt_t`

16.25.2.3 `typedef command_t* command_p`

Definition at line 51 of file cmd_prompt.h.

16.25.2.4 `typedef struct command_s command_t`

16.25.3 Function Documentation

16.25.3.1 `int cmd_prompt_Destroy (cmd_prompt_p cmd_prompt)`

Definition at line 63 of file cmd_prompt.c.

References MC_SUCCESS.

Referenced by mc_platform_Destroy().

16.25.3.2 `cmd_prompt_p cmd_prompt_Initialize (struct mc_platform_s * mc_platform)`

16.25.3.3 `void cmd_prompt_Start (struct mc_platform_s * mc_platform)`

16.25.3.4 `void* cmd_prompt_Thread (void * arg)`

Definition at line 102 of file cmd_prompt.c.

References command_s::args, buf, dealloc_command(), exec_command(), command_s::index, mc_platform, command_s::num_args, process_command(), and split_string().

Referenced by cmd_prompt_Start().

16.25.3.5 `int dealloc_command (command_t * cmd)`

Definition at line 231 of file cmd_prompt.c.

References command_s::args, and command_s::num_args.

Referenced by cmd_prompt_Thread().

16.25.3.6 `int exec_command (command_t cmd, struct mc_platform_s * global)`

16.25.3.7 `int process_command (command_t * cmd)`

Definition at line 197 of file cmd_prompt.c.

References command_s::args, command_cmds, command_s::index, and command_s::num_args.

Referenced by cmd_prompt_Thread().

16.25.3.8 `int split_string (char *** args, const char * buf)`

Definition at line 149 of file cmd_prompt.c.

References int.

Referenced by `cmd_prompt_Thread()`.

16.26 /home/dko/projects/mobilec/trunk/src/include/commands.h File Reference

```
#include "macros.h"  
#include "mc_platform.h"  
#include "commands.x.h"
```

Defines

- #define [COMMAND](#)(name, cmd, desc) [int](#) handler_##name (void *arg, [mc_platform_p](#) global);
- #define [COMMAND](#)(name, cmd, description) [COMMAND_##name](#) ,
- #define [COMMAND](#)(name, cmd, description) &handler_##name ,
- #define [COMMAND](#)(name, cmd, description) description ,
- #define [COMMAND](#)(name, cmd, description) cmd ,

Typedefs

- typedef [int](#)(* [cmd_handler_t](#))(void *, [mc_platform_p](#) global)

Enumerations

- enum [command_indices_e](#) { [COMMAND](#) }

Variables

- [cmd_handler_t](#) [cmd_handlers](#) []
- char * [command_descriptions](#) []
- char * [command_cmds](#) []

16.26.1 Define Documentation

16.26.1.1 #define [COMMAND](#)(name, cmd, description) cmd ,

Definition at line 41 of file [commands.h](#).

16.26.1.2 #define [COMMAND](#)(name, cmd, description) description ,

Definition at line 41 of file [commands.h](#).

16.26.1.3 #define [COMMAND](#)(name, cmd, description) &handler_##name ,

Definition at line 41 of file [commands.h](#).

16.26.1.4 #define [COMMAND](#)(name, cmd, description) [COMMAND_##name](#) ,

Definition at line 41 of file [commands.h](#).

16.26.1.5 `#define COMMAND(name, cmd, desc) int handler_##name (void *arg, mc_platform_p global);`

Definition at line 41 of file commands.h.

16.26.2 Typedef Documentation

16.26.2.1 `typedef int(* cmd_handler_t)(void *, mc_platform_p global)`

Definition at line 45 of file commands.h.

16.26.3 Enumeration Type Documentation

16.26.3.1 `enum command_indices_e`

Enumerator:

COMMAND

Definition at line 47 of file commands.h.

16.26.4 Variable Documentation

16.26.4.1 `cmd_handler_t cmd_handlers[]`

Initial value:

```
{
#define COMMAND(name, cmd, description)

COMMAND(QUIT, "quit",
        "This command ends the MobileC application.")
COMMAND(HELP, "help",
        "This command displays help for any command. Usage is:\n \
        \"help <command>\")
COMMAND(SEND, "send",
        "This command sends a client to a host. Usage is: \n \
        \"send <filename> <target host> <target port>\n \
        e.g. \"send test1.xml iel.ucdavis.edu 5155\")
COMMAND(PRINT_CONNECTLIST,
        "print_connectlist",
        "This command prints the list entries in the connectList.")
COMMAND(PRINTLIST_MESSAGE,
        "printlist_message",
        "This command prints all the list entries on the linked list:\n \
        message_queue")
COMMAND(PRINTLIST_AGENTS,
        "printlist_agents",
        "This command prints all the agents on the system which are still\n\
        on the agent list.\n")

        NULL
}
```

Definition at line 54 of file commands.h.

Referenced by exec_command().

16.26.4.2 char* command_cmds[]

Initial value:

```
{
#define COMMAND(name, cmd, description)

COMMAND(QUIT, "quit",
        "This command ends the MobileC application.")
COMMAND(HELP, "help",
        "This command displays help for any command. Usage is:\n \
        \"help <command>\"")
COMMAND(SEND, "send",
        "This command sends a client to a host. Usage is: \n \
        \"send <filename> <target host> <target port>\" \n \
        e.g. \"send test1.xml iel.ucdavis.edu 5155\"")
COMMAND(PRINT_CONNECTLIST,
        "print_connectlist",
        "This command prints the list entries in the connectList.")
COMMAND(PRINTLIST_MESSAGE,
        "printlist_message",
        "This command prints all the list entries on the linked list:\n \
        message_queue")
COMMAND(PRINTLIST_AGENTS,
        "printlist_agents",
        "This command prints all the agents on the system which are still\n\
        on the agent list.\n")

        NULL
}
```

Definition at line 68 of file commands.h.

Referenced by handler_HELP(), and process_command().

16.26.4.3 char* command_descriptions[]

Initial value:

```
{
#define COMMAND(name, cmd, description)

COMMAND(QUIT, "quit",
        "This command ends the MobileC application.")
COMMAND(HELP, "help",
        "This command displays help for any command. Usage is:\n \
        \"help <command>\"")
COMMAND(SEND, "send",
        "This command sends a client to a host. Usage is: \n \
        \"send <filename> <target host> <target port>\" \n \
        e.g. \"send test1.xml iel.ucdavis.edu 5155\"")
```

```
COMMAND (PRINT_CONNECTLIST,  
        "print_connectlist",  
        "This command prints the list entries in the connectList.")  
COMMAND (PRINTLIST_MESSAGE,  
        "printlist_message",  
        "This command prints all the list entries on the linked list:\n \  
message_queue")  
COMMAND (PRINTLIST_AGENTS,  
        "printlist_agents",  
        "This command prints all the agents on the system which are still\n\  
on the agent list.\n")  
  
        NULL  
}
```

Definition at line 61 of file commands.h.

Referenced by handler_HELP(), and handler_SEND().

16.27 /home/dko/projects/mobilec/trunk/src/include/commands.x.h File Reference

Functions

- **COMMAND** (QUIT,"quit","This command ends the MobileC application.") **COMMAND**(HELP
- This command displays [help](#) for any command Usage This command sends a client to a host Usage This command prints the list entries in the connectList **COMMAND** (PRINTLIST_-MESSAGE,"printlist_message","This command prints all the list entries on the linked list:\n \ message_queue") **COMMAND**(PRINTLIST_AGENTS

Variables

- [help](#)
- This command displays [help](#) for any command Usage [is](#)
- This command displays [help](#) for any command Usage [send](#)
- This command displays [help](#) for any command Usage This command sends a client to a host Usage [print_connectlist](#)
- This command displays [help](#) for any command Usage This command sends a client to a host Usage This command prints the list entries in the connectList [printlist_agents](#)

16.27.1 Function Documentation

16.27.1.1 This command displays help for any command Usage This command sends a client to a host Usage This command prints the list entries in the connectList COMMAND (PRINTLIST_MESSAGE, "printlist_message", "This command prints all the list entries on the linked list:\n \ message_queue")

Type Constraints

16.27.1.2 COMMAND (QUIT, "quit", "This command ends the MobileC application.")

16.27.2 Variable Documentation

16.27.2.1 help

Definition at line 40 of file commands.x.h.

16.27.2.2 This command displays help for any command Usage This command sends a client to a host Usage is

Definition at line 40 of file commands.x.h.

16.27.2.3 This command displays help for any command Usage This command sends a client to a host Usage print_connectlist

Definition at line 40 of file commands.x.h.

16.27.2.4 This command displays help for any command Usage This command sends a client to a host Usage This command prints the list entries in the connectList printlist_agents

Definition at line 55 of file commands.x.h.

16.27.2.5 This command displays help for any command Usage send

Definition at line 40 of file commands.x.h.

Referenced by message_Send(), and mtp_http_InitializeFromConnection().

16.28 /home/dko/projects/mobilec/trunk/src/include/connection.h File Reference

```
#include <sys/types.h>
#include <netinet/in.h>
```

Data Structures

- struct [connection_s](#)

Typedefs

- typedef struct [connection_s](#) [connection_t](#)
- typedef [connection_t](#) * [connection_p](#)

Functions

- [connection_p](#) [connection_New](#) (void)
- int [connection_Destroy](#) ([connection_p](#) connection)
- [connection_p](#) [connection_Copy](#) ([connection_p](#) connection)
- void [connection_Close](#) ([connection_p](#) connection)
- void [connection_SetHosts](#) ([connection_p](#) connection, char *remote_host, char *local_host)
- int [connection_CreateMessage](#) ([connection_p](#) connection)
- int [connection_SendtoConnection](#) ([connection_p](#) connection, char *send_buffer)
- int [connection_RecvFromConnection](#) ([connection_p](#) connection, struct [mc_platform_s](#) *global)

16.28.1 Typedef Documentation

16.28.1.1 typedef [connection_t](#)* [connection_p](#)

Definition at line 60 of file connection.h.

16.28.1.2 typedef struct [connection_s](#) [connection_t](#)

16.28.2 Function Documentation

16.28.2.1 void [connection_Close](#) ([connection_p](#) *connection*)

16.28.2.2 [connection_p](#) [connection_Copy](#) ([connection_p](#) *connection*)

Definition at line 73 of file connection.c.

References [connection_s::addr](#), [connection_s::clientfd](#), [connection_s::connect_id](#), [connection_New\(\)](#), [connection_s::remote_hostname](#), and [connection_s::serverfd](#).

16.28.2.3 `int connection_CreateMessage (connection_p connection)`

16.28.2.4 `int connection_Destroy (connection_p connection)`

Definition at line 42 of file connection.c.

References connection_s::clientfd, MC_SUCCESS, and connection_s::remote_hostname.

Referenced by acc_Thread().

16.28.2.5 `connection_p connection_New (void)`

Definition at line 62 of file connection.c.

Referenced by connection_Copy().

16.28.2.6 `int connection_RecvFromConnection (connection_p connection, struct mc_platform_s * global)`

16.28.2.7 `int connection_SendtoConnection (connection_p connection, char * send_buffer)`

16.28.2.8 `void connection_SetHosts (connection_p connection, char * remote_host, char * local_host)`

16.29 /home/dko/projects/mobilec/trunk/src/include/data_structures.h File Reference

```
#include "ap_queue_template.h"
#include "../mc_list/list.h"
#include "connection.h"
#include "fipa_acl.h"
#include "agent_mailbox.h"
#include "message.h"
#include "interpreter_variable_data.h"
```

Functions

- [AP_QUEUE_DECL_TEMPLATE](#) (connection_queue, connection) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(connection_queue)
- [connection_t int AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (connection_queue, [Remove](#), [int](#), [int](#)) [connection_queue_Print](#)(connection_queue_p clist)
- [AP_QUEUE_DECL_TEMPLATE](#) (message_queue, message) [int message_queue_Print](#)(message_queue_p queue)
- [AP_QUEUE_DECL_TEMPLATE](#) (agent_queue, agent) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(agent_queue)
- [struct agent_s int AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (agent_queue, [SearchName](#), [struct agent_s *](#), [char *](#)) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(agent_queue)
- [struct agent_s int int AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (agent_queue, [RemoveName](#), [int](#), [char *](#)) [int agent_queue_Print](#)(agent_queue_p queue)
- [AP_QUEUE_DECL_TEMPLATE](#) (agent_variable_list, interpreter_variable_data) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(agent_variable_list)
- [interpreter_variable_data_t char * AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (agent_variable_list, [Remove](#), [int](#), [char *](#)) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(mail_queue)
- [interpreter_variable_data_t char *fipa_acl_message AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (mail_queue, [SearchReceivers](#), [fipa_acl_message_p](#), [char *](#)) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(mail_queue)
- [interpreter_variable_data_t char *fipa_acl_message char * AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (mailbox_queue, agent_mailbox) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(mailbox_queue)
- [interpreter_variable_data_t char *fipa_acl_message char char * AP_QUEUE_GENERIC_DECL_TEMPLATE](#) (mailbox_queue, [SearchID](#), [agent_mailbox_p](#), [int](#)) [AP_QUEUE_GENERIC_DECL_TEMPLATE](#)(mailbox_queue)

Variables

- [Search](#)
- [struct agent_s int Remove](#)
- [struct agent_s int int](#)
- [interpreter_variable_data_t char *fipa_acl_message RemoveName](#)
- [interpreter_variable_data_t char *fipa_acl_message char * SearchName](#)
- [interpreter_variable_data_t char *fipa_acl_message char agent_mailbox_p](#)
- [interpreter_variable_data_t char *fipa_acl_message char char * RemoveID](#)

16.29.1 Function Documentation

16.29.1.1 `interpreter_variable_data_t char* fipa_acl_message char*`
`AP_QUEUE_DECL_TEMPLATE (mailbox_queue, agent_mailbox)`

Type Constraints

16.29.1.2 `AP_QUEUE_DECL_TEMPLATE (agent_variable_list, interpreter_variable_data)`

16.29.1.3 `AP_QUEUE_DECL_TEMPLATE (agent_queue, agent)`

16.29.1.4 `AP_QUEUE_DECL_TEMPLATE (message_queue, message)`

16.29.1.5 `AP_QUEUE_DECL_TEMPLATE (connection_queue, connection)`

16.29.1.6 `interpreter_variable_data_t char* fipa_acl_message char char*`
`AP_QUEUE_GENERIC_DECL_TEMPLATE (mailbox_queue, SearchID, agent_mailbox_p, int)`

Type Constraints

16.29.1.7 `interpreter_variable_data_t char* fipa_acl_message AP_QUEUE_GENERIC_DECL_TEMPLATE (mail_queue, SearchReceivers, fipa_acl_message_p, char *)`

16.29.1.8 `interpreter_variable_data_t char* AP_QUEUE_GENERIC_DECL_TEMPLATE (agent_variable_list, Remove, int, char *)`

Type Constraints

16.29.1.9 `struct agent_s int int AP_QUEUE_GENERIC_DECL_TEMPLATE (agent_queue, RemoveName, int, char *)`

Type Constraints

16.29.1.10 `struct agent_s int AP_QUEUE_GENERIC_DECL_TEMPLATE (agent_queue, SearchName, struct agent_s *, char *)` [read]

Type Constraints

16.29.1.11 `connection_t` `int` `AP_QUEUE_GENERIC_DECL_TEMPLATE` (`connection_queue`, `Remove`, `int`, `int`)

Type Constraints

16.29.2 Variable Documentation

16.29.2.1 `interpreter_variable_data_t` `char*` `fipa_acl_message` `char` `agent_mailbox_p`

Definition at line 162 of file `data_structures.h`.

16.29.2.2 `interpreter_variable_data_t` `char` `*fipa_acl_message` `char` `char` `int`

Definition at line 101 of file `data_structures.h`.

Referenced by `LibMC::MCAgency::ChInitializeOptions()`, `default_callback()`, `main()`, and `split_string()`.

16.29.2.3 `struct` `agent_s` `int` `Remove`

Definition at line 101 of file `data_structures.h`.

16.29.2.4 `interpreter_variable_data_t` `char*` `fipa_acl_message` `char` `char*` `RemoveID`

Definition at line 176 of file `data_structures.h`.

16.29.2.5 `interpreter_variable_data_t` `char*` `fipa_acl_message` `RemoveName`

Definition at line 149 of file `data_structures.h`.

16.29.2.6 `Search`

Definition at line 53 of file `data_structures.h`.

16.29.2.7 `interpreter_variable_data_t` `char*` `fipa_acl_message` `char*` `SearchName`

Definition at line 162 of file `data_structures.h`.

16.30 /home/dko/projects/mobilec/trunk/src/include/df.h File Reference

```
#include "../mc_list/list.h"
#include "../include/macros.h"
#include "df_request.x.h"
```

Defines

- #define [REQUEST](#)(name, string, description) [REQUEST_##name](#),
- #define [REQUEST](#)(name, string, description) [int request_handler_##name](#) (struct [mc_platform_s](#) *global, void* data);

Enumerations

- enum [df_request_list_index_e](#) { [REQUEST](#) }
- enum [service_types_e](#) {
[ZERO](#), [MISC](#), [INSERT](#), [SOME](#),
[TYPES](#), [HERE](#) }

Functions

- [STRUCT](#) (df_request_list_node, [MUTEX_T](#) *lock; [COND_T](#) *cond; const char *command; void *data; [int](#) data_size;) [STRUCT](#)(df_request_list
- [STRUCT](#) (df_search_results, char **agent_names; char **service_names; [int](#) *agent_ids; [int](#) num_results;) [STRUCT](#)(df_request_search
- [STRUCT](#) (df_node, [MUTEX_T](#) *lock; [int](#) agent_id; char *agent_name; [int](#) num_services; char **service_names; enum [service_types_e](#) service_types;) [STRUCT](#)(df
- [STRUCT](#) (df_deregister, [int](#) agent_id; char *service_name;) [int](#) df_Add(struct df_s *df
- [int](#) df_AddRequest (struct df_s *df, struct df_request_list_node_s *node)
- [int](#) df_Destroy (df_p df)
- df_p df_Initialize (struct [mc_platform_s](#) *mc_platform)
- [int](#) df_ProcessRequest (struct [mc_platform_s](#) *global)
- [int](#) df_SearchForService (df_p df, const char *searchstring, char ***agent_names, char ***service_names, [int](#) **agent_ids, [int](#) *num_entries)
- void df_Start (struct [mc_platform_s](#) *mc_platform)
- [int](#) df_node_Destroy (df_node_p df_node)
- [int](#) df_request_list_node_Destroy (df_request_list_node_p node)
- df_request_list_node_p df_request_list_node_New (void)
- [int](#) df_request_list_Destroy (df_request_list_p df_request_list)
- df_request_list_p df_request_list_New (void)
- df_request_list_node_p df_request_list_Pop (df_request_list_p requests)
- df_request_search_p df_request_search_New (void)
- [int](#) df_request_search_Destroy (df_request_search_p node)
- void * df_Thread (void *arg)

Variables

- `MUTEX_T * lock`
- `COND_T * cond`
- `int size`
- `list_p request_list`
- `char * search_string`
- `df_search_results_p search_results`
- `struct mc_platform_s * mc_platform`
- `list_p service_list`
- `int num_entries`
- `int waiting`
- `MUTEX_T * waiting_lock`
- `COND_T * waiting_cond`
- `THREAD_T thread`
- `struct df_node_s * node`

16.30.1 Define Documentation

16.30.1.1 `#define REQUEST(name, string, description) int request_handler_##name (struct mc_platform_s *global, void* data);`

Definition at line 193 of file df.h.

16.30.1.2 `#define REQUEST(name, string, description) REQUEST_##name,`

Definition at line 193 of file df.h.

16.30.2 Enumeration Type Documentation

16.30.2.1 `enum df_request_list_index_e`

Enumerator:

REQUEST

Definition at line 46 of file df.h.

16.30.2.2 `enum service_types_e`

Enumerator:

ZERO

MISC

INSERT

SOME

TYPES

HERE

Definition at line 53 of file df.h.

16.30.3 Function Documentation

16.30.3.1 `int df_AddRequest (struct df_s * df, struct df_request_list_node_s * node)`

Definition at line 63 of file df.c.

References ListAdd(), and SIGNAL.

Referenced by MC_DeregisterService(), MC_RegisterService(), and MC_SearchForService().

16.30.3.2 `int df_Destroy (df_p df)`

Definition at line 80 of file df.c.

References COND_DESTROY, df_node_Destroy(), df_request_list_Destroy(), ListPop(), ListTerminate(), MC_SUCCESS, MUTEX_DESTROY, and MUTEX_LOCK.

Referenced by mc_platform_Destroy().

16.30.3.3 `df_p df_Initialize (struct mc_platform_s * mc_platform)`

16.30.3.4 `int df_node_Destroy (df_node_p df_node)`

Definition at line 409 of file df.c.

References MC_SUCCESS, and MUTEX_LOCK.

Referenced by df_Destroy().

16.30.3.5 `int df_ProcessRequest (struct mc_platform_s * global)`

Definition at line 129 of file df.c.

References mc_platform_s::df, df_request_list_Pop(), MC_ERR_EMPTY, and MC_ERR_INVALID.

Referenced by df_Thread().

16.30.3.6 `int df_request_list_Destroy (df_request_list_p df_request_list)`

Definition at line 318 of file df.c.

References df_request_list_node_Destroy(), ListPop(), ListTerminate(), MC_SUCCESS, and node.

Referenced by df_Destroy().

16.30.3.7 `df_request_list_p df_request_list_New (void)`

Definition at line 340 of file df.c.

References CHECK_NULL, COND_INIT, COND_T, ListInitialize(), MUTEX_INIT, and MUTEX_T.

Referenced by df_Initialize().

16.30.3.8 `int df_request_list_node_Destroy (df_request_list_node_p node)`

Definition at line 289 of file df.c.

References COND_DESTROY, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by df_request_list_Destroy(), and MC_SearchForService().

16.30.3.9 df_request_list_node_p df_request_list_node_New (void)

Definition at line 300 of file df.c.

References CHECK_NULL, COND_INIT, COND_T, MUTEX_INIT, MUTEX_T, and node.

Referenced by MC_DeregisterService(), MC_RegisterService(), and MC_SearchForService().

16.30.3.10 df_request_list_node_p df_request_list_Pop (df_request_list_p requests)

Definition at line 365 of file df.c.

References ListPop(), MUTEX_LOCK, MUTEX_UNLOCK, and node.

Referenced by df_ProcessRequest().

16.30.3.11 int df_request_search_Destroy (df_request_search_p node)

Definition at line 396 of file df.c.

References COND_DESTROY, MC_SUCCESS, and MUTEX_DESTROY.

Referenced by MC_SearchForService().

16.30.3.12 df_request_search_p df_request_search_New (void)

Definition at line 381 of file df.c.

References CHECK_NULL, COND_INIT, COND_T, MUTEX_INIT, MUTEX_T, and search.

Referenced by MC_SearchForService().

16.30.3.13 int df_SearchForService (df_p df, const char * searchstring, char *** agent_names, char *** service_names, int ** agent_ids, int * num_entries)

Definition at line 173 of file df.c.

References MC_ERR_NOT_FOUND, MC_SUCCESS, MUTEX_LOCK, MUTEX_UNLOCK, listNode_s::next, and listNode_s::node_data.

Referenced by request_handler_SEARCH().

16.30.3.14 void df_Start (struct mc_platform_s * mc_platform)

16.30.3.15 void* df_Thread (void * arg)

Definition at line 423 of file df.c.

References COND_BROADCAST, COND_WAIT, mc_platform_s::df, df_ProcessRequest(), MC_SUCCESS, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::quit, and mc_platform_s::quit_lock.

Referenced by df_Start().

16.30.3.16 STRUCT (df_deregister, int agent_id;char *service_name;)

16.30.3.17 STRUCT (df_node, MUTEX_T *lock;int agent_id;char *agent_name;int num_services;char **service_names;enum service_types_e service_types;)

16.30.3.18 STRUCT (df_search_results, char **agent_names;char **service_names;int *agent_ids;int num_results;)

16.30.3.19 STRUCT (df_request_list_node, MUTEX_T *lock;COND_T *cond;const char *command;void *data;int data_size;)

16.30.4 Variable Documentation

16.30.4.1 COND_T * cond

Definition at line 74 of file df.h.

16.30.4.2 MUTEX_T * lock

Definition at line 73 of file df.h.

16.30.4.3 struct mc_platform_s* mc_platform

Definition at line 107 of file df.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), agent_RunChScriptThread(), ams_Thread(), cmd_prompt_Thread(), listen_Thread(), mc_platform_Initialize(), and MC_WaitAgent().

16.30.4.4 struct df_node_s* node

Definition at line 129 of file df.h.

Referenced by add_variable(), agent_xml_compose(), agent_xml_compose__agent_code(), agent_xml_compose__agent_data(), agent_xml_compose__create_row_nodes(), agent_xml_compose__data(), agent_xml_compose__gaf_message(), agent_xml_compose__home(), agent_xml_compose__message(), agent_xml_compose__mobile_agent(), agent_xml_compose__name(), agent_xml_compose__owner(), agent_xml_compose__row(), agent_xml_compose__task(), agent_xml_compose__tasks(), AP_QUEUE_SEARCH_TEMPLATE(), AP_QUEUE_STD_DEFN_TEMPLATE(), barrier_node_Initialize(), barrier_queue_Destroy(), barrier_queue_Pop(), df_request_list_Destroy(), df_request_list_node_New(), df_request_list_Pop(), fipa_envelope_Compose(), fipa_envelope_Compose__acl_representation(), fipa_envelope_Compose__date(), fipa_envelope_Compose__envelope(), fipa_envelope_Compose__intended_receiver(), fipa_envelope_Compose__params(), fipa_envelope_Compose__payload_encoding(), fipa_envelope_Compose__to(), fipa_envelope_HandleReceived(), main(), MC_Barrier(), MC_BarrierInit(), MC_SyncInit(), mxml_new(), mxmlNewCustom(), mxmlNewElement(), mxmlNewInteger(), mxmlNewOpaque(), mxmlNewReal(), mxmlNewText(), mxmlNewTextf(), request_handler_DEREGISTER(), scan_file(), syncListNew(), write_element(), xml_get_deep_child(), and xml_new_cdata().

16.30.4.5 int num_entries

Definition at line 113 of file df.h.

16.30.4.6 df_request_list_p request_list

Definition at line 76 of file df.h.

16.30.4.7 df_search_results_p search_results

Definition at line 91 of file df.h.

16.30.4.8 char* search_string

Definition at line 90 of file df.h.

16.30.4.9 list_p service_list

Definition at line 110 of file df.h.

16.30.4.10 int size

Definition at line 75 of file df.h.

Referenced by agent_AddPersistentVariable(), agent_xml_compose__create_row_nodes(), interpreter_variable_data_Initialize(), interpreter_variable_data_InitializeFromAgent(), MC_GetAgentReturnData(), MC_SaveData_chdl(), MC_WaitAgent(), and mxml_vsnprintf().

16.30.4.11 THREAD_T thread

Definition at line 117 of file df.h.

16.30.4.12 int waiting

Definition at line 114 of file df.h.

16.30.4.13 COND_T* waiting_cond

Definition at line 116 of file df.h.

16.30.4.14 MUTEX_T* waiting_lock

Definition at line 115 of file df.h.

16.31 /home/dko/projects/mobilec/trunk/src/include/df_request.x.h File Reference

Functions

- [REQUEST](#) (SUBSCRIBE,"subscribe","Subscribe to a directory facilitator") [REQUEST](#)(REGISTER
- Register services with the directory facilitator [REQUEST](#) (DEREGISTER,"deregister","Deregisters mobile agent services from a directory facilitator.") [REQUEST](#)(SEARCH

Variables

- [register](#)
- Register services with the directory facilitator [search](#)

16.31.1 Function Documentation

16.31.1.1 Register services with the directory facilitator [REQUEST](#) (DEREGISTER, "deregister", "Deregisters mobile agent services from a directory facilitator.")

Type Constraints

16.31.1.2 [REQUEST](#) (SUBSCRIBE, "subscribe", "Subscribe to a directory facilitator")

16.31.2 Variable Documentation

16.31.2.1 [register](#)

Definition at line 43 of file df_request.x.h.

16.31.2.2 Register services with the directory facilitator [search](#)

Definition at line 54 of file df_request.x.h.

Referenced by [df_request_search_New\(\)](#), [MC_SearchForService\(\)](#), and [request_handler_SEARCH\(\)](#).

16.32 /home/dko/projects/mobilec/trunk/src/include/dynstring.h File Reference

Data Structures

- struct [dynstring_s](#)

Defines

- #define [COMPOSE_BLOCKSIZE](#) 1024

Typedefs

- typedef struct [dynstring_s](#) [dynstring_t](#)
- typedef [dynstring_t](#) * [dynstring_p](#)

Functions

- [dynstring_t](#) * [dynstring_New](#) (void)
- [int](#) [dynstring_Append](#) ([dynstring_t](#) *msg, char *str)
- [int](#) [dynstring_Destroy](#) ([dynstring_t](#) *dynstring)

16.32.1 Define Documentation

16.32.1.1 #define [COMPOSE_BLOCKSIZE](#) 1024

Definition at line 8 of file [dynstring.h](#).

Referenced by [dynstring_Append\(\)](#), and [dynstring_New\(\)](#).

16.32.2 Typedef Documentation

16.32.2.1 typedef [dynstring_t](#)* [dynstring_p](#)

Definition at line 14 of file [dynstring.h](#).

16.32.2.2 typedef struct [dynstring_s](#) [dynstring_t](#)

16.32.3 Function Documentation

16.32.3.1 [int](#) [dynstring_Append](#) ([dynstring_t](#) * *msg*, char * *str*)

Definition at line 24 of file [dynstring.c](#).

References [COMPOSE_BLOCKSIZE](#), [dynstring_s::len](#), [dynstring_s::message](#), and [dynstring_s::size](#).

Referenced by `fipa_acl_Compose()`, `fipa_agent_identifier_Compose()`, `fipa_agent_identifier_set_Compose()`, `fipa_DateTime_Compose()`, `fipa_envelope_Compose__from()`, `fipa_number_Compose()`, `fipa_performative_Compose()`, `fipa_string_Compose()`, `fipa_url_Compose()`, `fipa_url_sequence_Compose()`, `fipa_word_Compose()`, `mtp_http_CreateMessage()`, and `mtp_http_InitializeFromConnection()`.

16.32.3.2 `int dynstring_Destroy (dynstring_t * dynstring)`

Definition at line 49 of file `dynstring.c`.

References `dynstring_s::message`.

Referenced by `fipa_envelope_Compose__from()`, `MC_AclSend()`, `mtp_http_CreateMessage()`, and `mtp_http_InitializeFromConnection()`.

16.32.3.3 `dynstring_t* dynstring_New (void)`

Definition at line 8 of file `dynstring.c`.

References `COMPOSE_BLOCKSIZE`, `dynstring_s::len`, `dynstring_s::message`, and `dynstring_s::size`.

Referenced by `fipa_acl_Compose()`, `fipa_envelope_Compose__from()`, `mtp_http_CreateMessage()`, and `mtp_http_InitializeFromConnection()`.

16.33 /home/dko/projects/mobilec/trunk/src/include/fipa_acl.h File Reference

```
#include "dynstring.h"
```

Data Structures

- struct [fipa_acl_message_s](#)
- struct [fipa_message_string_s](#)
- struct [fipa_url_sequence_s](#)
- struct [fipa_agent_identifier_set_s](#)
- struct [fipa_agent_identifier_s](#)
- struct [fipa_expression_s](#)
- union [fipa_expression_s::content_u](#)
- struct [fipa_word_s](#)
- struct [fipa_string_s](#)
- struct [fipa_DateTime_s](#)
- struct [fipa_url_s](#)
- struct [fipa_number_s](#)

Typedefs

- typedef enum [fipa_expression_type_e](#) [fipa_expression_type_t](#)
- typedef struct [fipa_acl_message_s](#) [fipa_acl_message_t](#)
- typedef [fipa_acl_message_t](#) * [fipa_acl_message_p](#)
- typedef struct [fipa_message_string_s](#) [fipa_message_string_t](#)
- typedef [fipa_message_string_t](#) * [fipa_message_string_p](#)
- typedef struct [fipa_url_sequence_s](#) [fipa_url_sequence_t](#)
- typedef [fipa_url_sequence_t](#) * [fipa_url_sequence_p](#)
- typedef struct [fipa_agent_identifier_set_s](#) [fipa_agent_identifier_set_t](#)
- typedef [fipa_agent_identifier_set_t](#) * [fipa_agent_identifier_set_p](#)
- typedef struct [fipa_agent_identifier_s](#) [fipa_agent_identifier_t](#)
- typedef [fipa_agent_identifier_t](#) * [fipa_agent_identifier_p](#)
- typedef struct [fipa_expression_s](#) [fipa_expression_t](#)
- typedef [fipa_expression_t](#) * [fipa_expression_p](#)
- typedef struct [fipa_word_s](#) [fipa_word_t](#)
- typedef [fipa_word_t](#) * [fipa_word_p](#)
- typedef struct [fipa_string_s](#) [fipa_string_t](#)
- typedef [fipa_string_t](#) * [fipa_string_p](#)
- typedef struct [fipa_DateTime_s](#) [fipa_DateTime_t](#)
- typedef [fipa_DateTime_t](#) * [fipa_DateTime_p](#)
- typedef struct [fipa_url_s](#) [fipa_url_t](#)
- typedef [fipa_url_t](#) * [fipa_url_p](#)
- typedef struct [fipa_number_s](#) [fipa_number_t](#)
- typedef [fipa_number_t](#) * [fipa_number_p](#)

Enumerations

- enum `fipa_performative_e` {
`FIPA_ERROR = -1, FIPA_ZERO, FIPA_ACCEPT_PROPOSAL, FIPA_AGREE,`
`FIPA_CANCEL, FIPA_CALL_FOR_PROPOSAL, FIPA_CONFIRM, FIPA_DISCONFIRM,`
`FIPA_FAILURE, FIPA_INFORM, FIPA_INFORM_IF, FIPA_INFORM_REF,`
`FIPA_NOT_UNDERSTOOD, FIPA_PROPOGATE, FIPA_PROPOSE, FIPA_PROXY,`
`FIPA_QUERY_IF, FIPA_QUERY_REF, FIPA_REFUSE, FIPA_REJECT_PROPOSAL,`
`FIPA_REQUEST, FIPA_REQUEST_WHEN, FIPA_REQUEST_WHENEVER, FIPA_-`
`SUBSCRIBE,`
`FIPA_ERROR = -1, FIPA_ZERO, FIPA_ACCEPT_PROPOSAL, FIPA_AGREE,`
`FIPA_CANCEL, FIPA_CALL_FOR_PROPOSAL, FIPA_CONFIRM, FIPA_DISCONFIRM,`
`FIPA_FAILURE, FIPA_INFORM, FIPA_INFORM_IF, FIPA_INFORM_REF,`
`FIPA_NOT_UNDERSTOOD, FIPA_PROPOGATE, FIPA_PROPOSE, FIPA_PROXY,`
`FIPA_QUERY_IF, FIPA_QUERY_REF, FIPA_REFUSE, FIPA_REJECT_PROPOSAL,`
`FIPA_REQUEST, FIPA_REQUEST_WHEN, FIPA_REQUEST_WHENEVER, FIPA_-`
`SUBSCRIBE }`
- enum `fipa_expression_type_e` {
`FIPA_EXPR_ZERO, FIPA_EXPR_WORD, FIPA_EXPR_STRING, FIPA_EXPR_NUMBER,`
`FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION }`

Functions

- `int fipa_performative_Compose (dynstring_t *msg, enum fipa_performative_e performative)`
- `fipa_acl_message_t * fipa_acl_message_New (void)`
- `int fipa_acl_message_Destroy (fipa_acl_message_t *message)`
- `fipa_acl_message_t * fipa_acl_message_Copy (fipa_acl_message_t *src)`
- `int fipa_acl_Compose (dynstring_t **msg, fipa_acl_message_t *acl)`
- `fipa_message_string_t * fipa_message_string_New (void)`
- `int fipa_message_string_Destroy (fipa_message_string_t *message)`
- `fipa_message_string_t * fipa_message_string_Copy (fipa_message_string_t *src)`
- `fipa_url_sequence_t * fipa_url_sequence_New (void)`
- `int fipa_url_sequence_Destroy (fipa_url_sequence_t *sequence)`
- `fipa_url_sequence_t * fipa_url_sequence_Copy (fipa_url_sequence_t *src)`
- `int fipa_url_sequence_Compose (dynstring_t *msg, fipa_url_sequence_t *urls)`
- `fipa_agent_identifier_set_t * fipa_agent_identifier_set_New (void)`
- `int fipa_agent_identifier_set_Destroy (fipa_agent_identifier_set_t *idset)`
- `fipa_agent_identifier_set_t * fipa_agent_identifier_set_Copy (fipa_agent_identifier_set_t *src)`
- `int fipa_agent_identifier_set_Compose (dynstring_t *msg, fipa_agent_identifier_set_t *ids)`
- `fipa_agent_identifier_t * fipa_agent_identifier_New (void)`
- `int fipa_agent_identifier_Destroy (fipa_agent_identifier_t *id)`
- `fipa_agent_identifier_t * fipa_agent_identifier_Copy (fipa_agent_identifier_t *src)`
- `int fipa_agent_identifier_Compose (dynstring_t *msg, fipa_agent_identifier_t *id)`
- `fipa_expression_t * fipa_expression_New (void)`
- `int fipa_expression_Destroy (fipa_expression_t *expr)`
- `fipa_expression_t * fipa_expression_Copy (fipa_expression_t *src)`
- `int fipa_expression_Compose (dynstring_t *msg, fipa_expression_t *expr)`

- `fipa_word_t * fipa_word_New` (void)
- `int fipa_word_Destroy` (`fipa_word_t *word`)
- `fipa_word_t * fipa_word_Copy` (`fipa_word_t *src`)
- `int fipa_word_Compose` (`dynstring_t *msg`, `fipa_word_t *word`)
- `fipa_string_t * fipa_string_New` (void)
- `int fipa_string_Destroy` (`fipa_string_t *str`)
- `fipa_string_t * fipa_string_Copy` (`fipa_string_t *src`)
- `int fipa_string_Compose` (`dynstring_t *msg`, `fipa_string_t *string`)
- `fipa_DateTime_t * fipa_DateTime_New` (void)
- `int fipa_DateTime_Destroy` (`fipa_DateTime_t *dt`)
- `fipa_DateTime_t * fipa_DateTime_Copy` (`fipa_DateTime_t *src`)
- `int fipa_DateTime_Compose` (`dynstring_t *msg`, `fipa_DateTime_t *date`)
- `fipa_url_t * fipa_url_New` (void)
- `int fipa_url_Destroy` (`fipa_url_t *url`)
- `fipa_url_t * fipa_url_Copy` (`fipa_url_t *src`)
- `int fipa_url_Compose` (`dynstring_t *msg`, `fipa_url_t *url`)
- `fipa_number_t * fipa_number_New` (void)
- `int fipa_number_Destroy` (`fipa_number_t *number`)
- `fipa_number_t * fipa_number_Copy` (`fipa_number_t *src`)
- `int fipa_number_Compose` (`dynstring_t *msg`, `fipa_number_t *number`)
- `int fipa_acl_Parse` (`struct fipa_acl_message_s *acl`, `fipa_message_string_p message`)
- `int fipa_message_parameter_Parse` (`struct fipa_acl_message_s *acl`, `fipa_message_string_p message`)
- `int fipa_message_type_Parse` (`enum fipa_performative_e *performative`, `fipa_message_string_p message`)
- `int fipa_GetAtom` (`fipa_message_string_p message`, `char expected_atom`)
- `int fipa_word_Parse` (`fipa_word_t **word`, `fipa_message_string_p message`)
- `int fipa_CheckNextToken` (`const fipa_message_string_p message`, `const char *token`)
- `int fipa_expression_Parse` (`fipa_expression_t **expression`, `fipa_message_string_p message`)
- `int fipa_GetNextWord` (`char **word`, `const fipa_message_string_p message`)
- `int fipa_GetWholeToken` (`char **word`, `const fipa_message_string_p message`)
- `int fipa_datetime_Parse` (`fipa_DateTime_p *datetime`, `fipa_message_string_p message`)
- `int fipa_string_Parse` (`fipa_string_p *fipa_string`, `fipa_message_string_p message`)
- `int fipa_agent_identifier_Parse` (`fipa_agent_identifier_p *aid`, `fipa_message_string_p message`)
- `int fipa_agent_identifier_set_Parse` (`fipa_agent_identifier_set_p *agent_ids`, `fipa_message_string_p message`)
- `int fipa_url_sequence_Parse` (`fipa_url_sequence_p *urls`, `fipa_message_string_p message`)
- `int fipa_url_Parse` (`fipa_url_p *url`, `fipa_message_string_p message`)
- `struct fipa_acl_message_s * fipa_Reply` (`struct fipa_acl_message_s *acl`)

16.33.1 Typedef Documentation

16.33.1.1 typedef `fipa_acl_message_t*` `fipa_acl_message_p`

Definition at line 113 of file `fipa_acl.h`.

16.33.1.2 typedef struct `fipa_acl_message_s` `fipa_acl_message_t`

16.33.1.3 typedef `fipa_agent_identifier_t*` `fipa_agent_identifier_p`

Definition at line 163 of file `fipa_acl.h`.

16.33.1.4 typedef fipa_agent_identifier_set_t* fipa_agent_identifier_set_p

Definition at line 149 of file fipa_acl.h.

16.33.1.5 typedef struct fipa_agent_identifier_set_s fipa_agent_identifier_set_t**16.33.1.6 typedef struct fipa_agent_identifier_s fipa_agent_identifier_t****16.33.1.7 typedef fipa_DateTime_t* fipa_DateTime_p**

Definition at line 223 of file fipa_acl.h.

16.33.1.8 typedef struct fipa_DateTime_s fipa_DateTime_t**16.33.1.9 typedef fipa_expression_t* fipa_expression_p**

Definition at line 182 of file fipa_acl.h.

16.33.1.10 typedef struct fipa_expression_s fipa_expression_t**16.33.1.11 typedef enum fipa_expression_type_e fipa_expression_type_t****16.33.1.12 typedef fipa_message_string_t* fipa_message_string_p**

Definition at line 125 of file fipa_acl.h.

16.33.1.13 typedef struct fipa_message_string_s fipa_message_string_t**16.33.1.14 typedef fipa_number_t* fipa_number_p**

Definition at line 245 of file fipa_acl.h.

16.33.1.15 typedef struct fipa_number_s fipa_number_t**16.33.1.16 typedef fipa_string_t* fipa_string_p**

Definition at line 204 of file fipa_acl.h.

16.33.1.17 typedef struct fipa_string_s fipa_string_t**16.33.1.18 typedef fipa_url_t* fipa_url_p**

Definition at line 234 of file fipa_acl.h.

16.33.1.19 typedef fipa_url_sequence_t* fipa_url_sequence_p

Definition at line 136 of file fipa_acl.h.

16.33.1.20 `typedef struct fipa_url_sequence_s fipa_url_sequence_t`

16.33.1.21 `typedef struct fipa_url_s fipa_url_t`

16.33.1.22 `typedef fipa_word_t* fipa_word_p`

Definition at line 193 of file fipa_acl.h.

16.33.1.23 `typedef struct fipa_word_s fipa_word_t`

16.33.2 Enumeration Type Documentation

16.33.2.1 `enum fipa_expression_type_e`

Enumerator:

FIPA_EXPR_ZERO

FIPA_EXPR_WORD

FIPA_EXPR_STRING

FIPA_EXPR_NUMBER

FIPA_EXPR_DATETIME

FIPA_EXPR_EXPRESSION

Definition at line 72 of file fipa_acl.h.

16.33.2.2 `enum fipa_performative_e`

Enumerator:

FIPA_ERROR

FIPA_ZERO

FIPA_ACCEPT_PROPOSAL

FIPA_AGREE

FIPA_CANCEL

FIPA_CALL_FOR_PROPOSAL

FIPA_CONFIRM

FIPA_DISCONFIRM

FIPA_FAILURE

FIPA_INFORM

FIPA_INFORM_IF

FIPA_INFORM_REF

FIPA_NOT_UNDERSTOOD

FIPA_PROPOGATE

FIPA_PROPOSE

FIPA_PROXY

FIPA_QUERY_IF

FIPA_QUERY_REF
FIPA_REFUSE
FIPA_REJECT_PROPOSAL
FIPA_REQUEST
FIPA_REQUEST_WHEN
FIPA_REQUEST_WHENEVER
FIPA_SUBSCRIBE
FIPA_ERROR
FIPA_ZERO
FIPA_ACCEPT_PROPOSAL
FIPA_AGREE
FIPA_CANCEL
FIPA_CALL_FOR_PROPOSAL
FIPA_CONFIRM
FIPA_DISCONFIRM
FIPA_FAILURE
FIPA_INFORM
FIPA_INFORM_IF
FIPA_INFORM_REF
FIPA_NOT_UNDERSTOOD
FIPA_PROPOGATE
FIPA_PROPOSE
FIPA_PROXY
FIPA_QUERY_IF
FIPA_QUERY_REF
FIPA_REFUSE
FIPA_REJECT_PROPOSAL
FIPA_REQUEST
FIPA_REQUEST_WHEN
FIPA_REQUEST_WHENEVER
FIPA_SUBSCRIBE

Definition at line 41 of file `fipa_acl.h`.

16.33.3 Function Documentation

16.33.3.1 `int fipa_acl_Compose (dynstring_t **msg, fipa_acl_message_t *acl)`

Definition at line 1185 of file `fipa_acl.c`.

References `fipa_acl_message_s::content`, `fipa_acl_message_s::conversation_id`, `dynstring_Append()`, `dynstring_New()`, `fipa_acl_message_s::encoding`, `fipa_agent_identifier_Compose()`, `fipa_agent_identifier_set_Compose()`, `fipa_DateTime_Compose()`, `fipa_expression_Compose()`, `fipa_performative_Compose()`, `fipa_string_Compose()`, `fipa_word_Compose()`, `fipa_acl_message_s::in_reply_to`, `fipa_acl_message_s::language`, `fipa_acl_message_s::ontology`, `fipa_acl_message_s::performative`, `fipa_acl_message_s::protocol`, `fipa_acl_message_s::receiver`, `fipa_acl_message_s::reply_by`, `fipa_acl_message_s::reply_to`, `fipa_acl_message_s::reply_with`, and `fipa_acl_message_s::sender`.

Referenced by `MC_AclSend()`.

16.33.3.2 fipa_acl_message_t* fipa_acl_message_Copy (fipa_acl_message_t * src)

Definition at line 81 of file fipa_acl.c.

References fipa_acl_message_s::content, fipa_acl_message_s::conversation_id, fipa_acl_message_s::encoding, fipa_acl_message_New(), fipa_agent_identifier_Copy(), fipa_agent_identifier_set_Copy(), fipa_DateTime_Copy(), fipa_expression_Copy(), fipa_string_Copy(), fipa_word_Copy(), fipa_acl_message_s::in_reply_to, fipa_acl_message_s::language, fipa_acl_message_s::ontology, fipa_acl_message_s::performative, fipa_acl_message_s::protocol, fipa_acl_message_s::receiver, fipa_acl_message_s::reply_by, fipa_acl_message_s::reply_to, fipa_acl_message_s::reply_with, and fipa_acl_message_s::sender.

16.33.3.3 int fipa_acl_message_Destroy (fipa_acl_message_t * message)

Definition at line 60 of file fipa_acl.c.

References fipa_acl_message_s::content, fipa_acl_message_s::conversation_id, fipa_acl_message_s::encoding, fipa_agent_identifier_Destroy(), fipa_agent_identifier_set_Destroy(), fipa_DateTime_Destroy(), fipa_expression_Destroy(), fipa_string_Destroy(), fipa_word_Destroy(), fipa_acl_message_s::in_reply_to, fipa_acl_message_s::language, fipa_acl_message_s::ontology, fipa_acl_message_s::protocol, fipa_acl_message_s::receiver, fipa_acl_message_s::reply_by, fipa_acl_message_s::reply_to, fipa_acl_message_s::reply_with, and fipa_acl_message_s::sender.

Referenced by acc_Thread(), and MC_AclDestroy().

16.33.3.4 fipa_acl_message_t* fipa_acl_message_New (void)

Definition at line 52 of file fipa_acl.c.

Referenced by acc_Thread(), fipa_acl_message_Copy(), fipa_Reply(), and MC_AclNew().

16.33.3.5 int fipa_acl_Parse (struct fipa_acl_message_s * acl, fipa_message_string_p message)

16.33.3.6 int fipa_agent_identifier_Compose (dynstring_t * msg, fipa_agent_identifier_t * id)

Definition at line 1355 of file fipa_acl.c.

References fipa_agent_identifier_s::addresses, dynstring_Append(), fipa_agent_identifier_set_Compose(), fipa_url_sequence_Compose(), fipa_agent_identifier_s::name, fipa_agent_identifier_set_s::num, fipa_url_sequence_s::num, and fipa_agent_identifier_s::resolvers.

Referenced by fipa_acl_Compose(), and fipa_agent_identifier_set_Compose().

16.33.3.7 fipa_agent_identifier_t* fipa_agent_identifier_Copy (fipa_agent_identifier_t * src)

Definition at line 229 of file fipa_acl.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_New(), fipa_agent_identifier_set_Copy(), fipa_url_sequence_Copy(), fipa_agent_identifier_s::name, and fipa_agent_identifier_s::resolvers.

Referenced by fipa_acl_message_Copy(), fipa_acl_Param_Copy(), fipa_agent_identifier_set_Copy(), and fipa_Reply().

16.33.3.8 int fipa_agent_identifier_Destroy (fipa_agent_identifier_t * id)

Definition at line 217 of file fipa_acl.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_set_Destroy(), fipa_url_sequence_Destroy(), fipa_agent_identifier_s::name, and fipa_agent_identifier_s::resolvers.

Referenced by fipa_acl_message_Destroy(), fipa_acl_Param_Destroy(), fipa_agent_identifier_set_Destroy(), and MC_AclSetSender().

16.33.3.9 fipa_agent_identifier_t* fipa_agent_identifier_New (void)

Definition at line 209 of file fipa_acl.c.

Referenced by fipa_agent_identifier_Copy(), fipa_envelope_ParseAgentIdentifier(), MC_AclAddReceiver(), MC_AclAddReplyTo(), and MC_AclSetSender().

16.33.3.10 int fipa_agent_identifier_Parse (fipa_agent_identifier_p * aid, fipa_message_string_p message)

Definition at line 985 of file fipa_acl.c.

References CHECK_NULL, fipa_word_s::content, fipa_agent_identifier_set_Parse(), fipa_GetAtom(), fipa_url_sequence_Parse(), fipa_word_Destroy(), fipa_word_Parse(), MC_ERR_PARSE, MC_SUCCESS, and fipa_message_string_s::parse.

Referenced by fipa_agent_identifier_set_Parse(), and fipa_message_parameter_Parse().

16.33.3.11 int fipa_agent_identifier_set_Compose (dynstring_t * msg, fipa_agent_identifier_set_t * ids)

Definition at line 1342 of file fipa_acl.c.

References dynstring_Append(), fipa_agent_identifier_Compose(), fipa_agent_identifier_set_s::fipa_agent_identifiers, and fipa_agent_identifier_set_s::num.

Referenced by fipa_acl_Compose(), and fipa_agent_identifier_Compose().

16.33.3.12 fipa_agent_identifier_set_t* fipa_agent_identifier_set_Copy (fipa_agent_identifier_set_t * src)

Definition at line 188 of file fipa_acl.c.

References fipa_agent_identifier_Copy(), fipa_agent_identifier_set_New(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_agent_identifier_set_s::num, and fipa_agent_identifier_set_s::retain_order.

Referenced by fipa_acl_message_Copy(), fipa_acl_Param_Copy(), fipa_agent_identifier_Copy(), and fipa_Reply().

16.33.3.13 int fipa_agent_identifier_set_Destroy (fipa_agent_identifier_set_t * idset)

Definition at line 176 of file fipa_acl.c.

References fipa_agent_identifier_Destroy(), fipa_agent_identifier_set_s::fipa_agent_identifiers, and fipa_agent_identifier_set_s::num.

Referenced by `fipa_acl_message_Destroy()`, `fipa_acl_Param_Destroy()`, and `fipa_agent_identifier_Destroy()`.

16.33.3.14 `fipa_agent_identifier_set_t*` `fipa_agent_identifier_set_New (void)`

Definition at line 168 of file `fipa_acl.c`.

Referenced by `fipa_agent_identifier_set_Copy()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleTo()`, `fipa_Reply()`, `MC_AclAddReceiver()`, and `MC_AclAddReplyTo()`.

16.33.3.15 `int` `fipa_agent_identifier_set_Parse (fipa_agent_identifier_set_p * agent_ids, fipa_message_string_p message)`

Definition at line 1144 of file `fipa_acl.c`.

References `fipa_word_s::content`, `fipa_agent_identifier_Parse()`, `fipa_GetAtom()`, `fipa_word_Parse()`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_agent_identifier_set_s::retain_order`.

Referenced by `fipa_agent_identifier_Parse()`, and `fipa_message_parameter_Parse()`.

16.33.3.16 `int` `fipa_CheckNextToken (const fipa_message_string_p message, const char * token)`

Definition at line 647 of file `fipa_acl.c`.

References `fipa_message_string_s::parse`.

Referenced by `fipa_expression_Parse()`.

16.33.3.17 `int` `fipa_DateTime_Compose (dynstring_t * msg, fipa_DateTime_t * date)`

Definition at line 1428 of file `fipa_acl.c`.

References `buf`, `fipa_DateTime_s::day`, `dynstring_Append()`, `fipa_DateTime_s::hour`, `fipa_DateTime_s::millisecond`, `fipa_DateTime_s::minute`, `fipa_DateTime_s::month`, `fipa_DateTime_s::second`, `fipa_DateTime_s::sign`, and `fipa_DateTime_s::year`.

Referenced by `fipa_acl_Compose()`, and `fipa_expression_Compose()`.

16.33.3.18 `fipa_DateTime_t*` `fipa_DateTime_Copy (fipa_DateTime_t * src)`

Definition at line 392 of file `fipa_acl.c`.

References `fipa_DateTime_New()`.

Referenced by `fipa_acl_envelope_Received_Copy()`, `fipa_acl_message_Copy()`, `fipa_acl_Param_Copy()`, and `fipa_expression_Copy()`.

16.33.3.19 `int` `fipa_DateTime_Destroy (fipa_DateTime_t * dt)`

Definition at line 385 of file `fipa_acl.c`.

Referenced by `fipa_acl_envelope_Received_Destroy()`, `fipa_acl_message_Destroy()`, `fipa_acl_Param_Destroy()`, and `fipa_expression_Destroy()`.

16.33.3.20 fipa_DateTime_t* fipa_DateTime_New (void)

Definition at line 377 of file fipa_acl.c.

Referenced by fipa_DateTime_Copy().

16.33.3.21 int fipa_datetime_Parse (fipa_DateTime_p * *datetime*, fipa_message_string_p *message*)

Definition at line 802 of file fipa_acl.c.

References buf, fipa_GetWholeToken(), MC_ERR_PARSE, MC_SUCCESS, fipa_message_string_s::parse, and fipa_DateTime_s::sign.

Referenced by fipa_envelope_HandleDate(), fipa_envelope_HandleReceived(), fipa_expression_Parse(), and fipa_message_parameter_Parse().

16.33.3.22 int fipa_expression_Compose (dynstring_t * *msg*, fipa_expression_t * *expr*)

Definition at line 1381 of file fipa_acl.c.

References fipa_expression_s::content, fipa_expression_s::content_u::datetime, fipa_expression_s::content_u::expression, fipa_DateTime_Compose(), FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION, FIPA_EXPR_NUMBER, FIPA_EXPR_STRING, FIPA_EXPR_WORD, fipa_expression_Compose(), fipa_number_Compose(), fipa_string_Compose(), fipa_word_Compose(), MC_ERR_PARSE, fipa_expression_s::content_u::number, fipa_expression_s::content_u::string, fipa_expression_s::type, and fipa_expression_s::content_u::word.

Referenced by fipa_acl_Compose(), and fipa_expression_Compose().

16.33.3.23 fipa_expression_t* fipa_expression_Copy (fipa_expression_t * *src*)

Definition at line 280 of file fipa_acl.c.

References fipa_expression_s::content, fipa_expression_s::content_u::datetime, fipa_expression_s::content_u::expression, fipa_DateTime_Copy(), FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION, FIPA_EXPR_NUMBER, FIPA_EXPR_STRING, FIPA_EXPR_WORD, fipa_expression_Copy(), fipa_expression_Destroy(), fipa_expression_New(), fipa_number_Copy(), fipa_string_Copy(), fipa_word_Copy(), fipa_expression_s::content_u::number, fipa_expression_s::content_u::string, fipa_expression_s::type, and fipa_expression_s::content_u::word.

Referenced by fipa_acl_message_Copy(), and fipa_expression_Copy().

16.33.3.24 int fipa_expression_Destroy (fipa_expression_t * *expr*)

Definition at line 249 of file fipa_acl.c.

References fipa_expression_s::content, fipa_expression_s::content_u::datetime, fipa_expression_s::content_u::expression, fipa_DateTime_Destroy(), FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION, FIPA_EXPR_NUMBER, FIPA_EXPR_STRING, FIPA_EXPR_WORD, fipa_expression_Destroy(), fipa_number_Destroy(), fipa_string_Destroy(), fipa_word_Destroy(), FREEMEM, fipa_expression_s::content_u::number, fipa_expression_s::content_u::string, fipa_expression_s::type, and fipa_expression_s::content_u::word.

Referenced by fipa_acl_message_Destroy(), fipa_expression_Copy(), and fipa_expression_Destroy().

16.33.3.25 fipa_expression_t* fipa_expression_New (void)

Definition at line 241 of file fipa_acl.c.

Referenced by fipa_expression_Copy().

16.33.3.26 int fipa_expression_Parse (fipa_expression_t ** expression, fipa_message_string_p message)

Definition at line 666 of file fipa_acl.c.

References fipa_CheckNextToken(), fipa_datetime_Parse(), FIPA_EXPR_DATETIME, FIPA_EXPR_EXPRESSION, FIPA_EXPR_STRING, FIPA_EXPR_WORD, fipa_expression_Parse(), fipa_GetAtom(), fipa_string_Parse(), fipa_word_Parse(), MC_ERR_PARSE, MC_SUCCESS, and fipa_expression_s::type.

Referenced by fipa_expression_Parse(), and fipa_message_parameter_Parse().

16.33.3.27 int fipa_GetAtom (fipa_message_string_p message, char expected_atom)

Definition at line 582 of file fipa_acl.c.

References MC_ERR_PARSE, MC_SUCCESS, and fipa_message_string_s::parse.

Referenced by fipa_acl_Parse(), fipa_agent_identifier_Parse(), fipa_agent_identifier_set_Parse(), fipa_expression_Parse(), fipa_message_parameter_Parse(), fipa_string_Parse(), and fipa_url_sequence_Parse().

16.33.3.28 int fipa_GetNextWord (char ** word, const fipa_message_string_p message)

Definition at line 717 of file fipa_acl.c.

References ERR, MC_SUCCESS, and fipa_message_string_s::parse.

16.33.3.29 int fipa_GetWholeToken (char ** word, const fipa_message_string_p message)

Definition at line 765 of file fipa_acl.c.

References MC_SUCCESS, and fipa_message_string_s::parse.

Referenced by fipa_datetime_Parse().

16.33.3.30 int fipa_message_parameter_Parse (struct fipa_acl_message_s * acl, fipa_message_string_p message)**16.33.3.31 fipa_message_string_t* fipa_message_string_Copy (fipa_message_string_t * src)**

Definition at line 122 of file fipa_acl.c.

References fipa_message_string_s::message, and fipa_message_string_s::parse.

16.33.3.32 int fipa_message_string_Destroy (fipa_message_string_t * message)

Definition at line 112 of file fipa_acl.c.

References fipa_message_string_s::message.

Referenced by `acc_Thread()`.

16.33.3.33 `fipa_message_string_t*` `fipa_message_string_New (void)`

Definition at line 104 of file `fipa_acl.c`.

Referenced by `acc_Thread()`.

16.33.3.34 `int` `fipa_message_type_Parse (enum fipa_performative_e * performative, fipa_message_string_p message)`

Definition at line 520 of file `fipa_acl.c`.

References `fipa_word_s::content`, `FIPA_ACCEPT_PROPOSAL`, `FIPA_AGREE`, `FIPA_CALL_FOR_PROPOSAL`, `FIPA_CANCEL`, `FIPA_CONFIRM`, `FIPA_DISCONFIRM`, `FIPA_FAILURE`, `FIPA_INFORM`, `FIPA_INFORM_IF`, `FIPA_INFORM_REF`, `FIPA_NOT_UNDERSTOOD`, `FIPA_PROPOGATE`, `FIPA_PROPOSE`, `FIPA_PROXY`, `FIPA_QUERY_IF`, `FIPA_QUERY_REF`, `FIPA_REFUSE`, `FIPA_REJECT_PROPOSAL`, `FIPA_REQUEST`, `FIPA_REQUEST_WHEN`, `FIPA_REQUEST_WHENEVER`, `FIPA_SUBSCRIBE`, `fipa_word_Destroy()`, `fipa_word_Parse()`, and `MC_ERR_PARSE`.

Referenced by `fipa_acl_Parse()`.

16.33.3.35 `int` `fipa_number_Compose (dynstring_t * msg, fipa_number_t * number)`

Definition at line 1456 of file `fipa_acl.c`.

References `dynstring_Append()`, and `fipa_number_s::str`.

Referenced by `fipa_expression_Compose()`.

16.33.3.36 `fipa_number_t*` `fipa_number_Copy (fipa_number_t * src)`

Definition at line 448 of file `fipa_acl.c`.

References `fipa_number_New()`, and `fipa_number_s::str`.

Referenced by `fipa_expression_Copy()`.

16.33.3.37 `int` `fipa_number_Destroy (fipa_number_t * number)`

Definition at line 438 of file `fipa_acl.c`.

References `fipa_number_s::str`.

Referenced by `fipa_expression_Destroy()`.

16.33.3.38 `fipa_number_t*` `fipa_number_New (void)`

Definition at line 430 of file `fipa_acl.c`.

Referenced by `fipa_number_Copy()`.

16.33.3.39 int fipa_performative_Compose (dynstring_t * msg, enum fipa_performative_e performative)

Definition at line 1254 of file fipa_acl.c.

References dynstring_Append(), FIPA_ACCEPT_PROPOSAL, FIPA_AGREE, FIPA_CALL_FOR_PROPOSAL, FIPA_CANCEL, FIPA_CONFIRM, FIPA_DISCONFIRM, FIPA_FAILURE, FIPA_INFORM, FIPA_INFORM_IF, FIPA_INFORM_REF, FIPA_NOT_UNDERSTOOD, FIPA_PROPOGATE, FIPA_PROPOSE, FIPA_PROXY, FIPA_QUERY_IF, FIPA_QUERY_REF, FIPA_REFUSE, FIPA_REJECT_PROPOSAL, FIPA_REQUEST, FIPA_REQUEST_WHEN, FIPA_REQUEST_WHENEVER, FIPA_SUBSCRIBE, and MC_ERR_PARSE.

Referenced by fipa_acl_Compose().

16.33.3.40 struct fipa_acl_message_s* fipa_Reply (struct fipa_acl_message_s * acl) [read]

Definition at line 1464 of file fipa_acl.c.

References fipa_acl_message_New(), fipa_agent_identifier_Copy(), fipa_agent_identifier_set_Copy(), fipa_agent_identifier_set_New(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_agent_identifier_set_s::num, fipa_acl_message_s::receiver, fipa_acl_message_s::reply_to, fipa_agent_identifier_set_s::retain_order, and fipa_acl_message_s::sender.

Referenced by MC_AclReply().

16.33.3.41 int fipa_string_Compose (dynstring_t * msg, fipa_string_t * string)

Definition at line 1419 of file fipa_acl.c.

References fipa_string_s::content, and dynstring_Append().

Referenced by fipa_acl_Compose(), and fipa_expression_Compose().

16.33.3.42 fipa_string_t* fipa_string_Copy (fipa_string_t * src)

Definition at line 367 of file fipa_acl.c.

References fipa_string_s::content, and fipa_string_New().

Referenced by fipa_acl_message_Copy(), and fipa_expression_Copy().

16.33.3.43 int fipa_string_Destroy (fipa_string_t * str)

Definition at line 357 of file fipa_acl.c.

References fipa_string_s::content.

Referenced by fipa_acl_message_Destroy(), fipa_expression_Destroy(), and MC_AclSetContent().

16.33.3.44 fipa_string_t* fipa_string_New (void)

Definition at line 349 of file fipa_acl.c.

Referenced by fipa_string_Copy(), and MC_AclSetContent().

16.33.3.45 int fipa_string_Parse (fipa_string_p * fipa_string, fipa_message_string_p message)

Definition at line 940 of file fipa_acl.c.

References fipa_string_s::content, fipa_GetAtom(), MC_ERR_PARSE, MC_SUCCESS, and fipa_message_string_s::parse.

Referenced by fipa_expression_Parse(), and fipa_message_parameter_Parse().

16.33.3.46 int fipa_url_Compose (dynstring_t * msg, fipa_url_t * url)

Definition at line 1448 of file fipa_acl.c.

References dynstring_Append(), and fipa_url_s::str.

Referenced by fipa_url_sequence_Compose().

16.33.3.47 fipa_url_t* fipa_url_Copy (fipa_url_t * src)

Definition at line 420 of file fipa_acl.c.

References fipa_url_New(), and fipa_url_s::str.

Referenced by fipa_acl_envelope_Received_Copy(), and fipa_url_sequence_Copy().

16.33.3.48 int fipa_url_Destroy (fipa_url_t * url)

Definition at line 410 of file fipa_acl.c.

References fipa_url_s::str.

Referenced by fipa_acl_envelope_Received_Destroy(), and fipa_url_sequence_Destroy().

16.33.3.49 fipa_url_t* fipa_url_New (void)

Definition at line 402 of file fipa_acl.c.

Referenced by fipa_envelope_HandleReceived(), fipa_envelope_ParseAddresses(), fipa_url_Copy(), MC_AclAddReceiver(), MC_AclAddReplyTo(), and MC_AclSetSender().

16.33.3.50 int fipa_url_Parse (fipa_url_p * url, fipa_message_string_p message)

Definition at line 1124 of file fipa_acl.c.

References fipa_word_s::content, fipa_word_Destroy(), and fipa_word_Parse().

Referenced by fipa_url_sequence_Parse().

16.33.3.51 int fipa_url_sequence_Compose (dynstring_t * msg, fipa_url_sequence_t * urls)

Definition at line 1329 of file fipa_acl.c.

References dynstring_Append(), fipa_url_Compose(), fipa_url_sequence_s::num, and fipa_url_sequence_s::urls.

Referenced by fipa_agent_identifier_Compose().

16.33.3.52 fipa_url_sequence_t* fipa_url_sequence_Copy (fipa_url_sequence_t * src)

Definition at line 152 of file fipa_acl.c.

References fipa_url_Copy(), fipa_url_sequence_New(), fipa_url_sequence_s::num, and fipa_url_sequence_s::urls.

Referenced by fipa_agent_identifier_Copy().

16.33.3.53 int fipa_url_sequence_Destroy (fipa_url_sequence_t * sequence)

Definition at line 140 of file fipa_acl.c.

References fipa_url_Destroy(), fipa_url_sequence_s::num, and fipa_url_sequence_s::urls.

Referenced by fipa_agent_identifier_Destroy().

16.33.3.54 fipa_url_sequence_t* fipa_url_sequence_New (void)

Definition at line 132 of file fipa_acl.c.

Referenced by fipa_url_sequence_Copy(), fipa_url_sequence_Parse(), MC_AclAddReceiver(), MC_AclAddReplyTo(), and MC_AclSetSender().

16.33.3.55 int fipa_url_sequence_Parse (fipa_url_sequence_p * urls, fipa_message_string_p message)

Definition at line 1092 of file fipa_acl.c.

References fipa_word_s::content, fipa_GetAtom(), fipa_url_Parse(), fipa_url_sequence_New(), fipa_word_Destroy(), fipa_word_Parse(), and MC_ERR_PARSE.

Referenced by fipa_agent_identifier_Parse().

16.33.3.56 int fipa_word_Compose (dynstring_t * msg, fipa_word_t * word)

Definition at line 1411 of file fipa_acl.c.

References fipa_word_s::content, and dynstring_Append().

Referenced by fipa_acl_Compose(), and fipa_expression_Compose().

16.33.3.57 fipa_word_t* fipa_word_Copy (fipa_word_t * src)

Definition at line 339 of file fipa_acl.c.

References fipa_word_s::content, and fipa_word_New().

Referenced by fipa_acl_message_Copy(), and fipa_expression_Copy().

16.33.3.58 int fipa_word_Destroy (fipa_word_t * word)

Definition at line 329 of file fipa_acl.c.

References fipa_word_s::content.

Referenced by `fipa_acl_message_Destroy()`, `fipa_agent_identifier_Parse()`, `fipa_expression_Destroy()`, `fipa_message_parameter_Parse()`, `fipa_message_type_Parse()`, `fipa_url_Parse()`, and `fipa_url_sequence_Parse()`.

16.33.3.59 `fipa_word_t*` `fipa_word_New` (void)

Definition at line 321 of file `fipa_acl.c`.

Referenced by `fipa_word_Copy()`.

16.33.3.60 `int` `fipa_word_Parse` (`fipa_word_t**` *word*, `fipa_message_string_p` *message*)

Definition at line 605 of file `fipa_acl.c`.

References `CHECK_NULL`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `fipa_message_string_s::parse`.

Referenced by `fipa_agent_identifier_Parse()`, `fipa_agent_identifier_set_Parse()`, `fipa_expression_Parse()`, `fipa_message_parameter_Parse()`, `fipa_message_type_Parse()`, `fipa_url_Parse()`, and `fipa_url_sequence_Parse()`.

16.34 /home/dko/projects/mobilec/trunk/src/include/fipa_acl_envelope.h File Reference

```
#include "fipa_acl.h"
```

Data Structures

- struct [fipa_acl_envelope_Received_s](#)
- struct [fipa_acl_Param_s](#)
- struct [fipa_acl_envelope_s](#)

Typedefs

- typedef struct [fipa_acl_envelope_Received_s](#) [fipa_acl_envelope_Received_t](#)
- typedef struct [fipa_acl_Param_s](#) [fipa_acl_Param_t](#)
- typedef struct [fipa_acl_envelope_s](#) [fipa_acl_envelope_t](#)
- typedef [fipa_acl_envelope_t](#) * [fipa_acl_envelope_p](#)

Functions

- [fipa_acl_envelope_Received_t](#) * [fipa_acl_envelope_Received_New](#) (void)
- int [fipa_acl_envelope_Received_Destroy](#) ([fipa_acl_envelope_Received_t](#) *received)
- [fipa_acl_envelope_Received_t](#) * [fipa_acl_envelope_Received_Copy](#) ([fipa_acl_envelope_Received_t](#) *received)
- [fipa_acl_Param_t](#) * [fipa_acl_Param_New](#) (void)
- int [fipa_acl_Param_Destroy](#) ([fipa_acl_Param_t](#) *param)
- [fipa_acl_Param_t](#) * [fipa_acl_Param_Copy](#) ([fipa_acl_Param_t](#) *param)
- [fipa_acl_envelope_t](#) * [fipa_acl_envelope_New](#) (void)
- int [fipa_acl_envelope_Destroy](#) ([fipa_acl_envelope_t](#) *envelope)
- [fipa_acl_envelope_t](#) * [fipa_acl_envelope_Copy](#) ([fipa_acl_envelope_t](#) *envelope)
- int [fipa_envelope_Parse](#) (struct [fipa_acl_envelope_s](#) *envelope, const char *message)
- int [fipa_envelope_HandleEnvelope](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *node)
- int [fipa_envelope_HandleParams](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *node)
- int [fipa_envelope_HandleTo](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandleFrom](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandleComments](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandleAclRepresentation](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandlePayloadLength](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandlePayloadEncoding](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandleDate](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)
- int [fipa_envelope_HandleIntendedReceiver](#) (struct [fipa_acl_envelope_s](#) *envelope, [mxml_node_t](#) *param_node, int cur_param)

- `int fipa_envelope_HandleReceived` (struct `fipa_acl_envelope_s` *envelope, `mxml_node_t` *param_node, `int` cur_param)
- `int fipa_envelope_ParseAgentIdentifier` (struct `fipa_agent_identifier_s` **aid, `mxml_node_t` *agent_identifier_node)
- `int fipa_envelope_ParseAddresses` (struct `fipa_agent_identifier_s` *aid, `mxml_node_t` *addresses_node)
- `int fipa_envelope_ParseResolvers` (struct `fipa_agent_identifier_s` *aid, `mxml_node_t` *resolvers_node)
- `char * fipa_envelope_Compose` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__envelope` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__params` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__to` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__from` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__acl_representation` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__payload_encoding` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__date` (`fipa_acl_message_t` *fipa_acl)
- `mxml_node_t * fipa_envelope_Compose__intended_receiver` (`fipa_acl_message_t` *fipa_acl)

16.34.1 Typedef Documentation

16.34.1.1 typedef `fipa_acl_envelope_t`* `fipa_acl_envelope_p`

Definition at line 45 of file `fipa_acl_envelope.h`.

16.34.1.2 typedef struct `fipa_acl_envelope_Received_s` `fipa_acl_envelope_Received_t`

16.34.1.3 typedef struct `fipa_acl_envelope_s` `fipa_acl_envelope_t`

16.34.1.4 typedef struct `fipa_acl_Param_s` `fipa_acl_Param_t`

16.34.2 Function Documentation

16.34.2.1 `fipa_acl_envelope_t`* `fipa_acl_envelope_Copy` (`fipa_acl_envelope_t` * *envelope*)

Definition at line 145 of file `fipa_envelope.c`.

References `fipa_acl_envelope_New()`, `fipa_acl_Param_Copy()`, `fipa_acl_envelope_s::num_params`, and `fipa_acl_envelope_s::params`.

16.34.2.2 `int fipa_acl_envelope_Destroy` (`fipa_acl_envelope_t` * *envelope*)

Definition at line 132 of file `fipa_envelope.c`.

References `fipa_acl_Param_Destroy()`, `fipa_acl_envelope_s::num_params`, and `fipa_acl_envelope_s::params`.

Referenced by `acc_Thread()`.

16.34.2.3 fipa_acl_envelope_t* fipa_acl_envelope_New (void)

Definition at line 124 of file fipa_envelope.c.

Referenced by acc_Thread(), and fipa_acl_envelope_Copy().

16.34.2.4 fipa_acl_envelope_Received_t* fipa_acl_envelope_Received_Copy (fipa_acl_envelope_Received_t * *received*)

Definition at line 64 of file fipa_envelope.c.

References fipa_acl_envelope_Received_New(), fipa_DateTime_Copy(), fipa_url_Copy(), fipa_acl_envelope_Received_s::received_by, fipa_acl_envelope_Received_s::received_date, fipa_acl_envelope_Received_s::received_from, fipa_acl_envelope_Received_s::received_id, and fipa_acl_envelope_Received_s::received_via.

Referenced by fipa_acl_Param_Copy().

16.34.2.5 int fipa_acl_envelope_Received_Destroy (fipa_acl_envelope_Received_t * *received*)

Definition at line 52 of file fipa_envelope.c.

References fipa_DateTime_Destroy(), fipa_url_Destroy(), fipa_acl_envelope_Received_s::received_by, fipa_acl_envelope_Received_s::received_date, fipa_acl_envelope_Received_s::received_from, fipa_acl_envelope_Received_s::received_id, and fipa_acl_envelope_Received_s::received_via.

Referenced by fipa_acl_Param_Destroy().

16.34.2.6 fipa_acl_envelope_Received_t* fipa_acl_envelope_Received_New (void)

Definition at line 43 of file fipa_envelope.c.

Referenced by fipa_acl_envelope_Received_Copy(), and fipa_envelope_HandleReceived().

16.34.2.7 fipa_acl_Param_t* fipa_acl_Param_Copy (fipa_acl_Param_t * *param*)

Definition at line 105 of file fipa_envelope.c.

References fipa_acl_Param_s::acl_representation, fipa_acl_Param_s::comments, fipa_acl_Param_s::date, fipa_acl_envelope_Received_Copy(), fipa_acl_Param_New(), fipa_agent_identifier_Copy(), fipa_agent_identifier_set_Copy(), fipa_DateTime_Copy(), fipa_acl_Param_s::from, fipa_acl_Param_s::intended_receiver, fipa_acl_Param_s::payload_encoding, fipa_acl_Param_s::payload_length, fipa_acl_Param_s::received, and fipa_acl_Param_s::to.

Referenced by fipa_acl_envelope_Copy().

16.34.2.8 int fipa_acl_Param_Destroy (fipa_acl_Param_t * *param*)

Definition at line 88 of file fipa_envelope.c.

References fipa_acl_Param_s::acl_representation, fipa_acl_Param_s::comments, fipa_acl_Param_s::date, fipa_acl_envelope_Received_Destroy(), fipa_agent_identifier_Destroy(), fipa_agent_identifier_set_Destroy(), fipa_DateTime_Destroy(), fipa_acl_Param_s::from, fipa_acl_Param_s::intended_receiver, fipa_acl_Param_s::payload_encoding, fipa_acl_Param_s::payload_length, fipa_acl_Param_s::received, and fipa_acl_Param_s::to.

Referenced by `fipa_acl_envelope_Destroy()`.

16.34.2.9 `fipa_acl_Param_t* fipa_acl_Param_New (void)`

Definition at line 80 of file `fipa_envelope.c`.

Referenced by `fipa_acl_Param_Copy()`, and `fipa_envelope_HandleTo()`.

16.34.2.10 `char* fipa_envelope_Compose (fipa_acl_message_t *fipa_acl)`

Definition at line 864 of file `fipa_envelope.c`.

References `fipa_envelope_Compose__envelope()`, `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `MXML_NO_CALLBACK`, `mxmlAdd()`, `mxmlDelete()`, `mxmlLoadString()`, `mxmlSaveAllocString()`, and `node`.

Referenced by `MC_AclSend()`.

16.34.2.11 `mxml_node_t* fipa_envelope_Compose__acl_representation (fipa_acl_message_t *fipa_acl)`

Definition at line 1081 of file `fipa_envelope.c`.

References `mxmlNewElement()`, `mxmlNewText()`, and `node`.

Referenced by `fipa_envelope_Compose__params()`.

16.34.2.12 `mxml_node_t* fipa_envelope_Compose__date (fipa_acl_message_t *fipa_acl)`

Definition at line 1109 of file `fipa_envelope.c`.

References `buf`, `mxmlNewElement()`, `mxmlNewText()`, and `node`.

Referenced by `fipa_envelope_Compose__params()`.

16.34.2.13 `mxml_node_t* fipa_envelope_Compose__envelope (fipa_acl_message_t *fipa_acl)`

Definition at line 889 of file `fipa_envelope.c`.

References `fipa_envelope_Compose__params()`, `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `mxmlAdd()`, `mxmlNewElement()`, and `node`.

Referenced by `fipa_envelope_Compose()`.

16.34.2.14 `mxml_node_t* fipa_envelope_Compose__from (fipa_acl_message_t *fipa_acl)`

Definition at line 1016 of file `fipa_envelope.c`.

References `fipa_agent_identifier_s::addresses`, `buf`, `dynstring_Append()`, `dynstring_Destroy()`, `dynstring_New()`, `g_mc_platform`, `mc_platform_s::hostname`, `dynstring_s::message`, `mxmlNewElement()`, `mxmlNewText()`, `fipa_agent_identifier_s::name`, `fipa_url_sequence_s::num`, `mc_platform_s::port`, and `fipa_acl_message_s::sender`.

Referenced by `fipa_envelope_Compose__params()`.

16.34.2.15 mxml_node_t* fipa_envelope_Compose__intended_receiver (fipa_acl_message_t * fipa_acl)

Definition at line 1138 of file fipa_envelope.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_set_s::fipa_agent_identifiers, mxmlNewElement(), mxmlNewText(), fipa_agent_identifier_s::name, node, fipa_url_sequence_s::num, fipa_acl_message_s::receiver, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by fipa_envelope_Compose__params().

16.34.2.16 mxml_node_t* fipa_envelope_Compose__params (fipa_acl_message_t * fipa_acl)

Definition at line 909 of file fipa_envelope.c.

References fipa_envelope_Compose__acl_representation(), fipa_envelope_Compose__date(), fipa_envelope_Compose__from(), fipa_envelope_Compose__intended_receiver(), fipa_envelope_Compose__payload_encoding(), fipa_envelope_Compose__to(), MXML_ADD_AFTER, MXML_ADD_TO_PARENT, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), and node.

Referenced by fipa_envelope_Compose__envelope().

16.34.2.17 mxml_node_t* fipa_envelope_Compose__payload_encoding (fipa_acl_message_t * fipa_acl)

Definition at line 1095 of file fipa_envelope.c.

References mxmlNewElement(), mxmlNewText(), and node.

Referenced by fipa_envelope_Compose__params().

16.34.2.18 mxml_node_t* fipa_envelope_Compose__to (fipa_acl_message_t * fipa_acl)

Definition at line 970 of file fipa_envelope.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_set_s::fipa_agent_identifiers, mxmlNewElement(), mxmlNewText(), fipa_agent_identifier_s::name, node, fipa_url_sequence_s::num, fipa_agent_identifier_set_s::num, fipa_acl_message_s::receiver, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by fipa_envelope_Compose__params().

16.34.2.19 int fipa_envelope_HandleAclRepresentation (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)

Definition at line 376 of file fipa_envelope.c.

References fipa_acl_Param_s::acl_representation, mxml_node_s::child, MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_TEXT, mxmlFindElement(), fipa_acl_envelope_s::params, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, and mxml_node_s::value.

Referenced by fipa_envelope_HandleParams().

16.34.2.20 `int fipa_envelope_HandleComments (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 352 of file fipa_envelope.c.

References `mxml_node_s::child`, `fipa_acl_Param_s::comments`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.21 `int fipa_envelope_HandleDate (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 447 of file fipa_envelope.c.

References `mxml_node_s::child`, `fipa_acl_Param_s::date`, `fipa_datetime_Parse()`, `MC_ERR_PARSE`, `fipa_message_string_s::message`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `fipa_message_string_s::parse`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.22 `int fipa_envelope_HandleEnvelope (struct fipa_acl_envelope_s * envelope, mxml_node_t * node)`

Definition at line 173 of file fipa_envelope.c.

References `fipa_envelope_HandleParams()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, and `mxmlFindElement()`.

Referenced by `fipa_envelope_Parse()`.

16.34.2.23 `int fipa_envelope_HandleFrom (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 323 of file fipa_envelope.c.

References `fipa_envelope_ParseAgentIdentifier()`, `fipa_acl_Param_s::from`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `mxmlFindElement()`, and `fipa_acl_envelope_s::params`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.24 `int fipa_envelope_HandleIntendedReceiver (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 477 of file fipa_envelope.c.

References `fipa_agent_identifier_set_New()`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `fipa_envelope_ParseAgentIdentifier()`, `fipa_acl_Param_s::intended_receiver`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_NO_DESCEND`, `mxmlFindElement()`, `fipa_agent_identifier_set_s::num`, `fipa_acl_envelope_s::params`, and `fipa_agent_identifier_set_s::retain_order`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.25 `int fipa_envelope_HandleParams (struct fipa_acl_envelope_s * envelope, mxml_node_t * node)`

Definition at line 193 of file fipa_envelope.c.

References `buf`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandleFrom()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_HandleReceived()`, `fipa_envelope_HandleTo()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `mxmlFindElement()`, `fipa_acl_envelope_s::num_params`, and `fipa_acl_envelope_s::params`.

Referenced by `fipa_envelope_HandleEnvelope()`.

16.34.2.26 `int fipa_envelope_HandlePayloadEncoding (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 423 of file fipa_envelope.c.

References `mxml_node_s::child`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `fipa_acl_Param_s::payload_encoding`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.27 `int fipa_envelope_HandlePayloadLength (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 400 of file fipa_envelope.c.

References `mxml_node_s::child`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`, `MXML_TEXT`, `mxmlFindElement()`, `fipa_acl_envelope_s::params`, `fipa_acl_Param_s::payload_length`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.28 `int fipa_envelope_HandleReceived (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 555 of file fipa_envelope.c.

References `fipa_acl_envelope_Received_New()`, `fipa_datetime_Parse()`, `fipa_url_New()`, `MC_ERR_PARSE`, `fipa_message_string_s::message`, `MXML_DESCEND_FIRST`, `mxmlElementGetAttr()`, `mxmlFindElement()`, `node`, `fipa_acl_envelope_s::params`, `fipa_message_string_s::parse`, `fipa_acl_Param_s::received`, `fipa_acl_envelope_Received_s::received_by`, `fipa_acl_envelope_Received_s::received_date`, `fipa_acl_envelope_Received_s::received_from`, `fipa_acl_envelope_Received_s::received_id`, `fipa_acl_envelope_Received_s::received_via`, and `fipa_url_s::str`.

Referenced by `fipa_envelope_HandleParams()`.

16.34.2.29 `int fipa_envelope_HandleTo (struct fipa_acl_envelope_s * envelope, mxml_node_t * param_node, int cur_param)`

Definition at line 245 of file fipa_envelope.c.

References `fipa_acl_Param_New()`, `fipa_agent_identifier_set_New()`, `fipa_agent_identifier_set_s::fipa_agent_identifiers`, `fipa_envelope_ParseAgentIdentifier()`, `MC_ERR_PARSE`, `MXML_DESCEND_FIRST`,

MXML_NO_DESCEND, mxmlFindElement(), fipa_agent_identifier_set_s::num, fipa_acl_envelope_s::params, fipa_agent_identifier_set_s::retain_order, and fipa_acl_Param_s::to.

Referenced by fipa_envelope_HandleParams().

16.34.2.30 **int fipa_envelope_Parse** (struct fipa_acl_envelope_s * *envelope*, const char * *message*)

Definition at line 160 of file fipa_envelope.c.

References fipa_envelope_HandleEnvelope(), MXML_NO_CALLBACK, mxmlDelete(), and mxmlLoadString().

Referenced by acc_Thread().

16.34.2.31 **int fipa_envelope_ParseAddresses** (struct fipa_agent_identifier_s * *aid*, mxml_node_t * *addresses_node*)

Definition at line 732 of file fipa_envelope.c.

References fipa_agent_identifier_s::addresses, mxml_node_s::child, fipa_url_New(), MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_NO_DESCEND, MXML_TEXT, mxmlFindElement(), fipa_url_sequence_s::num, fipa_url_s::str, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, fipa_url_sequence_s::urls, and mxml_node_s::value.

Referenced by fipa_envelope_ParseAgentIdentifier().

16.34.2.32 **int fipa_envelope_ParseAgentIdentifier** (struct fipa_agent_identifier_s ** *aid*, mxml_node_t * *agent_identifier_node*)

Definition at line 682 of file fipa_envelope.c.

References mxml_node_s::child, fipa_agent_identifier_New(), fipa_envelope_ParseAddresses(), fipa_envelope_ParseResolvers(), MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_TEXT, mxmlFindElement(), mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, and mxml_node_s::value.

Referenced by fipa_envelope_HandleFrom(), fipa_envelope_HandleIntendedReceiver(), fipa_envelope_HandleTo(), and fipa_envelope_ParseResolvers().

16.34.2.33 **int fipa_envelope_ParseResolvers** (struct fipa_agent_identifier_s * *aid*, mxml_node_t * *resolvers_node*)

Definition at line 799 of file fipa_envelope.c.

References fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_envelope_ParseAgentIdentifier(), MC_ERR_PARSE, MXML_DESCEND_FIRST, MXML_NO_DESCEND, mxmlFindElement(), fipa_agent_identifier_set_s::num, fipa_agent_identifier_s::resolvers, and fipa_agent_identifier_set_s::retain_order.

Referenced by fipa_envelope_ParseAgentIdentifier().

16.35 /home/dko/projects/mobilec/trunk/src/include/host_id.h File Reference

Data Structures

- struct [host_id_s](#)

Typedefs

- typedef struct [host_id_s](#) [host_id_t](#)
- typedef [host_id_t](#) * [host_id_p](#)

Functions

- [host_id_p](#) [host_id_Initialize](#) (const char *hostname, [int](#) port)
- void [host_id_Destroy](#) ([host_id_p](#) host_id)
- [int](#) [host_id_Compare](#) ([host_id_p](#) host1, [host_id_p](#) host2)

16.35.1 Typedef Documentation

16.35.1.1 typedef [host_id_t](#)* [host_id_p](#)

Definition at line 43 of file [host_id.h](#).

16.35.1.2 typedef struct [host_id_s](#) [host_id_t](#)

16.35.2 Function Documentation

16.35.2.1 [int](#) [host_id_Compare](#) ([host_id_p](#) *host1*, [host_id_p](#) *host2*)

16.35.2.2 void [host_id_Destroy](#) ([host_id_p](#) *host_id*)

16.35.2.3 [host_id_p](#) [host_id_Initialize](#) (const char * *hostname*, [int](#) *port*)

16.36 /home/dko/projects/mobilec/trunk/src/include/interpreter_variable_data.h File Reference

```
#include <ch.h>
```

Data Structures

- struct [interpreter_variable_data_s](#)

Typedefs

- typedef struct [interpreter_variable_data_s](#) [interpreter_variable_data_t](#)
- typedef [interpreter_variable_data_t](#) * [interpreter_variable_data_p](#)

Functions

- [interpreter_variable_data_p](#) [interpreter_variable_data_New](#) (void)
- [interpreter_variable_data_p](#) [interpreter_variable_data_Copy](#) ([interpreter_variable_data_p](#) src)
- [interpreter_variable_data_p](#) [interpreter_variable_data_InitializeFromAgent](#) (struct [agent_s](#) *agent)
- [interpreter_variable_data_p](#) [interpreter_variable_data_Initialize](#) (struct [agent_s](#) *agent, const char *varname)
- int [interpreter_variable_data_Destroy](#) ([interpreter_variable_data_p](#) agent_return_data)

16.36.1 Typedef Documentation

16.36.1.1 typedef [interpreter_variable_data_t](#)* [interpreter_variable_data_p](#)

Definition at line 51 of file [interpreter_variable_data.h](#).

16.36.1.2 typedef struct [interpreter_variable_data_s](#) [interpreter_variable_data_t](#)

Definition at line 50 of file [interpreter_variable_data.h](#).

16.36.2 Function Documentation

16.36.2.1 [interpreter_variable_data_p](#) [interpreter_variable_data_Copy](#) ([interpreter_variable_data_p](#) src)

Definition at line 229 of file [agent_return_data.c](#).

References [interpreter_variable_data_s::array_dim](#), [interpreter_variable_data_s::array_extent](#), [interpreter_variable_data_s::data](#), [interpreter_variable_data_s::data_type](#), [interpreter_variable_data_InitializeFromAgent\(\)](#), [interpreter_variable_data_Initialize\(\)](#), [interpreter_variable_data_s::name](#), and [interpreter_variable_data_s::size](#).

16.36.2.2 int interpreter_variable_data_Destroy (interpreter_variable_data_p agent_return_data)

Definition at line 210 of file agent_return_data.c.

References interpreter_variable_data_s::array_extent, interpreter_variable_data_s::data, MC_SUCCESS, and interpreter_variable_data_s::name.

Referenced by agent_RunChScriptThread(), and agent_task_Destroy().

16.36.2.3 interpreter_variable_data_p interpreter_variable_data_Initialize (struct agent_s * agent, const char * varname)

16.36.2.4 interpreter_variable_data_p interpreter_variable_data_InitializeFromAgent (struct agent_s * agent)

16.36.2.5 interpreter_variable_data_p interpreter_variable_data_New (void)

Definition at line 40 of file agent_return_data.c.

References interpreter_variable_data_s::array_dim, interpreter_variable_data_s::array_extent, CHECK_NULL, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, interpreter_variable_data_s::name, and interpreter_variable_data_s::size.

Referenced by agent_xml_parse__data(), interpreter_variable_data_Copy(), and MC_SaveData_chdl().

16.37 /home/dko/projects/mobilec/trunk/src/include/libmc.h File Reference

MobileC api header file.

```
#include <embedch.h>
```

Data Structures

- struct [agency_s](#)
The agency handle.
- struct [MCAgencyOptions_s](#)
User modifiable agency options.

Defines

- #define [EXPORTMC](#)
- #define [MC_Wait](#)(arg1) MC_MainLoop(arg1)

Typedefs

- typedef enum [error_code_e](#) [error_code_t](#)
- typedef enum [MC_SteerCommand_e](#) [MC_SteerCommand_t](#)
- typedef struct [agency_s](#) [agency_t](#)
- typedef [agency_t](#) * [agency_p](#)
- typedef [agency_p](#) [MCAgency_t](#)
- typedef struct [MCAgencyOptions_s](#) [MCAgencyOptions_t](#)
- typedef struct [agent_s](#) [agent_t](#)
- typedef [agent_t](#) * [MCAgent_t](#)
- typedef [agent_t](#) * [agent_p](#)

Enumerations

- enum [error_code_e](#) {
[MC_SUCCESS](#) = 0, [MC_ERR](#), [MC_ERR_CONNECT](#), [MC_ERR_PARSE](#),
[MC_ERR_EMPTY](#), [MC_ERR_INVALID](#), [MC_ERR_INVALID_ARGS](#), [MC_ERR_NOT_FOUND](#),
[MC_ERR_MEMORY](#), [MC_ERR_SEND](#), [MC_WARN_DUPLICATE](#), [MC_SUCCESS](#) = 0,
[ERR](#), [MC_ERR_CONNECT](#), [MC_ERR_PARSE](#), [MC_ERR_EMPTY](#),
[MC_ERR_INVALID](#), [MC_ERR_INVALID_ARGS](#), [MC_ERR_NOT_FOUND](#), [MC_ERR_MEMORY](#),
[MC_ERR_SEND](#), [MC_WARN_DUPLICATE](#) }
- enum [MC_ThreadIndex_e](#) {
[MC_THREAD_DF](#) = 0, [MC_THREAD_AMS](#), [MC_THREAD_ACC](#), [MC_THREAD_CP](#),
[MC_THREAD_AGENT](#), [MC_THREAD_ALL](#) }

MobileC Module indices.

- enum `MC_SteerCommand_e` { `MC_RUN` = 0, `MC_SUSPEND`, `MC_RESTART`, `MC_STOP` }
Available commands for MC_Steer.
- enum `MC_Signal_e` {
`MC_NO_SIGNAL` = 0x00, `MC_RECV_CONNECTION` = 0x01, `MC_RECV_MESSAGE` = 0x02,
`MC_RECV_AGENT` = 0x04,
`MC_RECV_RETURN` = 0x08, `MC_EXEC_AGENT` = 0x10, `MC_ALL_SIGNALS` = 0x20 }
MobileC system signals.
- enum `MC_AgentType_e` { `MC_NONE` = -1, `MC_REMOTE_AGENT` = 0, `MC_LOCAL_AGENT`,
`MC_RETURN_AGENT` }
- enum `MC_AgentStatus_e` {
`MC_NO_STATUS` = -1, `MC_WAIT_CH` = 0, `MC_WAIT_MESSGSEND`, `MC_AGENT_ACTIVE`,
`MC_AGENT_NEUTRAL`, `MC_AGENT_SUSPENDED`, `MC_WAIT_FINISHED` }
An agent's current execution state.
- enum `fipa_performative_e` {
`FIPA_ERROR` = -1, `FIPA_ZERO`, `FIPA_ACCEPT_PROPOSAL`, `FIPA_AGREE`,
`FIPA_CANCEL`, `FIPA_CALL_FOR_PROPOSAL`, `FIPA_CONFIRM`, `FIPA_DISCONFIRM`,
`FIPA_FAILURE`, `FIPA_INFORM`, `FIPA_INFORM_IF`, `FIPA_INFORM_REF`,
`FIPA_NOT_UNDERSTOOD`, `FIPA_PROPOGATE`, `FIPA_PROPOSE`, `FIPA_PROXY`,
`FIPA_QUERY_IF`, `FIPA_QUERY_REF`, `FIPA_REFUSE`, `FIPA_REJECT_PROPOSAL`,
`FIPA_REQUEST`, `FIPA_REQUEST_WHEN`, `FIPA_REQUEST_WHENEVER`, `FIPA_-`
`SUBSCRIBE`,
`FIPA_ERROR` = -1, `FIPA_ZERO`, `FIPA_ACCEPT_PROPOSAL`, `FIPA_AGREE`,
`FIPA_CANCEL`, `FIPA_CALL_FOR_PROPOSAL`, `FIPA_CONFIRM`, `FIPA_DISCONFIRM`,
`FIPA_FAILURE`, `FIPA_INFORM`, `FIPA_INFORM_IF`, `FIPA_INFORM_REF`,
`FIPA_NOT_UNDERSTOOD`, `FIPA_PROPOGATE`, `FIPA_PROPOSE`, `FIPA_PROXY`,
`FIPA_QUERY_IF`, `FIPA_QUERY_REF`, `FIPA_REFUSE`, `FIPA_REJECT_PROPOSAL`,
`FIPA_REQUEST`, `FIPA_REQUEST_WHEN`, `FIPA_REQUEST_WHENEVER`, `FIPA_-`
`SUBSCRIBE` }

Functions

- EXPORTMC `int MC_AclDestroy` (struct `fipa_acl_message_s` *message)
Destroy a FIPA ACL message.
- EXPORTMC `struct fipa_acl_message_s * MC_AclNew` (void)
Allocate a new ACL Message.
- EXPORTMC `int MC_AclPost` (`MCAgent_t` agent, struct `fipa_acl_message_s` *message)
Post ACL message to agent.
- EXPORTMC `struct fipa_acl_message_s * MC_AclReply` (struct `fipa_acl_message_s` *acl_-
message)

Reply to an ACL message.

- EXPORTMC struct `fipa_acl_message_s` * `MC_AclRetrieve` (`MCAgent_t` agent)
Retrieve an ACL message.
- EXPORTMC int `MC_AclSend` (`MCAgency_t` attr, struct `fipa_acl_message_s` *acl)
Send a composed ACL Message.
- EXPORTMC struct `fipa_acl_message_s` * `MC_AclWaitRetrieve` (`MCAgent_t` agent)
Wait for and retrieve an ACL message.
- EXPORTMC int `MC_AclSetPerformative` (struct `fipa_acl_message_s` *acl, enum `fipa_performative_e` performative)
- EXPORTMC int `MC_AclSetSender` (struct `fipa_acl_message_s` *acl, const char *name, const char *address)
- EXPORTMC int `MC_AclAddReceiver` (struct `fipa_acl_message_s` *acl, const char *name, const char *address)
- EXPORTMC int `MC_AclAddReplyTo` (struct `fipa_acl_message_s` *acl, const char *name, const char *address)
- EXPORTMC int `MC_AclSetContent` (struct `fipa_acl_message_s` *acl, const char *content)
- EXPORTMC int `MC_AddAgent` (`MCAgency_t` attr, `MCAgent_t` agent)
Add an agent to the agency 'attr'.
- const void * `MC_AgentVariableRetrieve` (`MCAgent_t` agent, const char *var_name, int task_num)
Retrieve a pointer to a previously saved variable.
- int `MC_AgentVariableSave` (`MCAgent_t` agent, const char *var_name)
Mark an agent variable for saving.
- EXPORTMC int `MC_BarrierDelete` (`MCAgency_t` attr, int id)
Find and delete an initialized MobileC Barrier.
- EXPORTMC int `MC_BarrierInit` (`MCAgency_t` attr, int id, int num_procs)
Initialize a MobileC Barrier.
- EXPORTMC int `MC_ChInitializeOptions` (`MCAgency_t` attr, `ChOptions_t` *options)
Use custom ChOptions_t type for internal Ch interpreter.
- EXPORTMC int `MC_CallAgentFunc` (`MCAgent_t` agent, const char *funcName, void *returnVal, int numArgs,...)
Calls a function defined in an agent.
- EXPORTMC int `MC_CallAgentFuncArg` (`MCAgent_t` agent, const char *funcName, void *returnVal, void *arg)
Calls a function defined in an agent.
- EXPORTMC int `MC_CallAgentFuncV` (`MCAgent_t` agent, const char *funcName, void *returnVal, va_list ap)
Calls a function defined in an agent.

- EXPORTMC int MC_CallAgentFuncVar (MCAgent_t agent, const char *funcName, void *returnVal, ChVaList_t arglist)
- MCAgent_t MC_ComposeAgent (const char *name, const char *home, const char *owner, const char *code, const char *return_var_name, const char *server, int persistent)
Compose a new agent dynamically without using a prewritten XML file.
- EXPORTMC int MC_CondBroadcast (MCAgency_t attr, int id)
Wakes up all agents/threads waiting on a condition variable.
- EXPORTMC int MC_CondSignal (MCAgency_t attr, int id)
Wakes up at least one thread waiting on a condition variable.
- EXPORTMC int MC_CondReset (MCAgency_t attr, int id)
Reset a previously signalled MobileC condition variable.
- EXPORTMC int MC_CondWait (MCAgency_t attr, int id)
Wait on a MobileC synchronization variable.
- int MC_CopyAgent (MCAgent_t *agent_out, const MCAgent_t agent_in)
Performs a deep-copy of an agent structure.
- EXPORTMC int MC_DeleteAgent (MCAgent_t agent)
Stop and remove an agent.
- EXPORTMC int MC_End (MCAgency_t attr)
End an agency.
- int MC_DestroyServiceSearchResult (char **agentName, char **serviceName, int *agentID, int numResult)
Free memory allocated by a Service Search operation.
- EXPORTMC MCAgent_t MC_FindAgentByName (MCAgency_t attr, const char *name)
Find an agent by its name.
- EXPORTMC MCAgent_t MC_FindAgentByID (MCAgency_t attr, int ID)
Find an agent by its id.
- EXPORTMC void * MC_GetAgentExecEngine (MCAgent_t agent)
Retrieve an agent's Ch interpreter.
- EXPORTMC int MC_GetAgentID (MCAgent_t agent)
Retrieve an agent's id.
- EXPORTMC char * MC_GetAgentName (MCAgent_t agent)
- EXPORTMC int MC_GetAgentNumTasks (MCAgent_t agent)
Retrive the number of tasks an agent has.
- EXPORTMC int MC_GetAgentReturnData (MCAgent_t agent, int task_num, void **data, int *dim, int **extent)
Get an agent's return data.

- EXPORTMC `int MC_GetAgentStatus (MCAgent_t agent)`
Get an agent's current status.
- EXPORTMC `enum MC_AgentType_e MC_GetAgentType (MCAgent_t agent)`
Get an agent's type.
- EXPORTMC `char * MC_GetAgentXMLString (MCAgent_t agent)`
Get an agent's xml string.
- EXPORTMC `int MC_HaltAgency (MCAgency_t agency)`
Halt an agency: Do not process new entries in queues.
- EXPORTMC `MCAgency_t MC_Initialize (int port, MCAgencyOptions_t *options)`
Initialize and start a MobileC agency.
- EXPORTMC `int MC_InitializeAgencyOptions (struct MCAgencyOptions_s *options)`
Initialize MobileC options.
- EXPORTMC `int MC_MainLoop (MCAgency_t attr)`
Wait indefinitely.
- EXPORTMC `int MC_LoadAgentFromFile (MCAgency_t attr, const char *filename)`
Load an agent from a file into an agency.
- EXPORTMC `int MC_MutexLock (MCAgency_t attr, int id)`
Locks a MobileC synchronization variable as a mutex.
- EXPORTMC `int MC_MutexUnlock (MCAgency_t attr, int id)`
- EXPORTMC `int MC_RegisterService (MCAgency_t agency, MCAgent_t agent, int agentID, const char *agentName, char **serviceNames, int numServices)`
Register a new service with the Directory Facilitator.
- EXPORTMC `int MC_ResumeAgency (MCAgency_t agency)`
Resumes a halted agency.
- EXPORTMC `MCAgent_t MC_RetrieveAgent (MCAgency_t attr)`
Retrieves the oldest agent from an agency.
- EXPORTMC `int MC_SemaphorePost (MCAgency_t attr, int id)`
Post to a MobileC synchronization variable semaphore.
- EXPORTMC `int MC_SemaphoreWait (MCAgency_t attr, int id)`
Decreases a MobileC synchronization variable semaphore count by one.
- EXPORTMC `int MC_SetDefaultAgentStatus (MCAgency_t agency, enum MC_AgentStatus_e status)`
Sets default incoming agent status.

- EXPORTMC `int MC_SetThreadOn (MCAgencyOptions_t *options, enum MC_ThreadIndex_e index)`
Sets a MobileC thread to "on" status.
- EXPORTMC `int MC_SetThreadsAllOn (MCAgencyOptions_t *options)`
Set all Mobile-C threads on.
- EXPORTMC `int MC_SetThreadOff (MCAgencyOptions_t *options, enum MC_ThreadIndex_e index)`
Sets a MobileC thread to "off" status.
- EXPORTMC `int MC_SetThreadsAllOff (MCAgencyOptions_t *options)`
Set all MobileC threads to 'off' status.
- EXPORTMC `int MC_PrintAgentCode (MCAgent_t agent)`
Prints an agents code to stdout.
- EXPORTMC `char * MC_RetrieveAgentCode (MCAgent_t agent)`
Retrieves an agent's Ch code.
- EXPORTMC `int MC_ResetSignal (MCAgency_t attr)`
Reset a MobileC signal.
- EXPORTMC `int MC_SearchForService (MCAgency_t attr, const char *searchString, char ***agentNames, char ***serviceNames, int **agentIDs, int *numResults)`
Search the directory facilitator for a service.
- EXPORTMC `int MC_SendAgentMigrationMessage (MCAgency_t attr, const char *message, const char *hostname, int port)`
Sends an agent migration message.
- EXPORTMC `int MC_SendAgentMigrationMessageFile (MCAgency_t attr, const char *filename, const char *hostname, int port)`
Sends an agent migration message.
- EXPORTMC `int MC_SetAgentStatus (MCAgent_t agent, int status)`
Set an agent's status.
- EXPORTMC `int MC_Steer (MCAgency_t attr, int(*funcptr)(void *data), void *arg)`
Set up a steerable algorithm.
- EXPORTMC `enum MC_SteerCommand_e MC_SteerControl (void)`
The MobileC user-algorithm steering function.
- EXPORTMC `int MC_SyncDelete (MCAgency_t attr, int id)`
Deletes a previously initialized synchronization variable.
- EXPORTMC `int MC_SyncInit (MCAgency_t attr, int id)`
Initializes a new MobileC synchronization variable.

- EXPORTMC `int MC_TerminateAgent (MCAgent_t agent)`
Halt a running agent.
- EXPORTMC `int MC_WaitAgent (MCAgency_t attr)`
Wait indefinitely.
- EXPORTMC `MCAgent_t MC_WaitRetrieveAgent (MCAgency_t attr)`
Wait and retrieve an agent.
- EXPORTMC `int MC_WaitSignal (MCAgency_t attr, int signals)`
Wait for a MobileC signal.

16.37.1 Detailed Description

MobileC api header file.

Definition in file [libmc.h](#).

16.37.2 Define Documentation

16.37.2.1 `#define EXPORTMC`

Definition at line 138 of file [libmc.h](#).

16.37.2.2 `#define MC_Wait(arg1) MC_MainLoop(arg1)`

Definition at line 143 of file [libmc.h](#).

16.37.3 Typedef Documentation

16.37.3.1 `typedef agency_t* agency_p`

Definition at line 229 of file [libmc.h](#).

16.37.3.2 `typedef struct agency_s agency_t`

16.37.3.3 `typedef agent_t* agent_p`

Definition at line 249 of file [libmc.h](#).

16.37.3.4 `typedef struct agent_s agent_t`

Definition at line 247 of file [libmc.h](#).

16.37.3.5 typedef enum error_code_e error_code_t

16.37.3.6 typedef enum MC_SteerCommand_e MC_SteerCommand_t

16.37.3.7 typedef agency_p MCAgency_t

Definition at line 230 of file libmc.h.

16.37.3.8 typedef struct MCAgencyOptions_s MCAgencyOptions_t

16.37.3.9 typedef agent_t* MCAgent_t

Definition at line 248 of file libmc.h.

16.37.4 Enumeration Type Documentation

16.37.4.1 enum error_code_e

Enumerator:

MC_SUCCESS
MC_ERR
MC_ERR_CONNECT
MC_ERR_PARSE
MC_ERR_EMPTY
MC_ERR_INVALID
MC_ERR_INVALID_ARGS
MC_ERR_NOT_FOUND
MC_ERR_MEMORY
MC_ERR_SEND
MC_WARN_DUPLICATE
MC_SUCCESS
ERR
MC_ERR_CONNECT
MC_ERR_PARSE
MC_ERR_EMPTY
MC_ERR_INVALID
MC_ERR_INVALID_ARGS
MC_ERR_NOT_FOUND
MC_ERR_MEMORY
MC_ERR_SEND
MC_WARN_DUPLICATE

Definition at line 157 of file libmc.h.

16.37.4.2 enum fipa_performative_e**Enumerator:**

FIPA_ERROR
FIPA_ZERO
FIPA_ACCEPT_PROPOSAL
FIPA_AGREE
FIPA_CANCEL
FIPA_CALL_FOR_PROPOSAL
FIPA_CONFIRM
FIPA_DISCONFIRM
FIPA_FAILURE
FIPA_INFORM
FIPA_INFORM_IF
FIPA_INFORM_REF
FIPA_NOT_UNDERSTOOD
FIPA_PROPOGATE
FIPA_PROPOSE
FIPA_PROXY
FIPA_QUERY_IF
FIPA_QUERY_REF
FIPA_REFUSE
FIPA_REJECT_PROPOSAL
FIPA_REQUEST
FIPA_REQUEST_WHEN
FIPA_REQUEST_WHENEVER
FIPA_SUBSCRIBE
FIPA_ERROR
FIPA_ZERO
FIPA_ACCEPT_PROPOSAL
FIPA_AGREE
FIPA_CANCEL
FIPA_CALL_FOR_PROPOSAL
FIPA_CONFIRM
FIPA_DISCONFIRM
FIPA_FAILURE
FIPA_INFORM
FIPA_INFORM_IF
FIPA_INFORM_REF
FIPA_NOT_UNDERSTOOD
FIPA_PROPOGATE
FIPA_PROPOSE

FIPA_PROXY
FIPA_QUERY_IF
FIPA_QUERY_REF
FIPA_REFUSE
FIPA_REJECT_PROPOSAL
FIPA_REQUEST
FIPA_REQUEST_WHEN
FIPA_REQUEST_WHENEVER
FIPA_SUBSCRIBE

Definition at line 271 of file libmc.h.

16.37.4.3 enum MC_AgentStatus_e

An agent's current execution state.

Enumerator:

MC_NO_STATUS
MC_WAIT_CH Waiting to be started
MC_WAIT_MESSGSEND Finished, waiting to migrate
MC_AGENT_ACTIVE Running
MC_AGENT_NEUTRAL Not running, but do not flush
MC_AGENT_SUSPENDED Unused
MC_WAIT_FINISHED Finished, waiting to be flushed

Definition at line 257 of file libmc.h.

16.37.4.4 enum MC_AgentType_e

Enumerator:

MC_NONE
MC_REMOTE_AGENT
MC_LOCAL_AGENT
MC_RETURN_AGENT

Definition at line 252 of file libmc.h.

16.37.4.5 enum MC_Signal_e

MobileC system signals.

Note:

Each signal is activated after the corresponding action. i.e. The 'MC_RECV_MESSAGE' signal is activated after a message is received.

See also:

[MC_WaitSignal\(\)](#), [MC_ResetSignal](#)

Enumerator:

MC_NO_SIGNAL No signal has been received
MC_RECV_CONNECTION A Connection has been received
MC_RECV_MESSAGE A Message has been received from a connection
MC_RECV_AGENT An normal agent has been parsed from a message
MC_RECV_RETURN A return agent has been parsed from a message
MC_EXEC_AGENT A normal agent has been executed.
MC_ALL_SIGNALS Catch any of the above signals

Definition at line 202 of file libmc.h.

16.37.4.6 enum MC_SteerCommand_e

Available commands for MC_Steer.

Enumerator:

MC_RUN Continue the algorithm
MC_SUSPEND Suspend/pause the algorithm
MC_RESTART Restart the algorithm from the beginning
MC_STOP Stop the algorithm

Definition at line 187 of file libmc.h.

16.37.4.7 enum MC_ThreadIndex_e

MobileC Module indices.

Enumerator:

MC_THREAD_DF Directory Facilitator
MC_THREAD_AMS Agent Management system
MC_THREAD_ACC Agency communications
MC_THREAD_CP Command Prompt
MC_THREAD_AGENT Agent threads
MC_THREAD_ALL

Definition at line 175 of file libmc.h.

16.37.5 Function Documentation

16.37.5.1 EXPORTMC int MC_AclAddReceiver (struct fipa_acl_message_s * *acl*, const char * *name*, const char * *address*)

Definition at line 229 of file libmc.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_New(), fipa_agent_identifier_set_New(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_url_New(), fipa_url_sequence_New(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_agent_identifier_set_s::num, fipa_acl_message_s::receiver, fipa_acl_message_s::receiver_num, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by MC_AclAddReceiver_chdl().

16.37.5.2 EXPORTMC int MC_AclAddReplyTo (struct fipa_acl_message_s * *acl*, const char * *name*, const char * *address*)

Definition at line 265 of file libmc.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_New(), fipa_agent_identifier_set_New(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_url_New(), fipa_url_sequence_New(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_agent_identifier_set_s::num, fipa_acl_message_s::reply_to, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by MC_AclAddReplyTo_chdl().

16.37.5.3 EXPORTMC int MC_AclDestroy (struct fipa_acl_message_s * *message*)

Destroy a FIPA ACL message.

Parameters:

message The ACL message to destroy

Returns:

0 on success, error code on failure.

Definition at line 72 of file libmc.c.

References fipa_acl_message_Destroy().

Referenced by MC_AclDestroy_chdl().

16.37.5.4 EXPORTMC struct fipa_acl_message_s* MC_AclNew (void) [read]

Allocate a new ACL Message.

Returns:

A newly allocated and empty ACL message.

Definition at line 78 of file libmc.c.

References fipa_acl_message_New().

Referenced by MC_AclNew_chdl().

16.37.5.5 EXPORTMC int MC_AclPost (MC_Agent_t agent, struct fipa_acl_message_s * message)

Post ACL message to agent.

Parameters:

agent The agent to post the message to
message The message to post

Returns:

0 if successful, or error_code_t type.

Definition at line 83 of file libmc.c.

References agent_mailbox_Post(), and agent_s::mailbox.

Referenced by MC_AclPost_chdl(), and MC_AclSend().

16.37.5.6 EXPORTMC struct fipa_acl_message_s* MC_AclReply (struct fipa_acl_message_s * acl_message) [read]

Reply to an ACL message.

Parameters:

acl_message The incoming acl message to reply to

Returns:

A newly allocated ACL message

Note:

This function simply generates a new ACL message with the 'receiver' field automatically set to the 'sender' field of the incoming message.

Definition at line 89 of file libmc.c.

References fipa_Reply().

Referenced by MC_AclReply_chdl().

16.37.5.7 EXPORTMC struct fipa_acl_message_s* MC_AclRetrieve (MC_Agent_t agent) [read]

Retrieve an ACL message.

Parameters:

agent Agent to retrieve message from.

Returns:

an ACL message struct on success or NULL on failure

Definition at line 95 of file libmc.c.

References agent_mailbox_Retrieve(), and agent_s::mailbox.

Referenced by MC_AclRetrieve_chdl().

16.37.5.8 EXPORTMC int MC_AclSend (MCAgency_t *attr*, struct fipa_acl_message_s * *acl*)

Send a composed ACL Message.

Parameters:

attr An initialized and running MobileC agency

acl An allocated and fully composed ACL message.

Returns:

0 if successful, error code on failure.

Definition at line 101 of file libmc.c.

References fipa_agent_identifier_s::addresses, mtp_http_s::content, mtp_http_content_s::content_type, mtp_http_content_s::data, dynstring_Destroy(), FIPA_ACL, fipa_acl_Compose(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_envelope_Compose(), mtp_http_s::host, http_to_hostport(), MC_AclPost(), MC_FindAgentByName(), dynstring_s::message, message_Destroy(), mtp_http_s::message_parts, message_Send(), message_s::message_type, mtp_http_CreateMessage(), mtp_http_Destroy(), mtp_http_New(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_agent_identifier_set_s::num, port, fipa_acl_message_s::receiver, fipa_url_s::str, mtp_http_s::target, message_s::target, and fipa_url_sequence_s::urls.

Referenced by MC_AclSend_chdl().

16.37.5.9 EXPORTMC int MC_AclSetContent (struct fipa_acl_message_s * *acl*, const char * *content*)

Definition at line 300 of file libmc.c.

References fipa_string_s::content, fipa_acl_message_s::content, fipa_string_Destroy(), and fipa_string_New().

Referenced by MC_AclSetContent_chdl().

16.37.5.10 EXPORTMC int MC_AclSetPerformative (struct fipa_acl_message_s * *acl*, enum fipa_performative_e *performative*)

Definition at line 198 of file libmc.c.

References fipa_acl_message_s::performative.

Referenced by MC_AclSetPerformative_chdl().

16.37.5.11 EXPORTMC int MC_AclSetSender (struct fipa_acl_message_s * *acl*, const char * *name*, const char * *address*)

Definition at line 206 of file libmc.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_Destroy(), fipa_agent_identifier_New(), fipa_url_New(), fipa_url_sequence_New(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_acl_message_s::sender, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by MC_AclSetSender_chdl().

16.37.5.12 EXPORTMC struct fipa_acl_message_s* MC_AclWaitRetrieve (MCAgent_t agent)
[read]

Wait for and retrieve an ACL message.

Parameters:

agent Agent to retrieve message from.

Returns:

an ACL message struct on success or NULL on failure

Definition at line 191 of file libmc.c.

References agent_mailbox_WaitRetrieve(), and agent_s::mailbox.

Referenced by MC_AclWaitRetrieve_chdl().

16.37.5.13 EXPORTMC int MC_AddAgent (MCAgency_t attr, MCAgent_t agent)

Add an agent to the agency 'attr'.

Parameters:

attr a MobileC agency

agent An initialized MobileC agent

Returns:

0 if successful, or error_code_t type

Definition at line 317 of file libmc.c.

References mc_platform_s::agent_queue, mc_platform_s::ams, COND_SIGNAL, agency_s::mc_platform, agent_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_AddAgent_chdl().

16.37.5.14 const void* MC_AgentVariableRetrieve (MCAgent_t agent, const char * var_name, int task_num)

Retrieve a pointer to a previously saved variable.

Parameters:

agent A MobileC agent.

var_name The name of the saved variable that has previously been saved.

task_num The previous completed task from which to retrieve the saved variable.

Returns:

A pointer to the data on success or NULL on failure.

16.37.6 Examples

The following example demonstrates usage of [MC_AgentVariableRetrieve\(\)](#) from agent space.

Definition at line 330 of file libmc.c.

References `agent_task_s::agent_variable_list`, `interpreter_variable_data_s::data`, `agent_s::datastate`, `agent_datastate_s::task_progress`, and `agent_datastate_s::tasks`.

Referenced by `MC_AgentVariableRetrieve_chdl()`.

16.37.6.1 `int MC_AgentVariableSave (MCAGENT_t agent, const char * var_name)`

Mark an agent variable for saving.

Parameters:

agent A MobileC agent.

var_name The name of the variable to mark for saving.

Returns:

0 on success, non-zero on failure.

See also:

`test1.xml`

16.37.7 Examples

See `agent_saved_variables_example/test1.xml` for an example of usage of this api function.

16.37.8 Examples

The following example demonstrates usage of [MC_AgentVariableSave\(\)](#) from agent space.

Definition at line 348 of file libmc.c.

References `agent_s::datastate`, `MC_ERR_MEMORY`, `agent_task_s::num_saved_variables`, `agent_task_s::saved_variables`, `agent_datastate_s::task_progress`, and `agent_datastate_s::tasks`.

Referenced by `MC_AgentVariableSave_chdl()`.

16.37.8.1 `EXPORTMC int MC_BarrierDelete (MCAgency_t attr, int id)`

Find and delete an initialized MobileC Barrier.

Parameters:

attr A running MobileC agency

id The id of the barrier node to delete

Returns:

returns 0 on success, error if the node is not found or other failure.

Definition at line 409 of file libmc.c.

References mc_platform_s::barrier_queue, barrier_queue_Delete(), and agency_s::mc_platform.

Referenced by MC_BarrierDelete_chdl().

16.37.8.2 EXPORTMC int MC_BarrierInit (MCAgency_t *attr*, int *id*, int *num_procs*)

Initialize a MobileC Barrier.

Parameters:

attr A running MobileC agency

id The requested barrier id

num_procs The number of agents/threads/processes that will wait on the barrier

Returns:

The allocated barrier id. May differ from the requested id if it is already in use.

16.37.9 Examples

The following example demonstrates an agent which sets up an MC_Barrier.

Definition at line 395 of file libmc.c.

References barrier_node_Initialize(), mc_platform_s::barrier_queue, barrier_queue_Add(), barrier_queue_Get(), MC_ERR, agency_s::mc_platform, MC_SUCCESS, and node.

Referenced by MC_BarrierInit_chdl().

16.37.9.1 EXPORTMC int MC_CallAgentFunc (MCAgent_t *agent*, const char **funcName*, void **returnVal*, int *numArgs*, ...)

Calls a function defined in an agent.

Parameters:

agent An initialized and executed MobileC agent

funcName The name of the function to call

returnVal The agent function's return value

numArgs The number of arguments supplied to the agent function

... A variable argument list to be supplied to the agent function

Returns:

0 if successful, error_code_t type on failure

16.37.10 Example

Definition at line 415 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

16.37.10.1 EXPORTMC int MC_CallAgentFuncArg (MCAgent_t *agent*, const char * *funcName*, void * *returnVal*, void * *arg*)

Calls a function defined in an agent.

Parameters:

agent An initialized and executed MobileC agent

funcName The name of the function to call

returnVal The agent function's return value

arg The agent functions argument

Note:

The agent function must be of the form 'void* func(void* arg);'

Returns:

0 if successful, error_code_t type on failure

16.37.11 Example

Definition at line 436 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

16.37.11.1 EXPORTMC int MC_CallAgentFuncV (MCAgent_t *agent*, const char * *funcName*, void * *returnVal*, va_list *ap*)

Calls a function defined in an agent.

Parameters:

agent An initialized and executed MobileC agent

funcName The name of the function to call

returnVal The agent function's return value

ap A variable argument list

Returns:

0 if successful, error_code_t type on failure

Definition at line 455 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

16.37.11.2 EXPORTMC int MC_CallAgentFuncVar (MCAgent_t agent, const char * funcName, void * returnVal, ChVaList_t arglist)

Definition at line 475 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

Referenced by MC_CallAgentFunc_chdl().

16.37.11.3 EXPORTMC int MC_ChInitializeOptions (MCAgency_t attr, ChOptions_t * options)

Use custom ChOptions_t type for internal Ch interpreter.

Parameters:

attr A running MobileC agency
options Initialized Ch options structure

Returns:

0 on success, error_code_t type on failure

Definition at line 495 of file libmc.c.

References mc_platform_s::interp_options, and agency_s::mc_platform.

16.37.11.4 MCAgent_t MC_ComposeAgent (const char * name, const char * home, const char * owner, const char * code, const char * return_var_name, const char * server, int persistent)

Compose a new agent dynamically without using a prewritten XML file.

Parameters:

name The desired name of the new agent.
home The home of the new agent.
owner The owner of the new agent.
code The agent code
return_var_name The name of the agent's return variable. Set to "no-return" if no return variable is desired.
server The target destination of the agent.
persistant A flag indicating whether or not the agent should be persistent. A value of '1' indicates persistence, while a value of '0' indicates default non-persistent behaviour.

Returns:

This function returns a valid MCAgent_t structure on success or NULL on failure.

Definition at line 513 of file libmc.c.

References agent_datastate_s::agent_code, agent_datastate_s::agent_code_ids, agent_datastate_s::agent_codes, agent_datastate_New(), agent_New(), agent_s::agent_status, agent_task_New(), agent_s::agent_type, agent_s::datastate, agent_s::home, MC_LOCAL_AGENT, MC_WAIT_MESSGSEND, agent_s::name, agent_datastate_s::number_of_tasks, agent_s::orphan, agent_s::owner, agent_datastate_s::persistent, agent_task_s::server_name, agent_datastate_s::tasks, and agent_task_s::var_name.

Referenced by MC_ComposeAgent_chdl().

16.37.11.5 EXPORTMC int MC_CondBroadcast (MCAgency_t *attr*, int *id*)

Wakes up all agents/threads waiting on a condition variable.

Parameters:

attr A MobileC agency

id Synchronization variable id to broadcast to

See also:

[MC_SyncInit\(\)](#), [MC_CondSignal\(\)](#)

Returns:

0 on success, error_code_t type on failure

Definition at line 583 of file libmc.c.

References `syncListNode_s::cond`, `COND_BROADCAST`, `syncListNode_s::lock`, `MC_ERR_NOT_FOUND`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `syncListNode_s::signalled`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_CondBroadcast_chdl()`.

16.37.11.6 EXPORTMC int MC_CondReset (MCAgency_t *attr*, int *id*)

Reset a previously signalled MobileC condition variable.

Parameters:

attr A MobileC Agency

id The synchronization variable id to reset

See also:

[MC_SyncInit\(\)](#)

Returns:

0 on success, error_code_t type on failure

Definition at line 635 of file libmc.c.

References `syncListNode_s::lock`, `MC_ERR_NOT_FOUND`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `syncListNode_s::signalled`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_CondReset_chdl()`.

16.37.11.7 EXPORTMC int MC_CondSignal (MCAgency_t *attr*, int *id*)

Wakes up at least one thread waiting on a condition variable.

Parameters:

attr A MobileC agency

id synchronization variable id

See also:

[MC_SyncInit\(\)](#)

Returns:

0 on success, `error_code_t` type on failure

16.37.12 Example

The following example demonstrates the agent-space version of the function, which is nearly identical to the binary space api function.

Definition at line 598 of file libmc.c.

References `syncListNode_s::cond`, `COND_SIGNAL`, `syncListNode_s::lock`, `MC_ERR_NOT_FOUND`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `syncListNode_s::signalled`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_CondSignal_chdl()`.

16.37.12.1 EXPORTMC int MC_CondWait (MCAgency_t *attr*, int *id*)

Wait on a MobileC synchronization variable.

Parameters:

attr A MobileC agency

id a synchronization variable id

See also:

[MC_SyncInit\(\)](#)

Returns:

0 on success, `error_code_t` type on failure

16.37.13 Example

The following example demonstrates the agent-space version of this function.

Definition at line 613 of file libmc.c.

References `syncListNode_s::cond`, `COND_WAIT`, `syncListNode_s::lock`, `MC_ERR_NOT_FOUND`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `syncListNode_s::signalled`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_CondWait_chdl()`.

16.37.13.1 int MC_CopyAgent (MCAgent_t * *agent_out*, const MCAgent_t *agent_in*)

Performs a deep-copy of an agent structure.

Parameters:

agent_out A pointer to the agent to copy to.
agent_in The agent to copy

Returns:

0 on success, error_code_t type on failure.

Definition at line 653 of file libmc.c.

References agent_Copy(), and MC_SUCCESS.

16.37.13.2 EXPORTMC int MC_DeleteAgent (MCAgent_t *agent*)

Stop and remove an agent.

Parameters:

agent An agent in any state (running, waiting, etc)

Returns:

0 on success, error_code_t type on failure

Definition at line 660 of file libmc.c.

References CHECK_NULL, MC_ERR_INVALID, MC_SetAgentStatus(), MC_SUCCESS, MC_TerminateAgent(), and MC_WAIT_FINISHED.

Referenced by MC_DeleteAgent_chdl().

16.37.13.3 int MC_DestroyServiceSearchResult (char ** *agentName*, char ** *serviceName*, int * *agentID*, int *numResult*)

Free memory allocated by a Service Search operation.

Parameters:

agentName agent names returned by a search operation.
serviceName service names return by a search operation.
agentID list of agent id's returned by a search operation.
numResult The number of hits returned by a search operation.

Returns:

0 on success, error code on failure.

Definition at line 674 of file libmc.c.

Referenced by MC_DestroyServiceSearchResult_chdl().

16.37.13.4 EXPORTMC int MC_End (MCAgency_t *attr*)

End an agency.

Parameters:

attr A running agency

Returns:

0 on success, error_code_t type on failure

16.37.14 Example

Definition at line 723 of file libmc.c.

References mc_platform_s::acc, mc_platform_s::ams, mc_platform_s::cmd_prompt, COND_SIGNAL, mc_platform_s::connection_queue, mc_platform_s::df, GET_THREAD_MODE, agency_s::hostName, agency_s::mc_platform, mc_platform_Destroy(), MC_THREAD_ACC, MC_THREAD_AMS, MC_THREAD_CP, MC_THREAD_DF, mc_platform_s::message_queue, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::quit, mc_platform_s::quit_lock, cmd_prompt_s::thread, THREAD_CANCEL, THREAD_JOIN, and agency_s::threads.

Referenced by MC_End_chdl().

16.37.14.1 EXPORTMC MCAgent_t MC_FindAgentByID (MCAgency_t *attr*, int *ID*)

Find an agent by its id.

Parameters:

attr the agency to search

ID the id to search for

Returns:

a valid agent on success, NULL on failure

Definition at line 790 of file libmc.c.

References mc_platform_s::agent_queue, and agency_s::mc_platform.

Referenced by MC_FindAgentByID_chdl().

16.37.14.2 EXPORTMC MCAgent_t MC_FindAgentByName (MCAgency_t *attr*, const char * *name*)

Find an agent by its name.

Parameters:

attr a running agency

name name to search for

Returns:

a valid agent on success or NULL on failure

16.37.15 Example

Definition at line 777 of file libmc.c.

References mc_platform_s::agent_queue, and agency_s::mc_platform.

Referenced by MC_AclSend(), and MC_FindAgentByName_chdl().

16.37.15.1 EXPORTMC void* MC_GetAgentExecEngine (MCAgent_t agent)

Retrieve an agent's Ch interpreter.

Parameters:

agent a valid agent

Returns:

a Ch interpreter of type 'ChInterp_t' on success, or NULL on failure.

Definition at line 844 of file libmc.c.

References agent_s::agent_interp.

16.37.15.2 EXPORTMC int MC_GetAgentID (MCAgent_t agent)

Retrieve an agent's id.

Definition at line 850 of file libmc.c.

References agent_s::id.

Referenced by MC_GetAgentID_chdl().

16.37.15.3 EXPORTMC char* MC_GetAgentName (MCAgent_t agent)

Definition at line 858 of file libmc.c.

References agent_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::name.

Referenced by MC_GetAgentName_chdl().

16.37.15.4 EXPORTMC int MC_GetAgentNumTasks (MCAgent_t agent)

Retrieve the number of tasks an agent has.

16.37.16 Example

Definition at line 939 of file libmc.c.

References agent_s::datastate, and agent_datastate_s::number_of_tasks.

Referenced by MC_GetAgentNumTasks_chdl().

16.37.16.1 EXPORTMC int MC_GetAgentReturnData (MCAgent_t agent, int task_num, void ** data, int * dim, int ** extent)

Get an agent's return data.

Parameters:

agent a valid agent

task_num the task for which to retrieve the return data. The task must already be completed.

data the return data. May be multi dimensional array.

dim the number of dimensions of the return array.

extent the extent of each one of the array dimensions.

16.37.17 Example

This file demonstrates the retrieval of agent return data from an agent

This is the agent which gets the data

Definition at line 876 of file libmc.c.

References agent_task_s::agent_return_data, interpreter_variable_data_s::array_dim, interpreter_variable_data_s::array_extent, CH_DATATYPE_SIZE, interpreter_variable_data_s::data_type, agent_s::datastate, agent_datastate_s::number_of_tasks, size, and agent_datastate_s::tasks.

16.37.17.1 EXPORTMC int MC_GetAgentStatus (MCAgent_t agent)

Get an agent's current status.

Returns:

returns type 'enum MC_AgentStatus_e'

Definition at line 822 of file libmc.c.

References agent_s::agent_status, agent_s::lock, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_GetAgentStatus_chdl().

16.37.17.2 EXPORTMC enum MC_AgentType_e MC_GetAgentType (MCAgent_t agent)

Get an agent's type.

Returns:

returns type 'enum MC_AgentType_e'

Definition at line 945 of file libmc.c.

References agent_s::agent_type.

16.37.17.3 EXPORTMC char* MC_GetAgentXMLString (MCAgent_t agent)

Get an agent's xml string.

Returns:

a malloc'd character string containing the agent's xml code

Definition at line 832 of file libmc.c.

References agent_s::datastate, mxmlSaveAllocString(), and agent_datastate_s::xml_agent_root.

Referenced by MC_GetAgentXMLString_chdl().

16.37.17.4 EXPORTMC int MC_HaltAgency (MCAgency_t agency)

Halt an agency: Do not process new entries in queues.

Parameters:

agency A handle to a running MobileC agency.

Returns:

0 on success, non-zero on failure.

Definition at line 991 of file libmc.c.

References mc_platform_s::giant, mc_platform_s::giant_lock, agency_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_GetAllAgents(), and MC_HaltAgency_chdl().

16.37.17.5 EXPORTMC MCAgency_t MC_Initialize (int port, MCAgencyOptions_t * options)

Initialize and start a MobileC agency.

Parameters:

port the TCP port the agency should bind to

options initialized MobileC options or NULL for default options

Returns:

a handle to a running MobileC agency or NULL on failure

16.37.18 Example

Definition at line 1000 of file libmc.c.

References CHECK_NULL, agency_s::client, MCAgencyOptions_s::default_agent_status, agency_s::default_agentstatus, MCAgencyOptions_s::enable_security, agency_s::enable_security, HOST_NAME_MAX, agency_s::hostName, MC_InitializeAgencyOptions(), agency_s::mc_platform, mc_platform_Initialize(), MC_THREAD_ALL, agency_s::portno, agency_s::server, MCAgencyOptions_s::stack_size, agency_s::stack_size, MCAgencyOptions_s::threads, and agency_s::threads.

16.37.18.1 EXPORTMC int MC_InitializeAgencyOptions (struct MCAgencyOptions_s * options)

Initialize MobileC [options](#).

Parameters:

options [options](#) to initialize.

Returns:

0 on success, error_code_t on failure

Note:

MobileC [options](#) should be initialized with this function before any of its members are modified.

16.37.19 Example

Definition at line 1055 of file libmc.c.

References MCAgencyOptions_s::default_agent_status, MCAgencyOptions_s::enable_security, MC_THREAD_ALL, MC_WAIT_CH, MCAgencyOptions_s::modified, MCAgencyOptions_s::stack_size, and MCAgencyOptions_s::threads.

Referenced by MC_Initialize().

16.37.19.1 EXPORTMC int MC_LoadAgentFromFile (MCAgency_t attr, const char * filename)

Load an agent from a file into an agency.

Parameters:

agency A valid and running Mobile-C agency
filename Filename containing the agent to load

Returns:

0 on success, non-zero on failure.

Definition at line 1072 of file libmc.c.

References buf, agency_s::mc_platform, message_Destroy(), message_InitializeFromString(), message_New(), mc_platform_s::message_queue, MXML_DESCEND, mxmlFindElement(), mxmlLoadString(), message_s::to_address, message_s::xml_payload, and message_s::xml_root.

16.37.19.2 EXPORTMC int MC_MainLoop (MCAgency_t attr)

Wait indefinitely.

Note:

This function is intended to block the calling thread forever.

Definition at line 1697 of file libmc.c.

References mc_platform_s::ams, and agency_s::mc_platform.

16.37.19.3 EXPORTMC int MC_MutexLock (MCAgency_t attr, int id)

Locks a MobileC synchronization variable as a mutex.

Parameters:

attr a MobileC agency handle

id the synchronization variable id to lock

Returns:

0 on success, error_code_t type on failure

16.37.20 Example

Consider the following agents, which use the agent-space version of this api function. Note that the 'sleep' agent is sent first, followed by the 'wake' agent.

Definition at line 1142 of file libmc.c.

References syncListNode_s::lock, agency_s::mc_platform, MUTEX_LOCK, mc_platform_s::syncList, and syncListFind().

Referenced by MC_MutexLock_chdl().

16.37.20.1 EXPORTMC int MC_MutexUnlock (MCAgency_t attr, int id)

Definition at line 1154 of file libmc.c.

References syncListNode_s::lock, agency_s::mc_platform, MUTEX_UNLOCK, mc_platform_s::syncList, and syncListFind().

Referenced by MC_MutexUnlock_chdl().

16.37.20.2 EXPORTMC int MC_PrintAgentCode (MCAgent_t agent)

Prints an agents code to stdout.

Returns:

0 on success, `error_code_t` on failure

Definition at line 1166 of file `libmc.c`.

References `agent_datastate_s::agent_code`, `agent_s::datastate`, `agent_s::lock`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `agent_datastate_s::number_of_tasks`, and `agent_datastate_s::task_progress`.

Referenced by `MC_PrintAgentCode_chdl()`.

16.37.20.3 EXPORTMC int MC_RegisterService (MCAgency_t agency, MCAgent_t agent, int agentID, const char * agentName, char ** serviceNames, int numServices)

Register a new service with the Directory Facilitator.

Parameters:

agency a MobileC agency handle

agent (OPTIONAL: See note) a MobileC agent

agentID (OPTIONAL: See note) a MobileC agent id

agentName (OPTIONAL: See note) a MobileC agent name

serviceNames an array of character strings of service names

numServices the number of services described in 'serviceNames'

Returns:

0 on success, `error_code_t` type on failure

Note:

Three of the input arguments are optional. The function expects as input the arguments 'agent XOR (agentID AND agentName)'.

16.37.21 Example

Definition at line 1182 of file `libmc.c`.

References `CHECK_NULL`, `mc_platform_s::df`, `df_AddRequest()`, `df_request_list_node_New()`, `agent_s::id`, `MC_ERR_INVALID_ARGS`, `MC_ERR_MEMORY`, `agency_s::mc_platform`, `MUTEX_INIT`, `MUTEX_T`, and `agent_s::name`.

Referenced by `MC_RegisterService_chdl()`.

16.37.21.1 EXPORTMC int MC_ResetSignal (MCAgency_t attr)

Reset a MobileC signal.

Returns:

0 on success, `error_code_t` on failure

See also:

[MC_WaitSignal\(\)](#)

Definition at line 1316 of file libmc.c.

References COND_SIGNAL, mc_platform_s::giant, mc_platform_s::giant_cond, mc_platform_s::giant_lock, MC_NO_SIGNAL, agency_s::mc_platform, mc_platform_s::MC_signal, MUTEX_LOCK, and MUTEX_UNLOCK.

16.37.21.2 EXPORTMC int MC_ResumeAgency (MCAgency_t agency)

Resumes a halted agency.

Parameters:

agency An agency previously halted with the [MC_HaltAgency\(\)](#) function.

Returns:

0 on success, non-zero on failure.

Definition at line 1261 of file libmc.c.

References mc_platform_s::giant, mc_platform_s::giant_lock, agency_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_GetAllAgents(), and MC_ResumeAgency_chdl().

16.37.21.3 EXPORTMC MCAgent_t MC_RetrieveAgent (MCAgency_t attr)

Retrieves the oldest agent from an agency.

Returns:

a valid agent or NULL on failure

Definition at line 1270 of file libmc.c.

References mc_platform_s::agent_queue, agent_s::agent_status, ListSearch(), MC_AGENT_NEUTRAL, agency_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_RetrieveAgent_chdl().

16.37.21.4 EXPORTMC char* MC_RetrieveAgentCode (MCAgent_t agent)

Retrieves an agent's Ch code.

Returns:

a malloc'd character string on success, NULL on failure

Definition at line 1300 of file libmc.c.

References agent_datastate_s::agent_code, buf, agent_s::datastate, agent_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and agent_datastate_s::task_progress.

Referenced by MC_RetrieveAgentCode_chdl().

16.37.21.5 EXPORTMC int MC_SearchForService (MCAgency_t *attr*, const char * *searchString*, char *** *agentNames*, char *** *serviceNames*, int ** *agentIDs*, int * *numResults*)

Search the directory facilitator for a service.

Returns:

0 on success, error_code_t on failure

Parameters:

attr (input) a MobileC agency handle

searchString (input) substring to search services for

agentNames (return) array of agent names with matching services

serviceNames (return) array of matching service names

agentIDs (return) array of matching agent IDs

numResults (return) number of matching results

16.37.22 Example

Definition at line 1327 of file libmc.c.

References CHECK_NULL, COND_SLEEP_ACTION, mc_platform_s::df, df_AddRequest(), df_request_list_node_Destroy(), df_request_list_node_New(), df_request_search_Destroy(), df_request_search_New(), MC_ERR_MEMORY, agency_s::mc_platform, MC_SUCCESS, and search.

Referenced by MC_SearchForService_chdl().

16.37.22.1 EXPORTMC int MC_SemaphorePost (MCAgency_t *attr*, int *id*)

Post to a MobileC synchronization variable semaphore.

Parameters:

attr a MobileC agency handle

id the synchronization variable id to post to

Returns:

0 on success, error_code_t type on failure

16.37.23 Example

Definition at line 1377 of file libmc.c.

References agency_s::mc_platform, syncListNode_s::sem, SEMAPHORE_POST, mc_platform_s::syncList, and syncListFind().

Referenced by MC_SemaphorePost_chdl().

16.37.23.1 EXPORTMC int MC_SemaphoreWait (MCAgency_t *attr*, int *id*)

Decreases a MobileC synchronization variable semaphore count by one.

Parameters:

attr a MobileC agency handle
id synchronization variable id to wait on

Returns:

0 on MC_SUCCESS, error_code_t type of failure

Note:

If the semaphore count is already zero, this function will block until another thread posts to the semaphore.

16.37.24 Example

Definition at line 1389 of file libmc.c.

References agency_s::mc_platform, syncListNode_s::sem, SEMAPHORE_WAIT, mc_platform_s::syncList, and syncListFind().

Referenced by MC_SemaphoreWait_chdl().

16.37.24.1 EXPORTMC int MC_SendAgentMigrationMessage (MCAgency_t *attr*, const char * *message*, const char * *hostname*, int *port*)

Sends an agent migration message.

Parameters:

attr a MobileC agency handle
message a valid MobileC xml agent migration message
hostname host to send the message to
port port to send the message to

Definition at line 1411 of file libmc.c.

References MC_ERR, agency_s::mc_platform, message_Destroy(), message_InitializeFromString(), message_New(), and mc_platform_s::message_queue.

Referenced by MC_SendAgentMigrationMessage_chdl().

16.37.24.2 EXPORTMC int MC_SendAgentMigrationMessageFile (MCAgency_t *attr*, const char * *filename*, const char * *hostname*, int *port*)

Sends an agent migration message.

Parameters:

attr a MobileC agency handle
filename file containing a valid MobileC xml agent migration message
hostname hostname to send the agent to
port port to send the agent to

Definition at line 1442 of file libmc.c.

References buf, agency_s::mc_platform, message_Destroy(), message_InitializeFromString(), message_New(), and mc_platform_s::message_queue.

Referenced by handler_SEND(), and MC_SendAgentMigrationMessageFile_chdl().

16.37.24.3 EXPORTMC int MC_SetAgentStatus (MCAgent_t agent, int status)

Set an agent's status.

Parameters:

agent a MobileC agent
status agent status of type 'enum MC_AgentStatus_e'

Returns:

0 on success, or error_code_t on failure

Definition at line 1528 of file libmc.c.

References agent_s::agent_status, mc_platform_s::ams, COND_SIGNAL, agent_s::lock, agent_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::orphan.

Referenced by MC_DeleteAgent(), and MC_SetAgentStatus_chdl().

16.37.24.4 EXPORTMC int MC_SetDefaultAgentStatus (MCAgency_t agency, enum MC_AgentStatus_e status)

Sets default incoming agent status.

Parameters:

agency a MobileC agency handle
status the status to set all incoming agents

Returns:

0 on success, error_type_t on failure

Note:

using this function will override any status the incoming agent attempts to set for itself.

Definition at line 1543 of file libmc.c.

References mc_platform_s::default_agentstatus, and agency_s::mc_platform.

Referenced by MC_SetDefaultAgentStatus_chdl().

16.37.24.5 EXPORTMC int MC_SetThreadOff (MCAgencyOptions_t * *options*, enum MC_ThreadIndex_e *index*)

Sets a MobileC thread to "off" status.

Parameters:

options MobileC [options](#) previously initialized with [MC_InitializeAgencyOptions\(\)](#)
index the thread to set

Returns:

0 on success, error_code_t on failure

Note:

This function must be called before [MC_Initialize\(\)](#). Once an agency is started with [MC_Initialize](#), the [MC_SetThread](#) functions will have no effect.

Definition at line 1570 of file libmc.c.

References [SET_THREAD_OFF](#), and [MCAgencyOptions_s::threads](#).

16.37.24.6 EXPORTMC int MC_SetThreadOn (MCAgencyOptions_t * *options*, enum MC_ThreadIndex_e *index*)

Sets a MobileC thread to "on" status.

Parameters:

options MobileC [options](#) previously initialized with [MC_InitializeAgencyOptions\(\)](#)
index the thread to set

Returns:

0 on success, error_code_t on failure

Note:

This function must be called before [MC_Initialize\(\)](#). Once an agency is started with [MC_Initialize](#), the [MC_SetThread](#) functions will have no effect.

Definition at line 1553 of file libmc.c.

References [SET_THREAD_ON](#), and [MCAgencyOptions_s::threads](#).

16.37.24.7 EXPORTMC int MC_SetThreadsAllOff (MCAgencyOptions_t * *options*)

Set all MobileC threads to 'off' status.

Parameters:

options a MobileC [options](#) structure initialized with with the [MC_InitializeAgencyOptions\(\)](#) function.

Returns:

0 on success, error code on failure.

Definition at line 1577 of file libmc.c.

References [MC_THREAD_ALL](#), [SET_THREAD_OFF](#), and [MCAgencyOptions_s::threads](#).

16.37.24.8 EXPORTMC int MC_SetThreadsAllOn (MCAgencyOptions_t * options)

Set all Mobile-C threads on.

Parameters:

options MobileC *options* structure, initialized with `MC_InitializeAgencyOptions()`

Returns:

0 on success, error code on failure.

Definition at line 1560 of file libmc.c.

References `MC_THREAD_ALL`, `SET_THREAD_ON`, and `MCAgencyOptions_s::threads`.

16.37.24.9 EXPORTMC int MC_Steer (MCAgency_t attr, int(*) (void *data) funcptr, void * arg)

Set up a steerable algorithm.

Parameters:

attr a MobileC agency handle

funcptr a function pointer to the algorithm

arg an argument for the algorithm function

Returns:

0 on success, `error_code_t` on failure

Note:

The algorithm function must contain a call to `MC_SteerControl` in order for the algorithm to be steerable.

16.37.25 Example

Definition at line 1587 of file libmc.c.

References `agency_s::mc_platform`, `MC_RESTART`, `MC_RUN`, `mc_platform_s::MC_steer_command`, `mc_platform_s::MC_steer_lock`, `MUTEX_LOCK`, and `MUTEX_UNLOCK`.

16.37.25.1 EXPORTMC enum MC_SteerCommand_e MC_SteerControl (void)

The MobileC user-algorithm steering function.

Returns:

The current steering command

Note:

This function belongs inside a user's steerable algorithm.

See also:[MC_Steer\(\)](#)

Definition at line 1606 of file libmc.c.

References COND_WAIT, mc_platform_s::MC_steer_command, mc_platform_s::MC_steer_cond, mc_platform_s::MC_steer_lock, MC_SUSPEND, MUTEX_LOCK, and MUTEX_UNLOCK.

16.37.25.2 EXPORTMC int MC_SyncDelete (MCAgency_t attr, int id)

Deletes a previously initialized synchronization variable.

Parameters:

attr a MobileC agency handle

id the sync variable id to delete

Returns:

0 on success, or error_code_t on failure

Definition at line 1622 of file libmc.c.

References syncList_s::giant_lock, syncListNode_s::lock, MC_ERR_NOT_FOUND, agency_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::syncList, syncListFind(), syncListNodeDestroy(), and syncListRemove().

Referenced by MC_SyncDelete_chdl().

16.37.25.3 EXPORTMC int MC_SyncInit (MCAgency_t attr, int id)

Initializes a new MobileC synchronization variable.

Parameters:

attr a MobileC agency handle

id the requested sync variable id

Returns:

new sync variable's id. May be different than the requested id.

Note:

Each synchronization variable may be used as a mutex, condition variable, or semaphore. However, it should only be used as one type of synchronization variable per instance, or undefined behaviour may result.

See also:

[MC_MutexLock\(\)](#), [MC_MutexUnlock\(\)](#), [MC_CondWait\(\)](#), [MC_CondSignal\(\)](#), [MC_CondBroadcast](#), [MC_SemaphorePost\(\)](#), [MC_SemaphoreWait\(\)](#)

Definition at line 1652 of file libmc.c.

References `syncList_s::giant_lock`, `syncListNode_s::id`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `node`, `mc_platform_s::syncList`, `syncListAddNode()`, `syncListFind()`, and `syncListNodeNew()`.

Referenced by `MC_SyncInit_chdl()`.

16.37.25.4 EXPORTMC int MC_TerminateAgent (MCAgent_t agent)

Halt a running agent.

Returns:

0 on success, `error_code_t` on failure

Definition at line 1677 of file `libmc.c`.

References `agent_s::agent_interp`.

Referenced by `MC_DeleteAgent()`, and `MC_TerminateAgent_chdl()`.

16.37.25.5 EXPORTMC int MC_WaitAgent (MCAgency_t attr)

Wait indefinitely.

Note:

This function is intended to block the calling thread forever. Wait for an agent arrival event
This function blocks until an agent arrival signal is triggered, at which point it unblocks.

Definition at line 1704 of file `libmc.c`.

References `mc_platform_s::agent_queue`, `COND_WAIT`, `mc_platform`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, and `size`.

16.37.25.6 EXPORTMC MCAgent_t MC_WaitRetrieveAgent (MCAgency_t attr)

Wait and retrieve an agent.

Returns:

a valid MobileC agent on success, or NULL on failure

Note:

This function blocks until the arrival of an agent. The agent is retrieved after it is initialized, but before it is executed.

Definition at line 1724 of file `libmc.c`.

References `mc_platform_s::agent_queue`, `ListSearch()`, `agency_s::mc_platform`, `MC_RECV_AGENT`, `MC_WaitSignal()`, `MUTEX_LOCK`, and `MUTEX_UNLOCK`.

16.37.25.7 EXPORTMC int MC_WaitSignal (MCAgency_t *attr*, int *signals*)

Wait for a MobileC signal.

Parameters:

attr a MobileC agency handle

signals a flag of signals to wait for, of type 'enum MC_Signal_e'

Returns:

0 on success, error_code_t on failure

Note:

the parameter 'signals' may be something like 'MC_RECV_MESSAGE | MC_RECV_AGENT', etc.

16.37.26 Example

Definition at line 1742 of file libmc.c.

References COND_WAIT, mc_platform_s::giant, mc_platform_s::giant_lock, agency_s::mc_platform, mc_platform_s::MC_signal, mc_platform_s::MC_signal_cond, mc_platform_s::MC_signal_lock, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_WaitRetrieveAgent().

16.38 /home/dko/projects/mobilec/trunk/src/include/macros.h File Reference

```
#include <pthread.h>
#include <semaphore.h>
#include "config.h"
```

Defines

- #define [GET_THREAD_MODE](#)(a, b) ((a & (1<<b)) / (1<<b))
- #define [SET_THREAD_ON](#)(a, b) a = (a | (1<<b))
- #define [SET_THREAD_OFF](#)(a, b) a = (a & (~(1<<b)))
- #define [STRUCT](#)(name, members)
- #define [PTHREAD_STACK_SIZE](#) 131072
- #define [THREAD_T](#) pthread_t
- #define [THREAD_CREATE](#)(thread_handle, function, arg)
- #define [THREAD_CANCEL](#)(thread_handle) pthread_cancel(thread_handle)
- #define [THREAD_JOIN](#)(thread_handle) pthread_join(thread_handle, NULL)
- #define [MUTEX_T](#) pthread_mutex_t
- #define [MUTEX_INIT](#)(mutex) pthread_mutex_init(mutex, NULL)
- #define [MUTEX_DESTROY](#)(mutex) pthread_mutex_destroy(mutex)
- #define [MUTEX_LOCK](#)(mutex)
- #define [MUTEX_UNLOCK](#)(mutex) pthread_mutex_unlock(mutex)
- #define [MUTEX_NEW](#)(mutex)
- #define [COND_T](#) pthread_cond_t
- #define [COND_INIT](#)(cond) pthread_cond_init(cond, NULL)
- #define [COND_DESTROY](#)(cond) pthread_cond_destroy(cond)
- #define [COND_WAIT](#)(cond, mutex) pthread_cond_wait(cond, mutex)
- #define [COND_SLEEP](#)(cond, mutex, test)
- #define [COND_RESET](#)(cond, mutex) pthread_mutex_unlock(mutex);
- #define [COND_SLEEP_ACTION](#)(cond, mutex, action)
- #define [SIGNAL](#)(cond, mutex, action)
- #define [COND_BROADCAST](#)(cond) pthread_cond_broadcast(cond)
- #define [COND_SIGNAL](#)(cond) pthread_cond_signal(cond)
- #define [SEMAPHORE_T](#) sem_t
- #define [SEMAPHORE_INIT](#)(sem) sem_init(sem, 0, 0)
- #define [SEMAPHORE_DESTROY](#)(sem) sem_destroy(sem)
- #define [SEMAPHORE_WAIT](#)(sem) sem_wait(sem)
- #define [SEMAPHORE_POST](#)(sem) sem_post(sem)
- #define [RWLOCK_T](#) mc_rwlock_t
- #define [RWLOCK_INIT](#)(rwlock) mc_rwlock_init(rwlock)
- #define [RWLOCK_DESTROY](#)(rwlock) mc_rwlock_destroy(rwlock)
- #define [RWLOCK_RDLOCK](#)(rwlock) mc_rwlock_rdlock(rwlock)
- #define [RWLOCK_RDUNLOCK](#)(rwlock) mc_rwlock_rdunlock(rwlock)
- #define [RWLOCK_WRLOCK](#)(rwlock) mc_rwlock_wrlock(rwlock)
- #define [RWLOCK_WRUNLOCK](#)(rwlock) mc_rwlock_wrunlock(rwlock)
- #define [WAKE_QUEUE](#)(queue, action)
- #define [SLEEP_QUEUE](#)(queue)

- #define [SLEEP_RESET](#)(queue) pthread_mutex_unlock(queue → thread_mutex)
- #define [CHECK_NULL](#)(var, action)
- #define [WARN](#)(message)
- #define [CH_DATATYPE_SIZE](#)(type, size)
- #define [CH_DATATYPE_STRING](#)(type, string)
- #define [CH_DATATYPE_VALUE_STRING](#)(type, string, p)
- #define [CH_STRING_DATATYPE](#)(string, type)
- #define [CH_DATATYPE_STR_TO_VAL](#)(type, string, val)

16.38.1 Define Documentation

16.38.1.1 #define CH_DATATYPE_SIZE(type, size)

Value:

```

switch(type) {
    case CH_CHARTYPE:
        size = sizeof(char);
        break;
    case CH_INTTYPE:
        size = sizeof(int);
        break;
    case CH_UINTTYPE:
        size = sizeof(unsigned int);
        break;
    case CH_SHORTTYPE:
        size = sizeof(short);
        break;
    case CH_USHORTTYPE:
        size = sizeof(unsigned short);
        break;
    case CH_FLOATTYPE:
        size = sizeof(float);
        break;
    case CH_DOUBLETYPE:
        size = sizeof(double);
        break;
    default:
        fprintf(stderr, "Unknown data type: %d at %s:%d",
            type, __FILE__, __LINE__);
        size=0;
}

```

Definition at line 460 of file macros.h.

Referenced by [agent_AddPersistentVariable\(\)](#), [agent_xml_compose__create_row_nodes\(\)](#), [agent_xml_parse__data\(\)](#), [agent_xml_parse__fill_row_data\(\)](#), [agent_xml_parse__row\(\)](#), [interpreter_variable_data_Initialize\(\)](#), [interpreter_variable_data_InitializeFromAgent\(\)](#), and [MC_GetAgentReturnData\(\)](#).

16.38.1.2 #define CH_DATATYPE_STR_TO_VAL(type, string, val)

Value:

```

switch (type) { \
    case CH_INTTYPE: \
        *(int*)val = atoi(string); \
    break; \
    case CH_UINTTYPE: \

```

```

        *(unsigned int*)val = atoi(string); \
break; \
case CH_SHORTTYPE: \
        *(short*)val = (short)atoi(string); /*FIXME*/ \
break; \
case CH_USHORTTYPE: \
        *(unsigned short*)val = (unsigned short)atoi(string); /*FIXME*/ \
break; \
case CH_FLOATTYPE: \
        *(float*)val = strttof(string, NULL); \
break; \
case CH_DOUBLETYPE: \
        *(double*)val = strtod(string, NULL); \
break; \
default: \
        fprintf(stderr, \
                "Unsupported data type: %d %s:%d\n", \
                type, __FILE__, __LINE__ ); \
}

```

Definition at line 574 of file macros.h.

Referenced by agent_xml_parse__data().

16.38.1.3 #define CH_DATATYPE_STRING(type, string)

Value:

```

switch(type) {
case CH_CHARTYPE:
    strcpy(string, "char");
break;
case CH_INTTYPE:
    strcpy(string, "int");
break;
case CH_UINTTYPE:
    strcpy(string, "unsigned int");
break;
case CH_SHORTTYPE:
    strcpy(string, "short");
break;
case CH_USHORTTYPE:
    strcpy(string, "unsigned short");
break;
case CH_FLOATTYPE:
    strcpy(string, "float");
break;
case CH_DOUBLETYPE:
    strcpy(string, "double");
break;
default:
    fprintf(stderr,
            "Unsupported data type: %d %s:%d\n",
            type, __FILE__, __LINE__ );
}

```

Definition at line 491 of file macros.h.

Referenced by agent_xml_compose__data().

16.38.1.4 #define CH_DATATYPE_VALUE_STRING(type, string, p)

Value:


```

switch(type) {
    case CH_CHARTYPE:
        sprintf(string, "%c", *((char*)p));
        break;
    case CH_INTTYPE:
        sprintf(string, "%d", *((int*)p));
        break;
    case CH_UINTTYPE:
        sprintf(string, "%d", *((unsigned int*)p));
        break;
    case CH_SHORTTYPE:
        sprintf(string, "%d", *((short*)p));
        break;
    case CH_USHORTTYPE:
        sprintf(string, "%d", *((unsigned short*)p));
        break;
    case CH_FLOATTYPE:
        sprintf(string, "%f", *((float*)p));
        break;
    case CH_DOUBLETYPE:
        sprintf(string, "%f", *((double*)p));
        break;
    default:
        fprintf(stderr,
            "Unsupported data type: %d %s:%d\n",
            type, __FILE__, __LINE__);
}

```

Definition at line 523 of file macros.h.

Referenced by agent_xml_compose__create_row_nodes(), and agent_xml_compose__data().

16.38.1.5 #define CH_STRING_DATATYPE(string, type)

Value:

```

if (!strcmp(string, "int")) {
    type = CH_INTTYPE;
} else if (!strcmp(string, "float")) {
    type = CH_FLOATTYPE;
} else if (!strcmp(string, "double")) {
    type = CH_DOUBLETYPE;
} else if (!strcmp(string, "unsigned int")) {
    type = CH_UINTTYPE;
} else if (!strcmp(string, "short")) {
    type = CH_SHORTTYPE;
} else if (!strcmp(string, "unsigned short")) {
    type = CH_USHORTTYPE;
} else if (!strcmp(string, "char")) {
    type = CH_CHARTYPE;
} else {
    fprintf(stderr,
        "Unsupported data type: %d %s:%d\n",
        type, __FILE__, __LINE__);
}

```

Definition at line 552 of file macros.h.

Referenced by agent_xml_parse__data().

16.38.1.6 #define CHECK_NULL(var, action)

Value:

```

if ( var == NULL ) {
    fprintf(stderr, "Pointer var is null: expected otherwise.\n");
    fprintf(stderr, "Error occured at %s:%d", __FILE__, __LINE__);
    action;
}

```

Definition at line 443 of file macros.h.

Referenced by agent_AddPersistentVariable(), agent_datastate_New(), agent_xml_parse__home(), agent_xml_parse__name(), agent_xml_parse__owner(), agent_xml_parse__task(), ams_Initialize(), barrier_node_Initialize(), barrier_queue_New(), df_request_list_New(), df_request_list_node_New(), df_request_search_New(), fipa_agent_identifier_Parse(), fipa_word_Parse(), http_ParseExpression(), interpreter_variable_data_Initialize(), interpreter_variable_data_InitializeFromAgent(), interpreter_variable_data_New(), listen_Thread(), MC_AclSend_chdl(), MC_AddAgent_chdl(), MC_Barrier_chdl(), MC_BarrierDelete_chdl(), MC_BarrierInit_chdl(), MC_CondBroadcast_chdl(), MC_CondReset_chdl(), MC_CondSignal_chdl(), MC_CondWait_chdl(), MC_DeleteAgent(), MC_DeregisterService_chdl(), MC_End_chdl(), MC_FindAgentByID_chdl(), MC_FindAgentByName_chdl(), MC_HaltAgency_chdl(), MC_Initialize(), MC_MutexLock_chdl(), MC_MutexUnlock_chdl(), mc_platform_Initialize(), MC_RegisterService(), MC_RegisterService_chdl(), MC_ResumeAgency_chdl(), MC_RetrieveAgent_chdl(), mc_rwlock_init(), MC_SearchForService(), MC_SearchForService_chdl(), MC_SemaphorePost_chdl(), MC_SemaphoreWait_chdl(), MC_SendAgentMigrationMessage_chdl(), MC_SendSteerCommand_chdl(), MC_SetDefaultAgentStatus_chdl(), MC_SyncDelete_chdl(), MC_SyncInit_chdl(), message_InitializeFromAgent(), message_InitializeFromConnection(), message_InitializeFromString(), message_New(), message_queue_SendOutgoing(), message_Send(), message_xml_parse__message(), mtp_http_InitializeFromConnection(), mtp_http_New(), syncListNodeInit(), syncListNodeNew(), xml_get_cdata(), xml_get_text(), and xml_new_cdata().

16.38.1.7 #define COND_BROADCAST(cond) pthread_cond_broadcast(cond)

Definition at line 206 of file macros.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), ams_Thread(), df_Thread(), listen_Thread(), MC_Barrier(), MC_CondBroadcast(), and MC_SendSteerCommand().

16.38.1.8 #define COND_DESTROY(cond) pthread_cond_destroy(cond)

Definition at line 182 of file macros.h.

Referenced by ams_Destroy(), barrier_node_Destroy(), df_Destroy(), df_request_list_node_Destroy(), df_request_search_Destroy(), mc_platform_Destroy(), mc_rwlock_destroy(), and syncListNodeDestroy().

16.38.1.9 #define COND_INIT(cond) pthread_cond_init(cond, NULL)

Definition at line 179 of file macros.h.

Referenced by acc_Initialize(), ams_Initialize(), barrier_node_Initialize(), df_Initialize(), df_request_list_New(), df_request_list_node_New(), df_request_search_New(), mc_platform_Initialize(), mc_rwlock_init(), syncListNodeInit(), and syncListNodeNew().

16.38.1.10 #define COND_RESET(cond, mutex) pthread_mutex_unlock(mutex);

Definition at line 194 of file macros.h.

16.38.1.11 #define COND_SIGNAL(cond) pthread_cond_signal(cond)

Definition at line 208 of file macros.h.

Referenced by `acc_MessageHandlerThread()`, `agent_RunChScriptThread()`, `MC_AddAgent()`, `MC_CondSignal()`, `MC_End()`, `MC_ResetSignal()`, `mc_rwlock_rdunlock()`, `mc_rwlock_wrunlock()`, and `MC_SetAgentStatus()`.

16.38.1.12 #define COND_SLEEP(cond, mutex, test)**Value:**

```
if (pthread_mutex_lock( mutex )) \
    printf("pthread lock error: %s:%d\n", __FILE__, __LINE__); \
if (!test) { \
    pthread_cond_wait( cond, mutex ); \
}
```

Definition at line 188 of file macros.h.

16.38.1.13 #define COND_SLEEP_ACTION(cond, mutex, action)**Value:**

```
if (pthread_mutex_lock( mutex )) \
    printf("pthread lock error: %s:%d\n", __FILE__, __LINE__); \
action; \
pthread_cond_wait( cond, mutex );
```

Definition at line 196 of file macros.h.

Referenced by `MC_SearchForService()`.

16.38.1.14 #define COND_T pthread_cond_t

Definition at line 177 of file macros.h.

Referenced by `acc_Initialize()`, `ams_Initialize()`, `barrier_node_Initialize()`, `df_Initialize()`, `df_request_list_New()`, `df_request_list_node_New()`, `df_request_search_New()`, `mc_platform_Initialize()`, `mc_rwlock_init()`, `syncListNodeInit()`, and `syncListNodeNew()`.

16.38.1.15 #define COND_WAIT(cond, mutex) pthread_cond_wait(cond, mutex)

Definition at line 185 of file macros.h.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `agent_mailbox_WaitRetrieve()`, `ams_Thread()`, `df_Thread()`, `MC_Barrier()`, `MC_CondWait()`, `mc_platform_Initialize()`, `mc_rwlock_rdlock()`, `mc_rwlock_wrlock()`, `MC_SteerControl()`, `MC_WaitAgent()`, and `MC_WaitSignal()`.

16.38.1.16 #define GET_THREAD_MODE(a, b) ((a & (1<<b)) / (1<<b))

Definition at line 111 of file macros.h.

Referenced by `MC_End()`, and `mc_platform_Initialize()`.

16.38.1.17 #define MUTEX_DESTROY(mutex) pthread_mutex_destroy(mutex)

Definition at line 160 of file macros.h.

Referenced by agent_Destroy(), agent_Initialize(), ams_Destroy(), barrier_node_Destroy(), df_Destroy(), df_request_list_node_Destroy(), df_request_search_Destroy(), mc_platform_Destroy(), mc_rwlock_destroy(), and syncListNodeDestroy().

16.38.1.18 #define MUTEX_INIT(mutex) pthread_mutex_init(mutex, NULL)

Definition at line 157 of file macros.h.

Referenced by acc_Initialize(), agent_Copy(), agent_Initialize(), agent_New(), ams_Initialize(), barrier_node_Initialize(), df_Initialize(), df_request_list_New(), df_request_list_node_New(), df_request_search_New(), mc_platform_Initialize(), MC_RegisterService(), mc_rwlock_init(), syncListInit(), syncListNodeInit(), and syncListNodeNew().

16.38.1.19 #define MUTEX_LOCK(mutex)**Value:**

```
if (pthread_mutex_lock( mutex )) \
    fprintf(stderr, "pthread lock error: %s:%d\n", __FILE__, __LINE__)
```

Definition at line 163 of file macros.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), agent_Copy(), agent_Destroy(), agent_mailbox_WaitRetrieve(), agent_RunChScriptThread(), ams_ManageAgentList(), ams_Print(), ams_Thread(), AP_QUEUE_SEARCH_TEMPLATE(), AP_QUEUE_STD_DEFN_TEMPLATE(), df_Destroy(), df_node_Destroy(), df_request_list_Pop(), df_SearchForService(), df_Thread(), interpreter_variable_data_Initialize(), listen_Thread(), MC_AddAgent(), MC_Barrier(), MC_CallAgentFunc(), MC_CallAgentFuncArg(), MC_CallAgentFuncV(), MC_CallAgentFuncVar(), MC_CondBroadcast(), MC_CondReset(), MC_CondSignal(), MC_CondWait(), MC_End(), MC_GetAgentName(), MC_GetAgentStatus(), MC_GetAllAgents(), MC_HaltAgency(), MC_MutexLock(), mc_platform_Initialize(), MC_PrintAgentCode(), MC_ResetSignal(), MC_ResumeAgency(), MC_RetrieveAgent(), MC_RetrieveAgentCode(), mc_rwlock_rdlock(), mc_rwlock_rdunlock(), mc_rwlock_wrlock(), mc_rwlock_wrunlock(), MC_SendSteerCommand(), MC_SetAgentStatus(), MC_Steer(), MC_SteerControl(), MC_SyncDelete(), MC_SyncInit(), MC_WaitAgent(), MC_WaitRetrieveAgent(), MC_WaitSignal(), message_queue_SendOutgoing(), and request_handler_DEREGISTER().

16.38.1.20 #define MUTEX_NEW(mutex)**Value:**

```
mutex = (pthread_mutex_t*)malloc(sizeof(pthread_mutex_t)); \
    if (mutex == NULL) \
        fprintf(stderr, "Memory Error. %s:%d\n", __FILE__, __LINE__); \
```

Definition at line 168 of file macros.h.

Referenced by agent_New().

16.38.1.21 #define MUTEX_T pthread_mutex_t

Definition at line 155 of file macros.h.

Referenced by `acc_Initialize()`, `agent_Copy()`, `agent_Initialize()`, `ams_Initialize()`, `barrier_node_Initialize()`, `df_Initialize()`, `df_request_list_New()`, `df_request_list_node_New()`, `df_request_search_New()`, `mc_platform_Initialize()`, `MC_RegisterService()`, `mc_rwlock_init()`, `syncListInit()`, `syncListNodeInit()`, and `syncListNodeNew()`.

16.38.1.22 #define MUTEX_UNLOCK(mutex) pthread_mutex_unlock(mutex)

Definition at line 166 of file macros.h.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `agent_mailbox_WaitRetrieve()`, `agent_RunChScriptThread()`, `ams_ManageAgentList()`, `ams_Print()`, `ams_Thread()`, `AP_QUEUE_SEARCH_TEMPLATE()`, `AP_QUEUE_STD_DEFN_TEMPLATE()`, `df_request_list_Pop()`, `df_SearchForService()`, `df_Thread()`, `interpreter_variable_data_Initialize()`, `listen_Thread()`, `MC_AddAgent()`, `MC_Barrier()`, `MC_CallAgentFunc()`, `MC_CallAgentFuncArg()`, `MC_CallAgentFuncV()`, `MC_CallAgentFuncVar()`, `MC_CondBroadcast()`, `MC_CondReset()`, `MC_CondSignal()`, `MC_CondWait()`, `MC_End()`, `MC_GetAgentName()`, `MC_GetAgentStatus()`, `MC_GetAllAgents()`, `MC_HaltAgency()`, `MC_MutexUnlock()`, `mc_platform_Initialize()`, `MC_PrintAgentCode()`, `MC_ResetSignal()`, `MC_ResumeAgency()`, `MC_RetrieveAgent()`, `MC_RetrieveAgentCode()`, `mc_rwlock_rdlock()`, `mc_rwlock_rdunlock()`, `mc_rwlock_wrlock()`, `mc_rwlock_wrunlock()`, `MC_SendSteerCommand()`, `MC_SetAgentStatus()`, `MC_Steer()`, `MC_SteerControl()`, `MC_SyncDelete()`, `MC_SyncInit()`, `MC_WaitAgent()`, `MC_WaitRetrieveAgent()`, `MC_WaitSignal()`, `message_queue_SendOutgoing()`, and `request_handler_DEREGISTER()`.

16.38.1.23 #define PTHREAD_STACK_SIZE 131072

Definition at line 134 of file macros.h.

16.38.1.24 #define RWLOCK_DESTROY(rwlock) mc_rwlock_destroy(rwlock)

Definition at line 250 of file macros.h.

Referenced by `barrier_queue_Destroy()`.

16.38.1.25 #define RWLOCK_INIT(rwlock) mc_rwlock_init(rwlock)

Definition at line 242 of file macros.h.

Referenced by `barrier_queue_New()`, and `syncListInit()`.

16.38.1.26 #define RWLOCK_RDLOCK(rwlock) mc_rwlock_rdlock(rwlock)

Definition at line 268 of file macros.h.

Referenced by `barrier_queue_Get()`, and `syncListFind()`.

16.38.1.27 #define RWLOCK_RDUNLOCK(rwlock) mc_rwlock_rdunlock(rwlock)

Definition at line 270 of file macros.h.

Referenced by `barrier_queue_Get()`, and `syncListFind()`.

16.38.1.28 #define RWLOCK_T mc_rwlock_t

Definition at line 235 of file macros.h.

Referenced by barrier_queue_New(), and syncListInit().

16.38.1.29 #define RWLOCK_WRLOCK(rwlock) mc_rwlock_wrlock(rwlock)

Definition at line 272 of file macros.h.

Referenced by barrier_queue_Add(), barrier_queue_Delete(), syncListAddNode(), syncListDelete(), and syncListRemove().

16.38.1.30 #define RWLOCK_WRUNLOCK(rwlock) mc_rwlock_wrunlock(rwlock)

Definition at line 274 of file macros.h.

Referenced by barrier_queue_Add(), barrier_queue_Delete(), syncListAddNode(), syncListDelete(), and syncListRemove().

16.38.1.31 #define SEMAPHORE_DESTROY(sem) sem_destroy(sem)

Definition at line 220 of file macros.h.

Referenced by syncListNodeDestroy().

16.38.1.32 #define SEMAPHORE_INIT(sem) sem_init(sem, 0, 0)

Definition at line 217 of file macros.h.

Referenced by syncListNodeInit(), and syncListNodeNew().

16.38.1.33 #define SEMAPHORE_POST(sem) sem_post(sem)

Definition at line 225 of file macros.h.

Referenced by MC_SemaphorePost().

16.38.1.34 #define SEMAPHORE_T sem_t

Definition at line 215 of file macros.h.

Referenced by syncListNodeInit(), and syncListNodeNew().

16.38.1.35 #define SEMAPHORE_WAIT(sem) sem_wait(sem)

Definition at line 223 of file macros.h.

Referenced by MC_SemaphoreWait().

16.38.1.36 #define SET_THREAD_OFF(a, b) a = (a & (~(1<<b)))

Definition at line 115 of file macros.h.

Referenced by MC_SetThreadOff(), and MC_SetThreadsAllOff().

16.38.1.37 #define SET_THREAD_ON(a, b) a = (a | (1<<b))

Definition at line 114 of file macros.h.

Referenced by MC_SetThreadOn(), and MC_SetThreadsAllOn().

16.38.1.38 #define SIGNAL(cond, mutex, action)**Value:**

```
pthread_mutex_lock( mutex ); \
action; \
pthread_cond_signal( cond ); \
pthread_mutex_unlock( mutex )
```

Definition at line 201 of file macros.h.

Referenced by agent_RunChScriptThread(), df_Add(), df_AddRequest(), and request_handler_SEARCH().

16.38.1.39 #define SLEEP_QUEUE(queue)**Value:**

```
if (pthread_mutex_lock( queue->thread_mutex )) \
printf("pthread lock error: %s:%d\n", __FILE__, __LINE__); \
pthread_cond_wait( queue->touched_signal, queue->thread_mutex )
```

Definition at line 288 of file macros.h.

16.38.1.40 #define SLEEP_RESET(queue) pthread_mutex_unlock(queue → thread_mutex)

Definition at line 292 of file macros.h.

16.38.1.41 #define STRUCT(name, members)**Value:**

```
typedef struct name##_s { \
members \
} name##_t; \
typedef name##_t* name##_p;
```

Definition at line 119 of file macros.h.

16.38.1.42 #define THREAD_CANCEL(thread_handle) pthread_cancel(thread_handle)

Definition at line 144 of file macros.h.

Referenced by MC_End().

16.38.1.43 #define THREAD_CREATE(thread_handle, function, arg)**Value:**

```
pthread_create( \
    thread_handle, \
    &attr, \
    function, \
    (void*) arg \
)
```

Definition at line 136 of file macros.h.

Referenced by acc_Start(), agent_RunChScript(), ams_Start(), cmd_prompt_Start(), and df_Start().

16.38.1.44 #define THREAD_JOIN(thread_handle) pthread_join(thread_handle, NULL)

Definition at line 147 of file macros.h.

Referenced by MC_End().

16.38.1.45 #define THREAD_T pthread_t

Definition at line 135 of file macros.h.

Referenced by agent_RunChScript().

16.38.1.46 #define WAKE_QUEUE(queue, action)**Value:**

```
if (pthread_mutex_trylock( queue->lock ) == 0) { \
    action; \
    pthread_cond_signal( queue->cond); \
    pthread_mutex_unlock( queue->lock); \
}
```

Definition at line 282 of file macros.h.

16.38.1.47 #define WARN(message)**Value:**

```
fprintf(stderr, "WARNING: "); \
    fprintf(stderr, message ); \
    fprintf(stderr, " %s:%d\n", __FILE__, __LINE__ )
```

Definition at line 450 of file macros.h.

Referenced by acc_MessageHandlerThread(), acc_Thread(), and message_InitializeFromAgent().

16.39 /home/dko/projects/mobilec/trunk/src/include/mc_error.h File Reference

Typedefs

- typedef enum [error_code_e](#) [error_code_t](#)

Enumerations

- enum [error_code_e](#) {
 [MC_SUCCESS](#) = 0, [MC_ERR](#), [MC_ERR_CONNECT](#), [MC_ERR_PARSE](#),
 [MC_ERR_EMPTY](#), [MC_ERR_INVALID](#), [MC_ERR_INVALID_ARGS](#), [MC_ERR_NOT_FOUND](#),
 [MC_ERR_MEMORY](#), [MC_ERR_SEND](#), [MC_WARN_DUPLICATE](#), [MC_SUCCESS](#) = 0,
 [ERR](#), [MC_ERR_CONNECT](#), [MC_ERR_PARSE](#), [MC_ERR_EMPTY](#),
 [MC_ERR_INVALID](#), [MC_ERR_INVALID_ARGS](#), [MC_ERR_NOT_FOUND](#), [MC_ERR_MEMORY](#),
 [MC_ERR_SEND](#), [MC_WARN_DUPLICATE](#) }

16.39.1 Typedef Documentation

16.39.1.1 typedef enum [error_code_e](#) [error_code_t](#)

16.39.2 Enumeration Type Documentation

16.39.2.1 enum [error_code_e](#)

Enumerator:

MC_SUCCESS
MC_ERR
MC_ERR_CONNECT
MC_ERR_PARSE
MC_ERR_EMPTY
MC_ERR_INVALID
MC_ERR_INVALID_ARGS
MC_ERR_NOT_FOUND
MC_ERR_MEMORY
MC_ERR_SEND
MC_WARN_DUPLICATE
MC_SUCCESS
ERR
MC_ERR_CONNECT
MC_ERR_PARSE
MC_ERR_EMPTY

MC_ERR_INVALID
MC_ERR_INVALID_ARGS
MC_ERR_NOT_FOUND
MC_ERR_MEMORY
MC_ERR_SEND
MC_WARN_DUPLICATE

Definition at line 41 of file mc_error.h.

16.40 /home/dko/projects/mobilec/trunk/src/include/mc_platform.h File Reference

```
#include "acc.h"
#include "ams.h"
#include "barrier.h"
#include "cmd_prompt.h"
#include "config.h"
#include "connection.h"
#include "data_structures.h"
#include "df.h"
#include "libmc.h"
#include "../mc_sync/sync_list.h"
#include "../security/asm.h"
```

Data Structures

- struct [mc_platform_s](#)

Typedefs

- typedef struct [mc_platform_s](#) [mc_platform_t](#)
- typedef [mc_platform_t](#) * [mc_platform_p](#)

Functions

- [mc_platform_p](#) [mc_platform_Initialize](#) ([MCAgency_t](#) agency)
- [int](#) [mc_platform_Destroy](#) ([mc_platform_p](#) mc_platform)

16.40.1 Typedef Documentation

16.40.1.1 typedef [mc_platform_t](#)* [mc_platform_p](#)

Definition at line 112 of file [mc_platform.h](#).

16.40.1.2 typedef struct [mc_platform_s](#) [mc_platform_t](#)

Definition at line 111 of file [mc_platform.h](#).

16.40.2 Function Documentation

16.40.2.1 [int](#) [mc_platform_Destroy](#) ([mc_platform_p](#) *mc_platform*)

Definition at line 235 of file [mc_platform.c](#).

References `mc_platform_s::acc`, `acc_Destroy()`, `mc_platform_s::agent_queue`, `mc_platform_s::ams`, `ams_Destroy()`, `mc_platform_s::asm_message_queue`, `mc_platform_s::barrier_queue`, `barrier_queue_Destroy()`, `mc_platform_s::cmd_prompt`, `cmd_prompt_Destroy()`, `COND_DESTROY`, `mc_platform_s::connection_queue`, `mc_platform_s::df`, `df_Destroy()`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `mc_platform_s::interp_options`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `mc_platform_s::MC_steer_cond`, `mc_platform_s::MC_steer_lock`, `MC_SUCCESS`, `mc_platform_s::MC_sync_cond`, `mc_platform_s::MC_sync_lock`, `mc_platform_s::message_queue`, `MUTEX_DESTROY`, and `mc_platform_s::quit_lock`.

Referenced by `handler_QUIT()`, and `MC_End()`.

16.40.2.2 `mc_platform_p mc_platform_Initialize (MCAgency_t agency)`

Definition at line 47 of file `mc_platform.c`.

References `mc_platform_s::acc`, `acc_Initialize()`, `acc_Start()`, `mc_platform_s::agent_queue`, `mc_platform_s::ams`, `ams_Initialize()`, `ams_Start()`, `mc_platform_s::asm_message_queue`, `mc_platform_s::barrier_queue`, `barrier_queue_New()`, `CHECK_NULL`, `mc_platform_s::cmd_prompt`, `cmd_prompt_Initialize()`, `cmd_prompt_Start()`, `COND_INIT`, `COND_T`, `COND_WAIT`, `mc_platform_s::connection_queue`, `agency_s::default_agentstatus`, `mc_platform_s::default_agentstatus`, `DEFAULT_HOSTNAME_LENGTH`, `mc_platform_s::df`, `df_Initialize()`, `df_Start()`, `agency_s::enable_security`, `mc_platform_s::err`, `GET_THREAD_MODE`, `mc_platform_s::giant`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `mc_platform_s::hostname`, `mc_platform_s::interp_options`, `agency_s::last_error`, `MC_ERR_MEMORY`, `MC_NO_SIGNAL`, `mc_platform`, `mc_platform_s::MC_signal`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `mc_platform_s::MC_steer_cond`, `mc_platform_s::MC_steer_lock`, `mc_platform_s::MC_sync_cond`, `mc_platform_s::MC_sync_lock`, `MC_THREAD_ACC`, `MC_THREAD_ALL`, `MC_THREAD_AMS`, `MC_THREAD_CP`, `MC_THREAD_DF`, `mc_platform_s::message_queue`, `MUTEX_INIT`, `MUTEX_LOCK`, `MUTEX_T`, `MUTEX_UNLOCK`, `mc_platform_s::port`, `agency_s::portno`, `mc_platform_s::quit`, `mc_platform_s::quit_lock`, `agency_s::stack_size`, `mc_platform_s::stack_size`, `mc_platform_s::syncList`, `syncListInit()`, and `agency_s::threads`.

Referenced by `MC_Initialize()`.

16.41 /home/dko/projects/mobilec/trunk/src/include/mc_rwlock.h File Reference

```
#include "macros.h"
```

Data Structures

- struct [mc_rwlock_s](#)

Typedefs

- typedef struct [mc_rwlock_s](#) [mc_rwlock_t](#)
- typedef [mc_rwlock_t](#) * [mc_rwlock_p](#)

Functions

- [int mc_rwlock_init](#) ([mc_rwlock_p](#) *rwlock*)
- [int mc_rwlock_destroy](#) ([mc_rwlock_p](#) *rwlock*)
- [int mc_rwlock_rdlock](#) ([mc_rwlock_p](#) *rwlock*)
- [int mc_rwlock_rdunlock](#) ([mc_rwlock_p](#) *rwlock*)
- [int mc_rwlock_wrlck](#) ([mc_rwlock_p](#) *rwlock*)
- [int mc_rwlock_wrunlock](#) ([mc_rwlock_p](#) *rwlock*)

16.41.1 Typedef Documentation

16.41.1.1 typedef [mc_rwlock_t](#)* [mc_rwlock_p](#)

Definition at line 46 of file [mc_rwlock.h](#).

16.41.1.2 typedef struct [mc_rwlock_s](#) [mc_rwlock_t](#)

16.41.2 Function Documentation

16.41.2.1 [int mc_rwlock_destroy](#) ([mc_rwlock_p](#) *rwlock*)

Definition at line 61 of file [mc_rwlock.c](#).

References [mc_rwlock_s::cond](#), [COND_DESTROY](#), [mc_rwlock_s::lock](#), and [MUTEX_DESTROY](#).

16.41.2.2 [int mc_rwlock_init](#) ([mc_rwlock_p](#) *rwlock*)

Definition at line 41 of file [mc_rwlock.c](#).

References [CHECK_NULL](#), [mc_rwlock_s::cond](#), [COND_INIT](#), [COND_T](#), [mc_rwlock_s::lock](#), [MC_ERR_MEMORY](#), [MUTEX_INIT](#), [MUTEX_T](#), [mc_rwlock_s::num_readers](#), [mc_rwlock_s::write_flag](#), and [mc_rwlock_s::write_request](#).

16.41.2.3 int mc_rwlock_rdlock (mc_rwlock_p *rwlock*)

Definition at line 74 of file mc_rwlock.c.

References mc_rwlock_s::cond, COND_WAIT, mc_rwlock_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, mc_rwlock_s::num_readers, mc_rwlock_s::write_flag, and mc_rwlock_s::write_request.

16.41.2.4 int mc_rwlock_rdunlock (mc_rwlock_p *rwlock*)

Definition at line 89 of file mc_rwlock.c.

References mc_rwlock_s::cond, COND_SIGNAL, mc_rwlock_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and mc_rwlock_s::num_readers.

16.41.2.5 int mc_rwlock_wrlock (mc_rwlock_p *rwlock*)

Definition at line 102 of file mc_rwlock.c.

References mc_rwlock_s::cond, COND_WAIT, mc_rwlock_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, mc_rwlock_s::num_readers, mc_rwlock_s::write_flag, and mc_rwlock_s::write_request.

16.41.2.6 int mc_rwlock_wrunlock (mc_rwlock_p *rwlock*)

Definition at line 121 of file mc_rwlock.c.

References mc_rwlock_s::cond, COND_SIGNAL, mc_rwlock_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and mc_rwlock_s::write_flag.

16.42 /home/dko/projects/mobilec/trunk/src/include/message.h File Reference

```
#include "config.h"
#include "mtp_http.h"
#include <mxml.h>
#include <netinet/in.h>
```

Data Structures

- struct [message_s](#)

Typedefs

- typedef enum [message_type_e](#) [message_type_t](#)
- typedef struct [message_s](#) [message_t](#)
- typedef [message_t](#) * [message_p](#)

Enumerations

- enum [message_type_e](#) {
RELAY, REQUEST, SUBSCRIBE, CANCEL,
N_UNDRSTD, MOBILE_AGENT, QUER_IF, QUER_REF,
AGENT_UPDATE, RETURN_MSG, FIPA_ACL, ENCRYPTED_DATA,
ENCRYPTION_INITIALIZE, REQUEST_ENCRYPTION_INITIALIZE, NUM_MESSAGE_-
TYPE }

Functions

- [message_p](#) [message_New](#) (void)
- [message_p](#) [message_Copy](#) ([message_p](#) src)
- int [message_InitializeFromAgent](#) (struct [mc_platform_s](#) *[mc_platform](#), [message_p](#) message, struct [agent_s](#) *[agent](#))
- int [message_InitializeFromConnection](#) (struct [mc_platform_s](#) *[mc_platform](#), [message_p](#) message, struct [connection_s](#) *[connection](#))
- int [message_InitializeFromString](#) (struct [mc_platform_s](#) *[mc_platform](#), [message_p](#) message, const char *string, const char *destination_host, int destination_port, const char *target)
- int [message_Destroy](#) ([message_p](#) message)
- int [message_Send](#) ([message_p](#) message)
- int [http_to_hostport](#) (const char *http_str, char **host, int *port, char **target)

16.42.1 Typedef Documentation

16.42.1.1 typedef [message_t](#)* [message_p](#)

Definition at line 109 of file [message.h](#).

16.42.1.2 `typedef struct message_s message_t`

16.42.1.3 `typedef enum message_type_e message_type_t`

16.42.2 Enumeration Type Documentation

16.42.2.1 `enum message_type_e`

Enumerator:

RELAY
REQUEST
SUBSCRIBE
CANCEL
N_UNDRSTD
MOBILE_AGENT
QUER_IF
QUER_REF
AGENT_UPDATE
RETURN_MSG
FIPA_ACL
ENCRYPTED_DATA
ENCRYPTION_INITIALIZE
REQUEST_ENCRYPTION_INITIALIZE
NUM_MESSAGE_TYPE

Definition at line 48 of file message.h.

16.42.3 Function Documentation

16.42.3.1 `int http_to_hostport (const char * http_str, char ** host, int * port, char ** target)`

Definition at line 506 of file message.c.

References MC_ERR_PARSE.

Referenced by MC_AclSend().

16.42.3.2 `message_p message_Copy (message_p src)`

Definition at line 310 of file message.c.

16.42.3.3 `int message_Destroy (message_p message)`

Definition at line 605 of file message.c.

References message_s::addr, message_s::agent_xml_flag, message_s::from_address, MC_SUCCESS, message_s::message_body, mxmlDelete(), message_s::target, message_s::to_address, message_s::update_name, and message_s::xml_root.

Referenced by `acc_MessageHandlerThread()`, `acc_Thread()`, `ams_ManageAgentList()`, `MC_AclSend()`, `MC_LoadAgentFromFile()`, `MC_SendAgentMigrationMessage()`, `MC_SendAgentMigrationMessageFile()`, `message_InitializeFromConnection()`, and `message_queue_SendOutgoing()`.

16.42.3.4 `int message_InitializeFromAgent (struct mc_platform_s * mc_platform, message_p message, struct agent_s * agent)`

Referenced by `ams_ManageAgentList()`.

16.42.3.5 `int message_InitializeFromConnection (struct mc_platform_s * mc_platform, message_p message, struct connection_s * connection)`

16.42.3.6 `int message_InitializeFromString (struct mc_platform_s * mc_platform, message_p message, const char * string, const char * destination_host, int destination_port, const char * target)`

Referenced by `MC_LoadAgentFromFile()`, `MC_SendAgentMigrationMessage()`, and `MC_SendAgentMigrationMessageFile()`.

16.42.3.7 `message_p message_New (void)`

Definition at line 286 of file `message.c`.

References `message_s::addr`, `message_s::agent_xml_flag`, `CHECK_NULL`, `message_s::connect_id`, `message_s::from_address`, `message_s::http_type`, `message_s::isHTTP`, `message_s::message_body`, `message_s::message_id`, `message_s::message_type`, `message_s::target`, `message_s::to_address`, `message_s::update_name`, `message_s::update_num`, `message_s::xml_payload`, and `message_s::xml_root`.

Referenced by `acc_Thread()`, `ams_ManageAgentList()`, `MC_LoadAgentFromFile()`, `MC_SendAgentMigrationMessage()`, `MC_SendAgentMigrationMessageFile()`, and `mtp_http_CreateMessage()`.

16.42.3.8 `int message_Send (message_p message)`

Definition at line 643 of file `message.c`.

References `CHECK_NULL`, `MC_ERR`, `MC_ERR_CONNECT`, `MC_ERR_SEND`, `message_s::message_body`, `mtp_http_ComposeMessage()`, `mtp_http_New()`, `mtp_http_Parse()`, `port`, `send`, `SOCKET_INPUT_SIZE`, `strtok_r`, and `message_s::to_address`.

Referenced by `acc_MessageHandlerThread()`, `MC_AclSend()`, and `message_queue_SendOutgoing()`.

16.43 /home/dko/projects/mobilec/trunk/src/include/mtp_http.h File Reference

Data Structures

- struct [mtp_http_content_s](#)
- struct [mtp_http_s](#)

Defines

- #define [SOCKET_INPUT_SIZE](#) 4096

Typedefs

- typedef struct [mtp_http_content_s](#) [mtp_http_content_t](#)
- typedef struct [mtp_http_s](#) [mtp_http_t](#)
- typedef [mtp_http_t](#) * [mtp_http_p](#)

Enumerations

- enum [http_status_code_e](#) {
 [CONTINUE](#) = 100, [SWITCHING_PROTOCOLS](#), [PROCESSING](#), [OK](#) = 200,
 [CREATED](#), [ACCEPTED](#), [NON_AUTHORITATIVE_INFORMATION](#), [NO_CONTENT](#),
 [RESET_CONTENT](#), [PARTIAL_CONTENT](#), [MULTI_STATUS](#), [BAD_REQUEST](#) = 400,
 [UNAUTHORIZED](#), [PAYMENT_REQUIRED](#), [FORBIDDEN](#), [NOT_FOUND](#),
 [METHOD_NOT_ALLOWED](#), [NOT_ACCEPTABLE](#), [PROXY_AUTHENTICATION_REQUIRED](#),
 [REQUEST_TIMEOUT](#),
 [CONFLICT](#), [GONE](#), [LENGTH_REQUIRED](#), [PRECONDITION_FAILED](#),
 [REQUEST_ENTITY_TOO_LARGE](#), [REQUEST_URI_TOO_LONG](#), [UNSUPPORTED_MEDIA_TYPE](#),
 [REQUESTED_RANGE_NOT_SATISFIABLE](#),
 [EXPECTATION_FAILED](#), [UNPROCESSABLE_ENTITY](#), [LOCKED](#), [FAILED_DEPENDANCY](#),
 [UNORDERED_COLLECTION](#), [UPGRADE_REQUIRED](#), [RETRY_WITH](#) }
 http return status codes
- enum [http_performative_e](#) {
 [HTTP_PERFORMATIVE_UNDEF](#) = -1, [HTTP_PERFORMATIVE_ZERO](#) = 0, [HTTP_HEAD](#),
 [HTTP_GET](#),
 [HTTP_POST](#), [HTTP_PUT](#), [HTTP_DELETE](#), [HTTP_TRACE](#),
 [HTTP_OPTIONS](#), [HTTP_CONNECT](#), [HTTP_RESPONSE](#), [HTTP_NUM_PERFORMATIVES](#) }
 http 'verbs'

Functions

- const char * [http_GetExpression](#) (const char *string, char **expr)
Parse an html expression.
- int [http_ParseExpression](#) (const char *expression_string, char **name, char **value)
Parse an expression into its name and value.
- const char * [http_ParseRequest](#) (mtp_http_p http, const char *string)
- const char * [http_GetToken](#) (const char *string, char **token)
- int [mtp_http_Destroy](#) (mtp_http_p http)
- int [mtp_http_InitializeFromConnection](#) (struct [mtp_http_s](#) *http, struct [connection_s](#) *connection)
- [mtp_http_p](#) [mtp_http_New](#) (void)
- const char * [mtp_http_ParseHeader](#) (struct [mtp_http_s](#) *http, const char *string)
- int [mtp_http_Parse](#) (struct [mtp_http_s](#) *http, const char *string)
- int [mtp_http_ComposeMessage](#) (struct [message_s](#) *message)
- struct [message_s](#) * [mtp_http_CreateMessage](#) (mtp_http_t *mtp_http, char *hostname, int port)

16.43.1 Define Documentation

16.43.1.1 #define SOCKET_INPUT_SIZE 4096

Definition at line 147 of file mtp_http.h.

Referenced by [message_InitializeFromConnection\(\)](#), [message_Send\(\)](#), and [mtp_http_InitializeFromConnection\(\)](#).

16.43.2 Typedef Documentation

16.43.2.1 typedef struct mtp_http_content_s mtp_http_content_t

16.43.2.2 typedef mtp_http_t* mtp_http_p

Definition at line 145 of file mtp_http.h.

16.43.2.3 typedef struct mtp_http_s mtp_http_t

16.43.3 Enumeration Type Documentation

16.43.3.1 enum http_performative_e

http 'verbs'

Enumerator:

HTTP_PERFORMATIVE_UNDEF
HTTP_PERFORMATIVE_ZERO
HTTP_HEAD
HTTP_GET
HTTP_POST

HTTP_PUT
HTTP_DELETE
HTTP_TRACE
HTTP_OPTIONS
HTTP_CONNECT
HTTP_RESPONSE
HTTP_NUM_PERFORMATIVES

Definition at line 90 of file mtp_http.h.

16.43.3.2 enum http_status_code_e

http return status codes

Enumerator:

CONTINUE
SWITCHING_PROTOCOLS
PROCESSING
OK
CREATED
ACCEPTED
NON_AUTHORITATIVE_INFORMATION
NO_CONTENT
RESET_CONTENT
PARTIAL_CONTENT
MULTI_STATUS
BAD_REQUEST
UNAUTHORIZED
PAYMENT_REQUIRED
FORBIDDEN
NOT_FOUND
METHOD_NOT_ALLOWED
NOT_ACCEPTABLE
PROXY_AUTHENTICATION_REQUIRED
REQUEST_TIMEOUT
CONFLICT
GONE
LENGTH_REQUIRED
PRECONDITION_FAILED
REQUEST_ENTITY_TOO_LARGE
REQUEST_URI_TOO_LONG
UNSUPPORTED_MEDIA_TYPE

REQUESTED_RANGE_NOT_SATISFIABLE
EXPECTATION_FAILED
UNPROCESSABLE_ENTITY
LOCKED
FAILED_DEPENDANCY
UNORDERED_COLLECTION
UPGRADE_REQUIRED
RETRY_WITH

Definition at line 45 of file mtp_http.h.

16.43.4 Function Documentation

16.43.4.1 `const char* http_GetExpression (const char * string, char ** expr)`

Parse an html expression.

Parameters:

string (input) The html block of text: Will parse the first expression pointed to by 'string'.
expr (output) The allocated expression

Returns:

A pointer to the next expression segment of the string block, or NULL.

Definition at line 224 of file mtp_http.c.

Referenced by mtp_http_Parse(), and mtp_http_ParseHeader().

16.43.4.2 `const char* http_GetToken (const char * string, char ** token)`

Definition at line 662 of file mtp_http.c.

References cur.

Referenced by http_ParseRequest().

16.43.4.3 `int http_ParseExpression (const char * expression_string, char ** name, char ** value)`

Parse an expression into its name and value.

Parameters:

expression_string (input) The expression
name (output) An allocated name string or NULL
value (output) An allocated value string or NULL

Returns:

error_code_t type

Note:

an http expression is something like 'Date: Mon, 23 May 2005 22:38:34 GMT' where 'Date' is the name and the remainder of the string is the value

Definition at line 283 of file mtp_http.c.

References CHECK_NULL, MC_ERR_PARSE, and MC_SUCCESS.

Referenced by mtp_http_Parse(), and mtp_http_ParseHeader().

16.43.4.4 const char* http_ParseRequest (mtp_http_p http, const char * string)

Definition at line 573 of file mtp_http.c.

References cur, HTTP_CONNECT, HTTP_DELETE, HTTP_GET, http_GetToken(), HTTP_HEAD, HTTP_OPTIONS, mtp_http_s::http_performative, HTTP_PERFORMATIVE_UNDEF, HTTP_POST, HTTP_PUT, HTTP_RESPONSE, HTTP_TRACE, mtp_http_s::response_code, mtp_http_s::response_string, and mtp_http_s::target.

Referenced by mtp_http_ParseHeader().

16.43.4.5 int mtp_http_ComposeMessage (struct message_s * message)

Referenced by message_Send().

16.43.4.6 struct message_s* mtp_http_CreateMessage (mtp_http_t * mtp_http, char * hostname, int port) [read]

Definition at line 747 of file mtp_http.c.

References buf, mtp_http_s::content, mtp_http_content_s::content_type, mtp_http_content_s::data, dynstring_Append(), dynstring_Destroy(), dynstring_New(), mtp_http_s::host, message_s::isHTTP, dynstring_s::len, dynstring_s::message, message_s::message_body, message_New(), mtp_http_s::message_parts, PACKAGE_VERSION, mtp_http_s::target, and message_s::to_address.

Referenced by MC_AclSend().

16.43.4.7 int mtp_http_Destroy (mtp_http_p http)

Definition at line 53 of file mtp_http.c.

References mtp_http_s::accept_ranges, mtp_http_s::boundary, mtp_http_s::connection, mtp_http_s::content, mtp_http_s::content_length, mtp_http_content_s::content_type, mtp_http_s::content_type, mtp_http_content_s::data, mtp_http_s::date, mtp_http_s::host, mtp_http_s::http_version, mtp_http_s::message_parts, mtp_http_s::return_code, SAFE_FREE, mtp_http_s::server, mtp_http_s::target, and mtp_http_s::user_agent.

Referenced by acc_Thread(), MC_AclSend(), and mtp_http_InitializeFromConnection().

16.43.4.8 int mtp_http_InitializeFromConnection (struct mtp_http_s * http, struct connection_s * connection)

Referenced by acc_Thread().

16.43.4.9 mtp_http_p mtp_http_New (void)

Definition at line 85 of file mtp_http.c.

References CHECK_NULL, and mtp_http_s::content.

Referenced by acc_Thread(), MC_AclSend(), message_Send(), and mtp_http_InitializeFromConnection().

16.43.4.10 int mtp_http_Parse (struct mtp_http_s * *http*, const char * *string*)

Definition at line 425 of file mtp_http.c.

References mtp_http_s::boundary, mtp_http_s::content, mtp_http_content_s::content_type, mtp_http_s::content_type, mtp_http_content_s::data, http_GetExpression(), http_ParseExpression(), mtp_http_s::http_performative, HTTP_POST, HTTP_PUT, HTTP_RESPONSE, MC_SUCCESS, mtp_http_s::message_parts, and mtp_http_ParseHeader().

Referenced by message_Send(), and mtp_http_InitializeFromConnection().

16.43.4.11 const char* mtp_http_ParseHeader (struct mtp_http_s * *http*, const char * *string*)

Definition at line 342 of file mtp_http.c.

References mtp_http_s::header_length, http_GetExpression(), HTTP_PARSE_EXPR, http_ParseExpression(), http_ParseRequest(), MC_SUCCESS, and SAFE_FREE.

Referenced by mtp_http_InitializeFromConnection(), and mtp_http_Parse().

16.44 /home/dko/projects/mobilec/trunk/src/include/xml_-compose.h File Reference

```
#include "agent.h"
```

Functions

- [mxml_node_t * agent_xml_compose \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__gaf_message \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__message \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__mobile_agent \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__agent_data \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__name \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__owner \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__home \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__tasks \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__task \(agent_p agent, int index\)](#)
- [mxml_node_t * agent_xml_compose__data \(agent_p agent, int index, interpreter_variable_data_t *interp_variable\)](#)
- [mxml_node_t * agent_xml_compose__agent_code \(agent_p agent, int index\)](#)
- [mxml_node_t * agent_xml_compose__row \(interpreter_variable_data_t *interp_variable, int index\)](#)
- [mxml_node_t * agent_xml_compose__create_row_nodes \(void *data, int index, int *extent, ChType_t type, int dim, int extent_index\)](#)

16.44.1 Function Documentation

16.44.1.1 [mxml_node_t* agent_xml_compose \(agent_p agent\)](#)

Definition at line 41 of file `xml_compose.c`.

References `agent_xml_compose__gaf_message()`, `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `MXML_NO_CALLBACK`, `mxmlAdd()`, `mxmlLoadString()`, and `node`.

Referenced by `message_InitializeFromAgent()`.

16.44.1.2 [mxml_node_t* agent_xml_compose__agent_code \(agent_p agent, int index\)](#)

Definition at line 501 of file `xml_compose.c`.

References `agent_datastate_s::agent_code_ids`, `agent_datastate_s::agent_codes`, `agent_s::datastate`, `MXML_NO_PARENT`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `node`, and `xml_new_cdata()`.

Referenced by `agent_xml_compose__tasks()`.

16.44.1.3 [mxml_node_t* agent_xml_compose__agent_data \(agent_p agent\)](#)

Definition at line 145 of file `xml_compose.c`.

References `agent_xml_compose__home()`, `agent_xml_compose__name()`, `agent_xml_compose__owner()`, `agent_xml_compose__tasks()`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlNewElement()`, and `node`.

Referenced by `agent_xml_compose__mobile_agent()`.

16.44.1.4 mxml_node_t* agent_xml_compose__create_row_nodes (void * data, int index, int * extent, ChType_t type, int dim, int extent_index)

Definition at line 552 of file xml_compose.c.

References agent_xml_compose__create_row_nodes(), buf, CH_DATATYPE_SIZE, CH_DATATYPE_VALUE_STRING, MXML_ADD_AFTER, MXML_ADD_TO_PARENT, MXML_NO_PARENT, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), mxmlNewText(), node, and size.

Referenced by agent_xml_compose__create_row_nodes(), and agent_xml_compose__row().

16.44.1.5 mxml_node_t* agent_xml_compose__data (agent_p agent, int index, interpreter_variable_data_t * interp_variable)

Definition at line 427 of file xml_compose.c.

References agent_xml_compose__row(), interpreter_variable_data_s::array_dim, buf, CH_DATATYPE_STRING, CH_DATATYPE_VALUE_STRING, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, MXML_ADD_AFTER, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), interpreter_variable_data_s::name, and node.

Referenced by agent_xml_compose__task().

16.44.1.6 mxml_node_t* agent_xml_compose__gaf_message (agent_p agent)

Definition at line 61 of file xml_compose.c.

References agent_xml_compose__message(), MXML_ADD_AFTER, mxmlAdd(), mxmlNewElement(), and node.

Referenced by agent_xml_compose().

16.44.1.7 mxml_node_t* agent_xml_compose__home (agent_p agent)

Definition at line 237 of file xml_compose.c.

References agent_s::home, mxmlNewElement(), mxmlNewText(), and node.

Referenced by agent_xml_compose__agent_data().

16.44.1.8 mxml_node_t* agent_xml_compose__message (agent_p agent)

Definition at line 80 of file xml_compose.c.

References agent_s::agent_type, agent_xml_compose__mobile_agent(), MC_LOCAL_AGENT, MC_REMOTE_AGENT, MC_RETURN_AGENT, MXML_ADD_AFTER, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), and node.

Referenced by agent_xml_compose__gaf_message().

16.44.1.9 mxml_node_t* agent_xml_compose__mobile_agent (agent_p agent)

Definition at line 124 of file xml_compose.c.

References agent_xml_compose__agent_data(), MXML_ADD_AFTER, mxmlAdd(), mxmlNewElement(), and node.

Referenced by `agent_xml_compose__message()`.

16.44.1.10 `mxml_node_t* agent_xml_compose__name (agent_p agent)`

Definition at line 205 of file `xml_compose.c`.

References `mxmlNewElement()`, `mxmlNewText()`, `agent_s::name`, and `node`.

Referenced by `agent_xml_compose__agent_data()`.

16.44.1.11 `mxml_node_t* agent_xml_compose__owner (agent_p agent)`

Definition at line 221 of file `xml_compose.c`.

References `mxmlNewElement()`, `mxmlNewText()`, `node`, and `agent_s::owner`.

Referenced by `agent_xml_compose__agent_data()`.

16.44.1.12 `mxml_node_t* agent_xml_compose__row (interpreter_variable_data_t * interp_variable, int index)`

Definition at line 529 of file `xml_compose.c`.

References `agent_xml_compose__create_row_nodes()`, `interpreter_variable_data_s::array_dim`, `interpreter_variable_data_s::array_extent`, `interpreter_variable_data_s::data`, `interpreter_variable_data_s::data_type`, and `node`.

Referenced by `agent_xml_compose__data()`.

16.44.1.13 `mxml_node_t* agent_xml_compose__task (agent_p agent, int index)`

Definition at line 310 of file `xml_compose.c`.

References `agent_task_s::agent_return_data`, `agent_task_s::agent_variable_list`, `agent_xml_compose__data()`, `buf`, `agent_task_s::code_id`, `agent_s::datastate`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `node`, `agent_task_s::persistent`, `agent_datastate_s::persistent`, `agent_task_s::server_name`, `agent_task_s::task_completed`, `agent_datastate_s::tasks`, and `agent_task_s::var_name`.

Referenced by `agent_xml_compose__tasks()`.

16.44.1.14 `mxml_node_t* agent_xml_compose__tasks (agent_p agent)`

Definition at line 253 of file `xml_compose.c`.

References `agent_xml_compose__agent_code()`, `agent_xml_compose__task()`, `buf`, `agent_s::datastate`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `node`, `agent_datastate_s::number_of_tasks`, and `agent_datastate_s::task_progress`.

Referenced by `agent_xml_compose__agent_data()`.

16.45 /home/dko/projects/mobilec/trunk/src/include/xml_helper.h File Reference

```
#include <mxml.h>
```

Functions

- [mxml_node_t * xml_find_sibling](#) (const [mxml_node_t *node](#), const char *sibling_name)
- char * [xml_get_cdata](#) (const [mxml_node_t *node](#))
- [mxml_node_t * xml_get_child](#) (const [mxml_node_t *node](#), const char *child_name, [int](#) descend)
- [mxml_node_t * xml_get_deep_child](#) (const [mxml_node_t *parent](#), const char **child_path)
- [mxml_node_t * xml_get_next_element](#) (const [mxml_node_t *node](#))
- char * [xml_get_text](#) (const [mxml_node_t *node](#))
- const char * [xml_get_element_name](#) (const [mxml_node_t *node](#))
- [mxml_node_t * xml_new_cdata](#) ([mxml_node_t *parent](#), const char *text)
- const char * [whitespace_cb](#) ([mxml_node_t *node](#), [int](#) where)

16.45.1 Function Documentation

16.45.1.1 const char * whitespace_cb (mxml_node_t * node, int where)

Definition at line 571 of file testmxml.c.

References [mxml_node_s::child](#), [mxml_value_u::element](#), [MXML_WS_AFTER_CLOSE](#), [MXML_WS_AFTER_OPEN](#), [MXML_WS_BEFORE_CLOSE](#), [MXML_WS_BEFORE_OPEN](#), [mxml_value_s::name](#), [mxml_node_s::parent](#), and [mxml_node_s::value](#).

Referenced by [main\(\)](#).

16.45.1.2 mxml_node_t* xml_find_sibling (const mxml_node_t * node, const char * sibling_name)

Definition at line 49 of file xml_helper.c.

References [MXML_NO_DESCEND](#), [mxmlFindElement\(\)](#), [mxml_node_s::parent](#), and [xml_get_element_name\(\)](#).

16.45.1.3 char* xml_get_cdata (const mxml_node_t * node)

Definition at line 71 of file xml_helper.c.

References [buf](#), [CHECK_NULL](#), [MXML_ELEMENT](#), [mxml_node_s::type](#), and [xml_get_element_name\(\)](#).

Referenced by [xml_get_text\(\)](#).

16.45.1.4 mxml_node_t* xml_get_child (const mxml_node_t * node, const char * child_name, int descend)

Definition at line 104 of file xml_helper.c.

References [mxmlFindElement\(\)](#).

Referenced by `agent_return_xml_parse()`, `agent_xml_parse__agent_data()`, `agent_xml_parse__data()`, `agent_xml_parse__mobile_agent()`, `message_xml_parse()`, `message_xml_parse__message()`, and `xml_get_deep_child()`.

16.45.1.5 `mxml_node_t* xml_get_deep_child (const mxml_node_t * parent, const char ** child_path)`

Definition at line 123 of file `xml_helper.c`.

References `MXML_NO_DESCEND`, `node`, and `xml_get_child()`.

16.45.1.6 `const char* xml_get_element_name (const mxml_node_t * node)`

Definition at line 217 of file `xml_helper.c`.

References `mxml_value_u::element`, `MXML_ELEMENT`, `mxml_value_s::name`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `agent_xml_parse__data()`, `agent_xml_parse__mobile_agent()`, `agent_xml_parse__row()`, `message_xml_parse()`, `xml_find_sibling()`, and `xml_get_cdata()`.

16.45.1.7 `mxml_node_t* xml_get_next_element (const mxml_node_t * node)`

Definition at line 137 of file `xml_helper.c`.

References `MXML_ELEMENT`, `mxml_node_s::next`, and `mxml_node_s::type`.

16.45.1.8 `char* xml_get_text (const mxml_node_t * node)`

Definition at line 155 of file `xml_helper.c`.

References `CHECK_NULL`, `mxml_node_s::child`, `mxml_value_u::element`, `MXML_ELEMENT`, `MXML_TEXT`, `mxml_value_s::name`, `mxml_node_s::next`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, `mxml_node_s::value`, and `xml_get_cdata()`.

Referenced by `agent_xml_parse__agent_code()`, `agent_xml_parse__home()`, `agent_xml_parse__name()`, and `agent_xml_parse__owner()`.

16.45.1.9 `mxml_node_t* xml_new_cdata (mxml_node_t * parent, const char * text)`

Definition at line 230 of file `xml_helper.c`.

References `CHECK_NULL`, `mxmlNewElement()`, and `node`.

Referenced by `agent_xml_compose__agent_code()`.

16.46 /home/dko/projects/mobilec/trunk/src/include/xml_parser.h File Reference

```
#include <mxml.h>
#include "macros.h"
#include "agent.h"
```

Functions

- [STRUCT](#) (xml_parser, const mxml_node_t *root; const mxml_node_t *node;)
- [error_code_t agent_xml_parse](#) (agent_p agent)
- [error_code_t agent_xml_parse__mobile_agent](#) (agent_p agent, xml_parser_p xml_parser)
- [error_code_t agent_xml_parse__agent_data](#) (agent_p agent, xml_parser_p xml_parser)
- [error_code_t agent_xml_parse__name](#) (agent_p agent, xml_parser_p xml_parser)
- [error_code_t agent_xml_parse__owner](#) (agent_p agent, xml_parser_p xml_parser)
- [error_code_t agent_xml_parse__home](#) (agent_p agent, xml_parser_p xml_parser)
- [error_code_t agent_xml_parse__tasks](#) (agent_p agent, xml_parser_p xml_parser)
- [error_code_t agent_xml_parse__task](#) (agent_p agent, xml_parser_p xml_parser, int index)
- [error_code_t agent_xml_parse__data](#) (agent_p agent, xml_parser_p xml_parser, int index)
- [error_code_t agent_xml_parse__row](#) (interpreter_variable_data_t *interp_variable, xml_parser_p xml_parser, int index)
- void [agent_xml_parse__fill_row_data](#) (void *data, ChType_t type, int *extent, const mxml_node_t *node, int *index)
- [error_code_t agent_xml_parse__agent_code](#) (agent_p agent, int index, xml_parser_p xml_parser)
- [error_code_t message_xml_parse](#) (message_p message)
- [error_code_t message_xml_parse__message](#) (message_p message, xml_parser_p xml_parser)

16.46.1 Function Documentation

16.46.1.1 error_code_t agent_xml_parse (agent_p agent)

Definition at line 52 of file xml_parser.c.

References [agent_xml_parse__mobile_agent\(\)](#), [agent_s::datastate](#), [MC_SUCCESS](#), and [agent_datastate_s::xml_agent_root](#).

Referenced by [agent_initialize\(\)](#).

16.46.1.2 error_code_t agent_xml_parse__agent_code (agent_p agent, int index, xml_parser_p xml_parser)

Definition at line 785 of file xml_parser.c.

References [agent_datastate_s::agent_code](#), [agent_datastate_s::agent_code_ids](#), [agent_datastate_s::agent_codes](#), [agent_task_s::code_id](#), [agent_s::datastate](#), [MC_SUCCESS](#), [mxmlElementGetAttr\(\)](#), [agent_datastate_s::number_of_tasks](#), [agent_datastate_s::task_progress](#), [agent_datastate_s::tasks](#), and [xml_get_text\(\)](#).

Referenced by [agent_xml_parse__tasks\(\)](#).

16.46.1.3 error_code_t agent_xml_parse__agent_data (agent_p agent, xml_parser_p xml_parser)

Definition at line 93 of file xml_parser.c.

References agent_xml_parse__home(), agent_xml_parse__name(), agent_xml_parse__owner(), agent_xml_parse__tasks(), MC_ERR_PARSE, MC_SUCCESS, and xml_get_child().

Referenced by agent_xml_parse__mobile_agent().

16.46.1.4 error_code_t agent_xml_parse__data (agent_p agent, xml_parser_p xml_parser, int index)

Definition at line 457 of file xml_parser.c.

References agent_task_s::agent_return_data, agent_task_s::agent_variable_list, agent_xml_parse__row(), interpreter_variable_data_s::array_dim, CH_DATATYPE_SIZE, CH_DATATYPE_STR_TO_VAL, CH_STRING_DATATYPE, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, agent_s::datastate, interpreter_variable_data_New(), MC_ERR_PARSE, MC_SUCCESS, mxMLElementGetAttr(), interpreter_variable_data_s::name, mxml_node_s::parent, agent_task_s::persistent, agent_datastate_s::tasks, xml_get_child(), and xml_get_element_name().

Referenced by agent_xml_parse__task().

16.46.1.5 void agent_xml_parse__fill_row_data (void * data, ChType_t type, int * extent, const mxml_node_t * node, int * index)

Definition at line 666 of file xml_parser.c.

References agent_xml_parse__fill_row_data(), buf, CH_DATATYPE_SIZE, mxml_node_s::child, MXML_DESCEND_FIRST, MXML_ELEMENT, MXML_TEXT, mxmlFindElement(), mxml_text_s::string, strtok_r, mxml_value_u::text, mxml_node_s::type, and mxml_node_s::value.

Referenced by agent_xml_parse__fill_row_data(), and agent_xml_parse__row().

16.46.1.6 error_code_t agent_xml_parse__home (agent_p agent, xml_parser_p xml_parser)

Definition at line 201 of file xml_parser.c.

References CHECK_NULL, agent_s::home, MC_SUCCESS, and xml_get_text().

Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.46.1.7 error_code_t agent_xml_parse__mobile_agent (agent_p agent, xml_parser_p xml_parser)

Definition at line 65 of file xml_parser.c.

References agent_xml_parse__agent_data(), MC_ERR_PARSE, xml_get_child(), and xml_get_element_name().

Referenced by agent_xml_parse().

16.46.1.8 error_code_t agent_xml_parse__name (agent_p agent, xml_parser_p xml_parser)

Definition at line 148 of file xml_parser.c.

References CHECK_NULL, MC_ERR_PARSE, MC_SUCCESS, agent_s::name, and xml_get_text().
Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.46.1.9 error_code_t agent_xml_parse__owner (agent_p agent, xml_parser_p xml_parser)

Definition at line 174 of file xml_parser.c.

References CHECK_NULL, MC_SUCCESS, agent_s::owner, and xml_get_text().
Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.46.1.10 error_code_t agent_xml_parse__row (interpreter_variable_data_t * interp_variable, xml_parser_p xml_parser, int index)

Definition at line 602 of file xml_parser.c.

References agent_xml_parse__fill_row_data(), interpreter_variable_data_s::array_dim, interpreter_variable_data_s::array_extent, CH_DATATYPE_SIZE, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, MC_SUCCESS, and xml_get_element_name().

Referenced by agent_xml_parse__data().

16.46.1.11 error_code_t agent_xml_parse__task (agent_p agent, xml_parser_p xml_parser, int index)

Definition at line 365 of file xml_parser.c.

References agent_xml_parse__data(), CHECK_NULL, agent_task_s::code_id, agent_s::datastate, MC_ERR_PARSE, MC_SUCCESS, MXML_DESCEND_FIRST, MXML_NO_DESCEND, mxmlElementGetAttr(), mxmlFindElement(), agent_task_s::server_name, agent_task_s::task_completed, agent_datastate_s::tasks, and agent_task_s::var_name.

Referenced by agent_xml_parse__tasks().

16.46.1.12 error_code_t agent_xml_parse__tasks (agent_p agent, xml_parser_p xml_parser)

Definition at line 227 of file xml_parser.c.

References agent_datastate_s::agent_code, agent_datastate_s::agent_code_ids, agent_datastate_s::agent_codes, agent_task_New(), agent_xml_parse__agent_code(), agent_xml_parse__task(), buf, agent_s::datastate, MC_ERR_PARSE, MXML_DESCEND, MXML_DESCEND_FIRST, MXML_NO_DESCEND, mxmlElementGetAttr(), mxmlFindElement(), agent_datastate_s::number_of_tasks, agent_datastate_s::task_progress, and agent_datastate_s::tasks.

Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.46.1.13 error_code_t message_xml_parse (message_p message)

Definition at line 861 of file xml_parser.c.

References MC_ERR_PARSE, message_xml_parse__message(), MXML_DESCEND, MXML_NO_DESCEND, mxmlFindElement(), xml_get_child(), xml_get_element_name(), and message_s::xml_root.

Referenced by acc_Thread(), and message_InitializeFromConnection().

16.46.1.14 error_code_t message_xml_parse__message (message_p message, xml_parser_p xml_parser)

Definition at line 916 of file xml_parser.c.

References message_s::addr, buf, CHECK_NULL, ENCRYPTED_DATA, ENCRYPTION_INITIALIZE, FIPA_ACL, message_s::from_address, MC_ERR_PARSE, MC_SUCCESS, message_s::message_type, MOBILE_AGENT, mxmlElementGetAttr(), port, REQUEST_ENCRYPTION_INITIALIZE, RETURN_MSG, strtok_r, xml_get_child(), and message_s::xml_payload.

Referenced by message_xml_parse().

16.46.1.15 STRUCT (xml_parser, const mxml_node_t *root;const mxml_node_t *node;)

16.47 /home/dko/projects/mobilec/trunk/src/libmc.c File Reference

```
#include <unistd.h>
#include <pthread.h>
#include <embedch.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <sys/time.h>
#include "include/libmc.h"
#include "include/macros.h"
#include "include/mc_platform.h"
#include "include/message.h"
#include "include/data_structures.h"
#include "include/fipa_acl_envelope.h"
#include "include/fipa_acl.h"
#include "include/agent.h"
#include "include/agent_task.h"
```

Defines

- #define [HOST_NAME_MAX](#) 255

Functions

- [int MC_AclDestroy](#) (struct [fipa_acl_message_s](#) *message)
Destroy a FIPA ACL message.
- EXPORTMC [fipa_acl_message_t](#) * [MC_AclNew](#) (void)
Allocate a new ACL Message.
- EXPORTMC [int MC_AclPost](#) ([MCAgent_t](#) agent, struct [fipa_acl_message_s](#) *message)
Post ACL message to agent.
- EXPORTMC [fipa_acl_message_t](#) * [MC_AclReply](#) ([fipa_acl_message_t](#) *acl_message)
Reply to an ACL message.
- EXPORTMC [fipa_acl_message_t](#) * [MC_AclRetrieve](#) ([MCAgent_t](#) agent)
Retrieve an ACL message.
- EXPORTMC [int MC_AclSend](#) ([MCAgency_t](#) attr, [fipa_acl_message_t](#) *acl)
Send a composed ACL Message.
- EXPORTMC [fipa_acl_message_t](#) * [MC_AclWaitRetrieve](#) ([MCAgent_t](#) agent)
Wait for and retrieve an ACL message.

- `int MC_AclSetPerformative (fipa_acl_message_t *acl, enum fipa_performative_e performative)`
- `int MC_AclSetSender (fipa_acl_message_t *acl, const char *name, const char *address)`
- `int MC_AclAddReceiver (fipa_acl_message_t *acl, const char *name, const char *address)`
- `int MC_AclAddReplyTo (fipa_acl_message_t *acl, const char *name, const char *address)`
- `int MC_AclSetContent (fipa_acl_message_t *acl, const char *content)`
- `EXPORTMC int MC_AddAgent (MCAgency_t attr, MCAgent_t agent)`
Add an agent to the agency 'attr'.
- `const void * MC_AgentVariableRetrieve (MCAgent_t agent, const char *var_name, int task_num)`
Retrieve a pointer to a previously saved variable.
- `int MC_AgentVariableSave (MCAgent_t agent, const char *var_name)`
Mark an agent variable for saving.
- `int MC_Barrier (MCAgency_t attr, int id)`
- `EXPORTMC int MC_BarrierInit (MCAgency_t attr, int id, int num_procs)`
Initialize a MobileC Barrier.
- `EXPORTMC int MC_BarrierDelete (MCAgency_t attr, int id)`
Find and delete an initialized MobileC Barrier.
- `EXPORTMC int MC_CallAgentFunc (MCAgent_t agent, const char *funcName, void *returnVal, int numArgs,...)`
Calls a function defined in an agent.
- `EXPORTMC int MC_CallAgentFuncArg (MCAgent_t agent, const char *funcName, void *returnVal, void *arg)`
Calls a function defined in an agent.
- `EXPORTMC int MC_CallAgentFuncV (MCAgent_t agent, const char *funcName, void *returnVal, va_list ap)`
Calls a function defined in an agent.
- `EXPORTMC int MC_CallAgentFuncVar (MCAgent_t agent, const char *funcName, void *returnVal, ChVaList_t varg)`
- `EXPORTMC int MC_ChInitializeOptions (MCAgency_t attr, ChOptions_t *options)`
Use custom ChOptions_t type for internal Ch interpreter.
- `MCAgent_t MC_ComposeAgent (const char *name, const char *home, const char *owner, const char *code, const char *return_var_name, const char *server, int persistent)`
Compose a new agent dynamically without using a prewritten XML file.
- `EXPORTMC int MC_CondBroadcast (MCAgency_t attr, int id)`
Wakes up all agents/threads waiting on a condition variable.
- `EXPORTMC int MC_CondSignal (MCAgency_t attr, int id)`
Wakes up at least one thread waiting on a condition variable.
- `EXPORTMC int MC_CondWait (MCAgency_t attr, int id)`

Wait on a MobileC synchronization variable.

- EXPORTMC `int MC_CondReset (MCAgency_t attr, int id)`
Reset a previously signalled MobileC condition variable.
- `int MC_CopyAgent (MCAgent_t *agent_out, const MCAgent_t agent_in)`
Performs a deep-copy of an agent structure.
- EXPORTMC `int MC_DeleteAgent (MCAgent_t agent)`
Stop and remove an agent.
- `int MC_DestroyServiceSearchResult (char **agentName, char **serviceName, int *agentID, int numResult)`
Free memory allocated by a Service Search operation.
- `int MC_DeregisterService (MCAgency_t agency, int agentID, const char *serviceName)`
- EXPORTMC `int MC_End (MCAgency_t agency)`
End an agency.
- EXPORTMC `MCAgent_t MC_FindAgentByName (MCAgency_t attr, const char *name)`
Find an agent by its name.
- EXPORTMC `MCAgent_t MC_FindAgentByID (MCAgency_t attr, int ID)`
Find an agent by its id.
- `time_t MC_GetAgentArrivalTime (MCAgent_t agent)`
- EXPORTMC `int MC_GetAgentStatus (MCAgent_t agent)`
Get an agent's current status.
- EXPORTMC `char * MC_GetAgentXMLString (MCAgent_t agent)`
Get an agent's xml string.
- EXPORTMC `void * MC_GetAgentExecEngine (MCAgent_t agent)`
Retrieve an agent's Ch interpreter.
- EXPORTMC `int MC_GetAgentID (MCAgent_t agent)`
Retrieve an agent's id.
- EXPORTMC `char * MC_GetAgentName (MCAgent_t agent)`
- EXPORTMC `int MC_GetAgentReturnData (MCAgent_t agent, int task_num, void **data, int *dim, int **extent)`
Get an agent's return data.
- EXPORTMC `int MC_GetAgentNumTasks (MCAgent_t agent)`
Retrive the number of tasks an agent has.
- EXPORTMC `enum MC_AgentType_e MC_GetAgentType (MCAgent_t agent)`
Get an agent's type.
- `int MC_GetAllAgents (MCAgency_t attr, MCAgent_t **agents, int *num_agents)`

- EXPORTMC [int MC_HaltAgency](#) ([MCAgency_t](#) attr)
Halt an agency: Do not process new entries in queues.
- EXPORTMC [MCAgency_t MC_Initialize](#) ([int](#) port, [MCAgencyOptions_t](#) *options)
Initialize and start a MobileC agency.
- EXPORTMC [int MC_InitializeAgencyOptions](#) ([struct MCAgencyOptions_s](#) *options)
Initialize MobileC options.
- EXPORTMC [int MC_LoadAgentFromFile](#) ([MCAgency_t](#) attr, [const char](#) *filename)
Load an agent from a file into an agency.
- EXPORTMC [int MC_MutexLock](#) ([MCAgency_t](#) attr, [int](#) id)
Locks a MobileC synchronization variable as a mutex.
- EXPORTMC [int MC_MutexUnlock](#) ([MCAgency_t](#) attr, [int](#) id)
- EXPORTMC [int MC_PrintAgentCode](#) ([MCAgent_t](#) agent)
Prints an agents code to stdout.
- EXPORTMC [int MC_RegisterService](#) ([MCAgency_t](#) agency, [MCAgent_t](#) agent, [int](#) agentID, [const char](#) *agentName, [char **](#)serviceNames, [int](#) numServices)
Register a new service with the Directory Facilitator.
- EXPORTMC [int MC_ResumeAgency](#) ([MCAgency_t](#) attr)
Resumes a halted agency.
- EXPORTMC [MCAgent_t MC_RetrieveAgent](#) ([MCAgency_t](#) attr)
Retrieves the oldest agent from an agency.
- EXPORTMC [char * MC_RetrieveAgentCode](#) ([MCAgent_t](#) agent)
Retrieves an agent's Ch code.
- EXPORTMC [int MC_ResetSignal](#) ([MCAgency_t](#) attr)
Reset a MobileC signal.
- EXPORTMC [int MC_SearchForService](#) ([MCAgency_t](#) attr, [const char](#) *searchString, [char ***](#)agentNames, [char ***](#)serviceNames, [int **](#)agentIDs, [int](#) *numResults)
Search the directory facilitator for a service.
- EXPORTMC [int MC_SemaphorePost](#) ([MCAgency_t](#) attr, [int](#) id)
Post to a MobileC synchronization variable semaphore.
- EXPORTMC [int MC_SemaphoreWait](#) ([MCAgency_t](#) attr, [int](#) id)
Decreases a MobileC synchronization variable semaphore count by one.
- [int MC_SendCh](#) ([MCAgency_t](#) attr, [const char](#) *filename, [const char](#) *remotehost, [int](#) port)
- EXPORTMC [int MC_SendAgentMigrationMessage](#) ([MCAgency_t](#) attr, [const char](#) *string, [const char](#) *hostname, [int](#) port)
Sends an agent migration message.

- EXPORTMC [int MC_SendAgentMigrationMessageFile](#) (MCAgency_t attr, const char *filename, const char *hostname, int port)
Sends an agent migration message.
- EXPORTMC [int MC_SendSteerCommand](#) (MCAgency_t attr, enum [MC_SteerCommand_e](#) cmd)
- [int MC_SetAgentStatus](#) (MCAgent_t agent, int status)
Set an agent's status.
- [int MC_SetDefaultAgentStatus](#) (MCAgency_t agency, enum [MC_AgentStatus_e](#) status)
Sets default incoming agent status.
- EXPORTMC [int MC_SetThreadOn](#) (MCAgencyOptions_t *options, enum [MC_ThreadIndex_e](#) index)
Sets a MobileC thread to "on" status.
- EXPORTMC [int MC_SetThreadsAllOn](#) (MCAgencyOptions_t *options)
Set all Mobile-C threads on.
- EXPORTMC [int MC_SetThreadOff](#) (MCAgencyOptions_t *options, enum [MC_ThreadIndex_e](#) index)
Sets a MobileC thread to "off" status.
- EXPORTMC [int MC_SetThreadsAllOff](#) (MCAgencyOptions_t *options)
Set all MobileC threads to 'off' status.
- EXPORTMC [int MC_Steer](#) (MCAgency_t attr, int(*funcptr)(void *data), void *arg)
Set up a steerable algorithm.
- EXPORTMC enum [MC_SteerCommand_e](#) [MC_SteerControl](#) (void)
The MobileC user-algorithm steering function.
- EXPORTMC [int MC_SyncDelete](#) (MCAgency_t attr, int id)
Deletes a previously initialized synchronization variable.
- EXPORTMC [int MC_SyncInit](#) (MCAgency_t attr, int id)
Initializes a new MobileC synchronization variable.
- EXPORTMC [int MC_TerminateAgent](#) (MCAgent_t agent)
Halt a running agent.
- [int MC_MainLoop](#) (MCAgency_t attr)
Wait indefinitely.
- EXPORTMC [int MC_WaitAgent](#) (MCAgency_t attr)
Wait indefinitely.
- EXPORTMC [MCAgent_t MC_WaitRetrieveAgent](#) (MCAgency_t attr)
Wait and retrieve an agent.
- EXPORTMC [int MC_WaitSignal](#) (MCAgency_t attr, int signals)

Wait for a MobileC signal.

- [int MC_AclDestroy_chdl](#) (void *varg)
- [void * MC_AclNew_chdl](#) (void *varg)
- [int MC_AclPost_chdl](#) (void *varg)
- EXPORTCH [void * MC_AclReply_chdl](#) (void *varg)
- EXPORTCH [void * MC_AclRetrieve_chdl](#) (void *varg)
- EXPORTCH [int MC_AclSend_chdl](#) (void *varg)
- EXPORTCH [void * MC_AclWaitRetrieve_chdl](#) (void *varg)
- EXPORTCH [int MC_AclSetPerformative_chdl](#) (void *varg)
- EXPORTCH [int MC_AclSetSender_chdl](#) (void *varg)
- EXPORTCH [int MC_AclAddReceiver_chdl](#) (void *varg)
- EXPORTCH [int MC_AclAddReplyTo_chdl](#) (void *varg)
- EXPORTCH [int MC_AclSetContent_chdl](#) (void *varg)
- EXPORTCH [int MC_AddAgent_chdl](#) (void *varg)
- EXPORTCH [const void * MC_AgentVariableRetrieve_chdl](#) (void *varg)
- EXPORTCH [int MC_AgentVariableSave_chdl](#) (void *varg)
- EXPORTCH [int MC_CallAgentFunc_chdl](#) (void *varg)
- EXPORTCH [int MC_Barrier_chdl](#) (void *varg)
- EXPORTCH [int MC_BarrierDelete_chdl](#) (void *varg)
- EXPORTCH [int MC_BarrierInit_chdl](#) (void *varg)
- EXPORTCH [int MC_CondBroadcast_chdl](#) (void *varg)
- EXPORTCH [MCAgent_t MC_ComposeAgent_chdl](#) (void *varg)
- EXPORTCH [int MC_CondSignal_chdl](#) (void *varg)
- EXPORTCH [int MC_CondReset_chdl](#) (void *varg)
- EXPORTCH [int MC_CondWait_chdl](#) (void *varg)
- EXPORTCH [int MC_DeleteAgent_chdl](#) (void *varg)
- EXPORTCH [int MC_DestroyServiceSearchResult_chdl](#) (void *varg)
- EXPORTCH [int MC_DeregisterService_chdl](#) (void *varg)
- EXPORTCH [int MC_End_chdl](#) (void *varg)
- EXPORTCH [MCAgent_t MC_FindAgentByID_chdl](#) (void *varg)
- EXPORTCH [MCAgent_t MC_FindAgentByName_chdl](#) (void *varg)
- EXPORTCH [time_t MC_GetAgentArrivalTime_chdl](#) (void *varg)
- EXPORTCH [int MC_GetAgentID_chdl](#) (void *varg)
- EXPORTCH [char * MC_GetAgentName_chdl](#) (void *varg)
- EXPORTCH [int MC_GetAgentNumTasks_chdl](#) (void *varg)
- EXPORTCH [int MC_GetAgentStatus_chdl](#) (void *varg)
- EXPORTCH [char * MC_GetAgentXMLString_chdl](#) (void *varg)
- EXPORTCH [int MC_GetTimeOfDay_chdl](#) (void *varg)
- EXPORTCH [int MC_HaltAgency_chdl](#) (void *varg)
- EXPORTCH [int MC_MutexLock_chdl](#) (void *varg)
- EXPORTCH [int MC_MutexUnlock_chdl](#) (void *varg)
- EXPORTCH [int MC_PrintAgentCode_chdl](#) (void *varg)
- EXPORTCH [int MC_RegisterService_chdl](#) (void *varg)
- EXPORTCH [int MC_ResumeAgency_chdl](#) (void *varg)
- EXPORTCH [MCAgent_t MC_RetrieveAgent_chdl](#) (void *varg)
- EXPORTCH [char * MC_RetrieveAgentCode_chdl](#) (void *varg)
- EXPORTCH [int MC_SaveData_chdl](#) (void *varg)
- EXPORTCH [int MC_SearchForService_chdl](#) (void *varg)
- EXPORTCH [int MC_SemaphorePost_chdl](#) (void *varg)

- EXPORTCH [int MC_SemaphoreWait_chdl](#) (void *varg)
- EXPORTCH [int MC_SendAgentMigrationMessage_chdl](#) (void *varg)
- EXPORTCH [int MC_SendAgentMigrationMessageFile_chdl](#) (void *varg)
- EXPORTCH [int MC_SendSteerCommand_chdl](#) (void *varg)
- EXPORTCH [int MC_SetAgentStatus_chdl](#) (void *varg)
- EXPORTCH [int MC_SetDefaultAgentStatus_chdl](#) (void *varg)
- EXPORTCH [int MC_SyncDelete_chdl](#) (void *varg)
- EXPORTCH [int MC_SyncInit_chdl](#) (void *varg)
- EXPORTCH [int MC_TerminateAgent_chdl](#) (void *varg)

Variables

- [mc_platform_p_g_mc_platform](#)

16.47.1 Define Documentation

16.47.1.1 #define HOST_NAME_MAX 255

Definition at line 61 of file libmc.c.

Referenced by [MC_Initialize\(\)](#).

16.47.2 Function Documentation

16.47.2.1 int MC_AclAddReceiver (fipa_acl_message_t * *acl*, const char * *name*, const char * *address*)

Definition at line 229 of file libmc.c.

References [fipa_agent_identifier_s::addresses](#), [fipa_agent_identifier_New\(\)](#), [fipa_agent_identifier_set_New\(\)](#), [fipa_agent_identifier_set_s::fipa_agent_identifiers](#), [fipa_url_New\(\)](#), [fipa_url_sequence_New\(\)](#), [fipa_agent_identifier_s::name](#), [fipa_url_sequence_s::num](#), [fipa_agent_identifier_set_s::num](#), [fipa_acl_message_s::receiver](#), [fipa_acl_message_s::receiver_num](#), [fipa_url_s::str](#), and [fipa_url_sequence_s::urls](#).

Referenced by [MC_AclAddReceiver_chdl\(\)](#).

16.47.2.2 EXPORTCH int MC_AclAddReceiver_chdl (void * *varg*)

Definition at line 1916 of file libmc.c.

References [MC_AclAddReceiver\(\)](#).

Referenced by [agent_RunChScriptThread\(\)](#).

16.47.2.3 int MC_AclAddReplyTo (fipa_acl_message_t * *acl*, const char * *name*, const char * *address*)

Definition at line 265 of file libmc.c.

References [fipa_agent_identifier_s::addresses](#), [fipa_agent_identifier_New\(\)](#), [fipa_agent_identifier_set_New\(\)](#), [fipa_agent_identifier_set_s::fipa_agent_identifiers](#), [fipa_url_New\(\)](#), [fipa_url_sequence_New\(\)](#),

fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_agent_identifier_set_s::num, fipa_acl_message_s::reply_to, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by MC_AclAddReplyTo_chdl().

16.47.2.4 EXPORTCH int MC_AclAddReplyTo_chdl (void * varg)

Definition at line 1936 of file libmc.c.

References MC_AclAddReplyTo().

Referenced by agent_RunChScriptThread().

16.47.2.5 int MC_AclDestroy (struct fipa_acl_message_s * message)

Destroy a FIPA ACL message.

Parameters:

message The ACL message to destroy

Returns:

0 on success, error code on failure.

Definition at line 72 of file libmc.c.

References fipa_acl_message_Destroy().

Referenced by MC_AclDestroy_chdl().

16.47.2.6 int MC_AclDestroy_chdl (void * varg)

Definition at line 1763 of file libmc.c.

References MC_AclDestroy().

Referenced by agent_RunChScriptThread().

16.47.2.7 EXPORTMC fipa_acl_message_t* MC_AclNew (void) [read]

Allocate a new ACL Message.

Returns:

A newly allocated and empty ACL message.

Definition at line 78 of file libmc.c.

References fipa_acl_message_New().

Referenced by MC_AclNew_chdl().

16.47.2.8 void* MC_AclNew_chdl (void * *varg*)

Definition at line 1778 of file libmc.c.

References MC_AclNew().

Referenced by agent_RunChScriptThread().

16.47.2.9 EXPORTMC int MC_AclPost (MCAgent_t *agent*, struct fipa_acl_message_s * *message*)

Post ACL message to agent.

Parameters:

agent The agent to post the message to

message The message to post

Returns:

0 if successful, or error_code_t type.

Definition at line 83 of file libmc.c.

References agent_mailbox_Post(), and agent_s::mailbox.

Referenced by MC_AclPost_chdl(), and MC_AclSend().

16.47.2.10 int MC_AclPost_chdl (void * *varg*)

Definition at line 1786 of file libmc.c.

References MC_AclPost().

Referenced by agent_RunChScriptThread().

16.47.2.11 EXPORTMC fipa_acl_message_t* MC_AclReply (struct fipa_acl_message_s * *acl_message*) [read]

Reply to an ACL message.

Parameters:

acl_message The incoming acl message to reply to

Returns:

A newly allocated ACL message

Note:

This function simply generates a new ACL message with the 'receiver' field automatically set to the 'sender' field of the incoming message.

Definition at line 89 of file libmc.c.

References fipa_Reply().

Referenced by MC_AclReply_chdl().

16.47.2.12 EXPORTCH void* MC_AclReply_chdl (void * varg)

Definition at line 1804 of file libmc.c.

References MC_AclReply().

Referenced by agent_RunChScriptThread().

16.47.2.13 EXPORTMC fipa_acl_message_t* MC_AclRetrieve (MCAgent_t agent) [read]

Retrieve an ACL message.

Parameters:

agent Agent to retrieve message from.

Returns:

an ACL message struct on success or NULL on failure

Definition at line 95 of file libmc.c.

References agent_mailbox_Retrieve(), and agent_s::mailbox.

Referenced by MC_AclRetrieve_chdl().

16.47.2.14 EXPORTCH void* MC_AclRetrieve_chdl (void * varg)

Definition at line 1820 of file libmc.c.

References MC_AclRetrieve().

Referenced by agent_RunChScriptThread().

16.47.2.15 EXPORTMC int MC_AclSend (MCAgency_t attr, struct fipa_acl_message_s * acl)

Send a composed ACL Message.

Parameters:

attr An initialized and running MobileC agency

acl An allocated and fully composed ACL message.

Returns:

0 if successful, error code on failure.

Definition at line 101 of file libmc.c.

References fipa_agent_identifier_s::addresses, mtp_http_s::content, mtp_http_content_s::content_type, mtp_http_content_s::data, dynstring_Destroy(), FIPA_ACL, fipa_acl_Compose(), fipa_agent_identifier_set_s::fipa_agent_identifiers, fipa_envelope_Compose(), mtp_http_s::host, http_to_hostport(), MC_AclPost(), MC_FindAgentByName(), dynstring_s::message, message_Destroy(), mtp_http_s::message_parts, message_Send(), message_s::message_type, mtp_http_CreateMessage(), mtp_http_Destroy(), mtp_http_New(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_agent_identifier_set_s::num, port, fipa_acl_message_s::receiver, fipa_url_s::str, mtp_http_s::target, message_s::target, and fipa_url_sequence_s::urls.

Referenced by MC_AclSend_chdl().

16.47.2.16 EXPORTCH int MC_AclSend_chdl (void * *varg*)

Definition at line 1836 of file libmc.c.

References CHECK_NULL, MC_AclSend(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.2.17 int MC_AclSetContent (fipa_acl_message_t * *acl*, const char * *content*)

Definition at line 300 of file libmc.c.

References fipa_string_s::content, fipa_acl_message_s::content, fipa_string_Destroy(), and fipa_string_New().

Referenced by MC_AclSetContent_chdl().

16.47.2.18 EXPORTCH int MC_AclSetContent_chdl (void * *varg*)

Definition at line 1956 of file libmc.c.

References fipa_acl_message_s::content, and MC_AclSetContent().

Referenced by agent_RunChScriptThread().

16.47.2.19 int MC_AclSetPerformative (fipa_acl_message_t * *acl*, enum fipa_performative_e *performative*)

Definition at line 198 of file libmc.c.

References fipa_acl_message_s::performative.

Referenced by MC_AclSetPerformative_chdl().

16.47.2.20 EXPORTCH int MC_AclSetPerformative_chdl (void * *varg*)

Definition at line 1878 of file libmc.c.

References MC_AclSetPerformative(), and fipa_acl_message_s::performative.

Referenced by agent_RunChScriptThread().

16.47.2.21 int MC_AclSetSender (fipa_acl_message_t * *acl*, const char * *name*, const char * *address*)

Definition at line 206 of file libmc.c.

References fipa_agent_identifier_s::addresses, fipa_agent_identifier_Destroy(), fipa_agent_identifier_New(), fipa_url_New(), fipa_url_sequence_New(), fipa_agent_identifier_s::name, fipa_url_sequence_s::num, fipa_acl_message_s::sender, fipa_url_s::str, and fipa_url_sequence_s::urls.

Referenced by MC_AclSetSender_chdl().

16.47.2.22 EXPORTCH int MC_AclSetSender_chdl (void * *varg*)

Definition at line 1896 of file libmc.c.

References MC_AclSetSender().

Referenced by agent_RunChScriptThread().

16.47.2.23 EXPORTMC fipa_acl_message_t* MC_AclWaitRetrieve (MCAgent_t agent) [read]

Wait for and retrieve an ACL message.

Parameters:

agent Agent to retrieve message from.

Returns:

an ACL message struct on success or NULL on failure

Definition at line 191 of file libmc.c.

References agent_mailbox_WaitRetrieve(), and agent_s::mailbox.

Referenced by MC_AclWaitRetrieve_chdl().

16.47.2.24 EXPORTCH void* MC_AclWaitRetrieve_chdl (void * varg)

Definition at line 1860 of file libmc.c.

References MC_AclWaitRetrieve().

Referenced by agent_RunChScriptThread().

16.47.2.25 EXPORTMC int MC_AddAgent (MCAgency_t attr, MCAgent_t agent)

Add an agent to the agency 'attr'.

Parameters:

attr a MobileC agency

agent An initialized MobileC agent

Returns:

0 if successful, or error_code_t type

Definition at line 317 of file libmc.c.

References mc_platform_s::agent_queue, mc_platform_s::ams, COND_SIGNAL, agency_s::mc_platform, agent_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_AddAgent_chdl().

16.47.2.26 EXPORTCH int MC_AddAgent_chdl (void * varg)

Definition at line 1976 of file libmc.c.

References CHECK_NULL, MC_AddAgent(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.2.27 `const void* MC_AgentVariableRetrieve (MCAgent_t agent, const char * var_name, int task_num)`

Retrieve a pointer to a previously saved variable.

Parameters:

agent A MobileC agent.

var_name The name of the saved variable that has previously been saved.

task_num The previous completed task from which to retrieve the saved variable.

Returns:

A pointer to the data on success or NULL on failure.

16.47.3 Examples

The following example demonstrates usage of [MC_AgentVariableRetrieve\(\)](#) from agent space.

Definition at line 330 of file libmc.c.

References `agent_task_s::agent_variable_list`, `interpreter_variable_data_s::data`, `agent_s::datastate`, `agent_datastate_s::task_progress`, and `agent_datastate_s::tasks`.

Referenced by `MC_AgentVariableRetrieve_chdl()`.

16.47.3.1 EXPORTCH `const void* MC_AgentVariableRetrieve_chdl (void * varg)`

Definition at line 2000 of file libmc.c.

References `MC_AgentVariableRetrieve()`.

Referenced by `agent_RunChScriptThread()`.

16.47.3.2 `int MC_AgentVariableSave (MCAgent_t agent, const char * var_name)`

Mark an agent variable for saving.

Parameters:

agent A MobileC agent.

var_name The name of the variable to mark for saving.

Returns:

0 on success, non-zero on failure.

See also:

`test1.xml`

16.47.4 Examples

See `agent_saved_variables_example/test1.xml` for an example of usage of this api function.

16.47.5 Examples

The following example demonstrates usage of `MC_AgentVariableSave()` from agent space.

Definition at line 348 of file `libmc.c`.

References `agent_s::datastate`, `MC_ERR_MEMORY`, `agent_task_s::num_saved_variables`, `agent_task_s::saved_variables`, `agent_datastate_s::task_progress`, and `agent_datastate_s::tasks`.

Referenced by `MC_AgentVariableSave_chdl()`.

16.47.5.1 EXPORTCH int MC_AgentVariableSave_chdl (void * varg)

Definition at line 2024 of file `libmc.c`.

References `MC_AgentVariableSave()`.

Referenced by `agent_RunChScriptThread()`.

16.47.5.2 int MC_Barrier (MCAgency_t attr, int id)

Definition at line 369 of file `libmc.c`.

References `mc_platform_s::barrier_queue`, `barrier_queue_Get()`, `barrier_node_s::cond`, `COND_BROADCAST`, `COND_WAIT`, `barrier_node_s::lock`, `MC_ERR_NOT_FOUND`, `agency_s::mc_platform`, `MC_SUCCESS`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `node`, `barrier_node_s::num_registered`, and `barrier_node_s::num_waiting`.

Referenced by `MC_Barrier_chdl()`.

16.47.5.3 EXPORTCH int MC_Barrier_chdl (void * varg)

Definition at line 2076 of file `libmc.c`.

References `CHECK_NULL`, `MC_Barrier()`, and `agency_s::mc_platform`.

Referenced by `agent_RunChScriptThread()`.

16.47.5.4 EXPORTMC int MC_BarrierDelete (MCAgency_t attr, int id)

Find and delete an initialized MobileC Barrier.

Parameters:

- attr* A running MobileC agency
- id* The id of the barrier node to delete

Returns:

returns 0 on success, error if the node is not found or other failure.

Definition at line 409 of file libmc.c.

References mc_platform_s::barrier_queue, barrier_queue_Delete(), and agency_s::mc_platform.

Referenced by MC_BarrierDelete_chdl().

16.47.5.5 EXPORTCH int MC_BarrierDelete_chdl (void * *varg*)

Definition at line 2099 of file libmc.c.

References CHECK_NULL, MC_BarrierDelete(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.5.6 EXPORTMC int MC_BarrierInit (MCAgency_t *attr*, int *id*, int *num_procs*)

Initialize a MobileC Barrier.

Parameters:

attr A running MobileC agency

id The requested barrier id

num_procs The number of agents/threads/processes that will wait on the barrier

Returns:

The allocated barrier id. May differ from the requested id if it is already in use.

16.47.6 Examples

The following example demonstrates an agent which sets up an MC_Barrier.

Definition at line 395 of file libmc.c.

References barrier_node_Initialize(), mc_platform_s::barrier_queue, barrier_queue_Add(), barrier_queue_Get(), MC_ERR, agency_s::mc_platform, MC_SUCCESS, and node.

Referenced by MC_BarrierInit_chdl().

16.47.6.1 EXPORTCH int MC_BarrierInit_chdl (void * *varg*)

Definition at line 2122 of file libmc.c.

References CHECK_NULL, MC_BarrierInit(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.6.2 EXPORTMC int MC_CallAgentFunc (MCAgent_t *agent*, const char * *funcName*, void * *returnVal*, int *numArgs*, ...)

Calls a function defined in an agent.

Parameters:

agent An initialized and executed MobileC agent
funcName The name of the function to call
returnVal The agent function's return value
numArgs The number of arguments supplied to the agent function
 ... A variable argument list to be supplied to the agent function

Returns:

0 if successful, error_code_t type on failure

16.47.7 Example

Definition at line 415 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

16.47.7.1 EXPORTCH int MC_CallAgentFunc_chdl (void * varg)

Definition at line 2046 of file libmc.c.

References MC_CallAgentFuncVar().

Referenced by agent_RunChScriptThread().

16.47.7.2 EXPORTMC int MC_CallAgentFuncArg (MCAgent_t agent, const char * funcName, void * returnVal, void * arg)

Calls a function defined in an agent.

Parameters:

agent An initialized and executed MobileC agent
funcName The name of the function to call
returnVal The agent function's return value
arg The agent functions argument

Note:

The agent function must be of the form 'void* func(void* arg);'

Returns:

0 if successful, error_code_t type on failure

16.47.8 Example

Definition at line 436 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

16.47.8.1 EXPORTMC int MC_CallAgentFuncV (MCAgent_t agent, const char * funcName, void * returnVal, va_list ap)

Calls a function defined in an agent.

Parameters:

agent An initialized and executed MobileC agent
funcName The name of the function to call
returnVal The agent function's return value
ap A variable argument list

Returns:

0 if successful, error_code_t type on failure

Definition at line 455 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

16.47.8.2 EXPORTMC int MC_CallAgentFuncVar (MCAgent_t agent, const char * funcName, void * returnVal, ChVaList_t varg)

Definition at line 475 of file libmc.c.

References agent_s::agent_interp, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::run_lock.

Referenced by MC_CallAgentFunc_chdl().

16.47.8.3 EXPORTMC int MC_ChInitializeOptions (MCAgency_t attr, ChOptions_t * options)

Use custom ChOptions_t type for internal Ch interpreter.

Parameters:

attr A running MobileC agency
options Initialized Ch options structure

Returns:

0 on success, error_code_t type on failure

Definition at line 495 of file libmc.c.

References mc_platform_s::interp_options, and agency_s::mc_platform.

16.47.8.4 MCAgent_t MC_ComposeAgent (const char * name, const char * home, const char * owner, const char * code, const char * return_var_name, const char * server, int persistent)

Compose a new agent dynamically without using a prewritten XML file.

Parameters:

name The desired name of the new agent.

home The home of the new agent.

owner The owner of the new agent.

code The agent code

return_var_name The name of the agent's return variable. Set to "no-return" if no return variable is desired.

server The target destination of the agent.

persistent A flag indicating whether or not the agent should be persistent. A value of '1' indicates persistence, while a value of '0' indicates default non-persistent behaviour.

Returns:

This function returns a valid `MCAgent_t` structure on success or `NULL` on failure.

Definition at line 513 of file `libmc.c`.

References `agent_datastate_s::agent_code`, `agent_datastate_s::agent_code_ids`, `agent_datastate_s::agent_codes`, `agent_datastate_New()`, `agent_New()`, `agent_s::agent_status`, `agent_task_New()`, `agent_s::agent_type`, `agent_s::datastate`, `agent_s::home`, `MC_LOCAL_AGENT`, `MC_WAIT_MESSGSEND`, `agent_s::name`, `agent_datastate_s::number_of_tasks`, `agent_s::orphan`, `agent_s::owner`, `agent_datastate_s::persistent`, `agent_task_s::server_name`, `agent_datastate_s::tasks`, and `agent_task_s::var_name`.

Referenced by `MC_ComposeAgent_chdl()`.

16.47.8.5 EXPORTCH `MCAgent_t MC_ComposeAgent_chdl (void * varg)`

Definition at line 2170 of file `libmc.c`.

References `MC_ComposeAgent()`.

Referenced by `agent_RunChScriptThread()`.

16.47.8.6 EXPORTMC `int MC_CondBroadcast (MCAgency_t attr, int id)`

Wakes up all agents/threads waiting on a condition variable.

Parameters:

attr A MobileC agency

id Synchronization variable id to broadcast to

See also:

[MC_SyncInit\(\)](#), [MC_CondSignal\(\)](#)

Returns:

0 on success, `error_code_t` type on failure

Definition at line 583 of file `libmc.c`.

References `syncListNode_s::cond`, `COND_BROADCAST`, `syncListNode_s::lock`, `MC_ERR_NOT_FOUND`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `syncListNode_s::signalled`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_CondBroadcast_chdl()`.

16.47.8.7 EXPORTCH int MC_CondBroadcast_chdl (void * *varg*)

Definition at line 2147 of file libmc.c.

References CHECK_NULL, MC_CondBroadcast(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.8.8 EXPORTMC int MC_CondReset (MCAgency_t *attr*, int *id*)

Reset a previously signalled MobileC condition variable.

Parameters:

attr A MobileC Agency

id The synchronization variable id to reset

See also:

[MC_SyncInit\(\)](#)

Returns:

0 on success, error_code_t type on failure

Definition at line 635 of file libmc.c.

References syncListNode_s::lock, MC_ERR_NOT_FOUND, agency_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, syncListNode_s::signalled, mc_platform_s::syncList, and syncListFind().

Referenced by MC_CondReset_chdl().

16.47.8.9 EXPORTCH int MC_CondReset_chdl (void * *varg*)

Definition at line 2233 of file libmc.c.

References CHECK_NULL, MC_CondReset(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.8.10 EXPORTMC int MC_CondSignal (MCAgency_t *attr*, int *id*)

Wakes up at least one thread waiting on a condition variable.

Parameters:

attr A MobileC agency

id synchronization variable id

See also:

[MC_SyncInit\(\)](#)

Returns:

0 on success, error_code_t type on failure

16.47.9 Example

The following example demonstrates the agent-space version of the function, which is nearly identical to the binary space api function.

Definition at line 598 of file libmc.c.

References syncListNode_s::cond, COND_SIGNAL, syncListNode_s::lock, MC_ERR_NOT_FOUND, agency_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, syncListNode_s::signalled, mc_platform_s::syncList, and syncListFind().

Referenced by MC_CondSignal_chdl().

16.47.9.1 EXPORTCH int MC_CondSignal_chdl (void * *varg*)

Definition at line 2210 of file libmc.c.

References CHECK_NULL, MC_CondSignal(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.9.2 EXPORTMC int MC_CondWait (MCAgency_t *attr*, int *id*)

Wait on a MobileC synchronization variable.

Parameters:

attr A MobileC agency

id a synchronization variable id

See also:

[MC_SyncInit\(\)](#)

Returns:

0 on success, error_code_t type on failure

16.47.10 Example

The following example demonstrates the agent-space version of this function.

Definition at line 613 of file libmc.c.

References syncListNode_s::cond, COND_WAIT, syncListNode_s::lock, MC_ERR_NOT_FOUND, agency_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, syncListNode_s::signalled, mc_platform_s::syncList, and syncListFind().

Referenced by MC_CondWait_chdl().

16.47.10.1 EXPORTCH int MC_CondWait_chdl (void * *varg*)

Definition at line 2256 of file libmc.c.

References CHECK_NULL, MC_CondWait(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.10.2 int MC_CopyAgent (MCAgent_t * *agent_out*, const MCAgent_t *agent_in*)

Performs a deep-copy of an agent structure.

Parameters:

agent_out A pointer to the agent to copy to.

agent_in The agent to copy

Returns:

0 on success, error_code_t type on failure.

Definition at line 653 of file libmc.c.

References agent_Copy(), and MC_SUCCESS.

16.47.10.3 EXPORTMC int MC_DeleteAgent (MCAgent_t *agent*)

Stop and remove an agent.

Parameters:

agent An agent in any state (running, waiting, etc)

Returns:

0 on success, error_code_t type on failure

Definition at line 660 of file libmc.c.

References CHECK_NULL, MC_ERR_INVALID, MC_SetAgentStatus(), MC_SUCCESS, MC_TerminateAgent(), and MC_WAIT_FINISHED.

Referenced by MC_DeleteAgent_chdl().

16.47.10.4 EXPORTCH int MC_DeleteAgent_chdl (void * *varg*)

Definition at line 2278 of file libmc.c.

References MC_DeleteAgent().

Referenced by agent_RunChScriptThread().

16.47.10.5 int MC_DeregisterService (MCAgency_t *agency*, int *agentID*, const char * *serviceName*)

Definition at line 694 of file libmc.c.

References `mc_platform_s::df`, `df_AddRequest()`, `df_request_list_node_New()`, and `agency_s::mc_platform`.

Referenced by `MC_DeregisterService_chdl()`.

16.47.10.6 EXPORTCH int MC_DeregisterService_chdl (void * varg)

Definition at line 2320 of file `libmc.c`.

References `CHECK_NULL`, `MC_DeregisterService()`, and `agency_s::mc_platform`.

Referenced by `agent_RunChScriptThread()`.

16.47.10.7 int MC_DestroyServiceSearchResult (char ** agentName, char ** serviceName, int * agentID, int numResult)

Free memory allocated by a Service Search operation.

Parameters:

agentName agent names returned by a search operation.

serviceName service names return by a search operation.

agentID list of agent id's returned by a search operation.

numResult The number of hits returned by a search operation.

Returns:

0 on success, error code on failure.

Definition at line 674 of file `libmc.c`.

Referenced by `MC_DestroyServiceSearchResult_chdl()`.

16.47.10.8 EXPORTCH int MC_DestroyServiceSearchResult_chdl (void * varg)

Definition at line 2293 of file `libmc.c`.

References `MC_DestroyServiceSearchResult()`.

Referenced by `agent_RunChScriptThread()`.

16.47.10.9 EXPORTMC int MC_End (MCAgency_t attr)

End an agency.

Parameters:

attr A running agency

Returns:

0 on success, `error_code_t` type on failure

16.47.11 Example

Definition at line 723 of file libmc.c.

References mc_platform_s::acc, mc_platform_s::ams, mc_platform_s::cmd_prompt, COND_SIGNAL, mc_platform_s::connection_queue, mc_platform_s::df, GET_THREAD_MODE, agency_s::hostName, agency_s::mc_platform, mc_platform_Destroy(), MC_THREAD_ACC, MC_THREAD_AMS, MC_THREAD_CP, MC_THREAD_DF, mc_platform_s::message_queue, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::quit, mc_platform_s::quit_lock, cmd_prompt_s::thread, THREAD_CANCEL, THREAD_JOIN, and agency_s::threads.

Referenced by MC_End_chdl().

16.47.11.1 EXPORTCH int MC_End_chdl (void * *varg*)

Definition at line 2347 of file libmc.c.

References CHECK_NULL, MC_End(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.11.2 EXPORTMC MCAgent_t MC_FindAgentByID (MCAgency_t *attr*, int *ID*)

Find an agent by its id.

Parameters:

attr the agency to search

ID the id to search for

Returns:

a valid agent on success, NULL on failure

Definition at line 790 of file libmc.c.

References mc_platform_s::agent_queue, and agency_s::mc_platform.

Referenced by MC_FindAgentByID_chdl().

16.47.11.3 EXPORTCH MCAgent_t MC_FindAgentByID_chdl (void * *varg*)

Definition at line 2364 of file libmc.c.

References CHECK_NULL, MC_FindAgentByID(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.11.4 EXPORTMC MCAgent_t MC_FindAgentByName (MCAgency_t *attr*, const char * *name*)

Find an agent by its name.

Parameters:

attr a running agency
name name to search for

Returns:

a valid agent on success or NULL on failure

16.47.12 Example

Definition at line 777 of file libmc.c.

References mc_platform_s::agent_queue, and agency_s::mc_platform.

Referenced by MC_AclSend(), and MC_FindAgentByName_chdl().

16.47.12.1 EXPORTCH MCAgent_t MC_FindAgentByName_chdl (void * varg)

Definition at line 2387 of file libmc.c.

References CHECK_NULL, MC_FindAgentByName(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.12.2 time_t MC_GetAgentArrivalTime (MCAgent_t agent)

Definition at line 807 of file libmc.c.

References agent_s::arrival_time.

Referenced by MC_GetAgentArrivalTime_chdl().

16.47.12.3 EXPORTCH time_t MC_GetAgentArrivalTime_chdl (void * varg)

Definition at line 2414 of file libmc.c.

References MC_GetAgentArrivalTime().

16.47.12.4 EXPORTMC void* MC_GetAgentExecEngine (MCAgent_t agent)

Retrieve an agent's Ch interpreter.

Parameters:

agent a valid agent

Returns:

a Ch interpreter of type 'ChInterp_t' on success, or NULL on failure.

Definition at line 844 of file libmc.c.

References agent_s::agent_interp.

16.47.12.5 EXPORTMC int MC_GetAgentID (MCAgent_t agent)

Retrieve an agent's id.

Definition at line 850 of file libmc.c.

References agent_s::id.

Referenced by MC_GetAgentID_chdl().

16.47.12.6 EXPORTCH int MC_GetAgentID_chdl (void * varg)

Definition at line 2434 of file libmc.c.

References MC_GetAgentID().

Referenced by agent_RunChScriptThread().

16.47.12.7 EXPORTMC char* MC_GetAgentName (MCAgent_t agent)

Definition at line 858 of file libmc.c.

References agent_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::name.

Referenced by MC_GetAgentName_chdl().

16.47.12.8 EXPORTCH char* MC_GetAgentName_chdl (void * varg)

Definition at line 2450 of file libmc.c.

References MC_GetAgentName().

Referenced by agent_RunChScriptThread().

16.47.12.9 EXPORTMC int MC_GetAgentNumTasks (MCAgent_t agent)

Retrive the number of tasks an agent has.

16.47.13 Example

Definition at line 939 of file libmc.c.

References agent_s::datastate, and agent_datastate_s::number_of_tasks.

Referenced by MC_GetAgentNumTasks_chdl().

16.47.13.1 EXPORTCH int MC_GetAgentNumTasks_chdl (void * varg)

Definition at line 2466 of file libmc.c.

References MC_GetAgentNumTasks().

16.47.13.2 EXPORTMC int MC_GetAgentReturnData (MCAgent_t agent, int task_num, void ** data, int * dim, int ** extent)

Get an agent's return data.

Parameters:

agent a valid agent

task_num the task for which to retrieve the return data. The task must already be completed.

data the return data. May be multi dimensional array.

dim the number of dimensions of the return array.

extent the extent of each one of the array dimensions.

16.47.14 Example

This file demonstrates the retrieval of agent return data from an agent

This is the agent which gets the data

Definition at line 876 of file libmc.c.

References agent_task_s::agent_return_data, interpreter_variable_data_s::array_dim, interpreter_variable_data_s::array_extent, CH_DATATYPE_SIZE, interpreter_variable_data_s::data_type, agent_s::datastate, agent_datastate_s::number_of_tasks, size, and agent_datastate_s::tasks.

16.47.14.1 EXPORTMC int MC_GetAgentStatus (MCAgent_t agent)

Get an agent's current status.

Returns:

returns type 'enum MC_AgentStatus_e'

Definition at line 822 of file libmc.c.

References agent_s::agent_status, agent_s::lock, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_GetAgentStatus_chdl().

16.47.14.2 EXPORTCH int MC_GetAgentStatus_chdl (void * varg)

Definition at line 2482 of file libmc.c.

References MC_GetAgentStatus().

Referenced by agent_RunChScriptThread().

16.47.14.3 EXPORTMC enum MC_AgentType_e MC_GetAgentType (MCAgent_t agent)

Get an agent's type.

Returns:

returns type 'enum MC_AgentType_e'

Definition at line 945 of file libmc.c.

References agent_s::agent_type.

16.47.14.4 EXPORTMC char* MC_GetAgentXMLString (MCAgent_t agent)

Get an agent's xml string.

Returns:

a malloc'd character string containing the agent's xml code

Definition at line 832 of file libmc.c.

References agent_s::datastate, mxmlSaveAllocString(), and agent_datastate_s::xml_agent_root.

Referenced by MC_GetAgentXMLString_chdl().

16.47.14.5 EXPORTCH char* MC_GetAgentXMLString_chdl (void * varg)

Definition at line 2498 of file libmc.c.

References MC_GetAgentXMLString().

Referenced by agent_RunChScriptThread().

16.47.14.6 int MC_GetAllAgents (MCAgency_t attr, MCAgent_t ** agents, int * num_agents)

Definition at line 955 of file libmc.c.

References mc_platform_s::agent_queue, mc_platform_s::giant, mc_platform_s::giant_lock, MC_HaltAgency(), agency_s::mc_platform, MC_ResumeAgency(), MUTEX_LOCK, and MUTEX_UNLOCK.

16.47.14.7 EXPORTCH int MC_GetTimeOfDay_chdl (void * varg)

Definition at line 2514 of file libmc.c.

Referenced by agent_RunChScriptThread().

16.47.14.8 EXPORTMC int MC_HaltAgency (MCAgency_t agency)

Halt an agency: Do not process new entries in queues.

Parameters:

agency A handle to a running MobileC agency.

Returns:

0 on success, non-zero on failure.

Definition at line 991 of file libmc.c.

References mc_platform_s::giant, mc_platform_s::giant_lock, agency_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_GetAllAgents(), and MC_HaltAgency_chdl().

16.47.14.9 EXPORTCH int MC_HaltAgency_chdl (void * varg)

Definition at line 2529 of file libmc.c.

References CHECK_NULL, MC_HaltAgency(), and agency_s::mc_platform.

Referenced by agent_RunChScriptThread().

16.47.14.10 EXPORTMC MCAgency_t MC_Initialize (int port, MCAgencyOptions_t * options)

Initialize and start a MobileC agency.

Parameters:

port the TCP port the agency should bind to

options initialized MobileC options or NULL for default options

Returns:

a handle to a running MobileC agency or NULL on failure

16.47.15 Example

Definition at line 1000 of file libmc.c.

References CHECK_NULL, agency_s::client, MCAgencyOptions_s::default_agent_status, agency_s::default_agentstatus, MCAgencyOptions_s::enable_security, agency_s::enable_security, HOST_NAME_MAX, agency_s::hostName, MC_InitializeAgencyOptions(), agency_s::mc_platform, mc_platform_Initialize(), MC_THREAD_ALL, agency_s::portno, agency_s::server, MCAgencyOptions_s::stack_size, agency_s::stack_size, MCAgencyOptions_s::threads, and agency_s::threads.

16.47.15.1 EXPORTMC int MC_InitializeAgencyOptions (struct MCAgencyOptions_s * options)

Initialize MobileC options.

Parameters:

options options to initialize.

Returns:

0 on success, error_code_t on failure

Note:

MobileC [options](#) should be initialized with this function before any of its members are modified.

16.47.16 Example

Definition at line 1055 of file libmc.c.

References MCAgencyOptions_s::default_agent_status, MCAgencyOptions_s::enable_security, MC_THREAD_ALL, MC_WAIT_CH, MCAgencyOptions_s::modified, MCAgencyOptions_s::stack_size, and MCAgencyOptions_s::threads.

Referenced by MC_Initialize().

16.47.16.1 EXPORTMC int MC_LoadAgentFromFile (MCAgency_t attr, const char * filename)

Load an agent from a file into an agency.

Parameters:

agency A valid and running Mobile-C agency
filename Filename containing the agent to load

Returns:

0 on success, non-zero on failure.

Definition at line 1072 of file libmc.c.

References buf, agency_s::mc_platform, message_Destroy(), message_InitializeFromString(), message_New(), mc_platform_s::message_queue, MXML_DESCEND, mxmlFindElement(), mxmlLoadString(), message_s::to_address, message_s::xml_payload, and message_s::xml_root.

16.47.16.2 int MC_MainLoop (MCAgency_t attr)

Wait indefinitely.

Note:

This function is intended to block the calling thread forever.

Definition at line 1697 of file libmc.c.

References mc_platform_s::ams, and agency_s::mc_platform.

16.47.16.3 EXPORTMC int MC_MutexLock (MCAgency_t attr, int id)

Locks a MobileC synchronization variable as a mutex.

Parameters:

attr a MobileC agency handle

id the synchronization variable id to lock

Returns:

0 on success, `error_code_t` type on failure

16.47.17 Example

Consider the following agents, which use the agent-space version of this api function. Note that the 'sleep' agent is sent first, followed by the 'wake' agent.

Definition at line 1142 of file libmc.c.

References `syncListNode_s::lock`, `agency_s::mc_platform`, `MUTEX_LOCK`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_MutexLock_chdl()`.

16.47.17.1 EXPORTCH int MC_MutexLock_chdl (void * varg)

Definition at line 2547 of file libmc.c.

References `CHECK_NULL`, `MC_MutexLock()`, and `agency_s::mc_platform`.

Referenced by `agent_RunChScriptThread()`.

16.47.17.2 EXPORTMC int MC_MutexUnlock (MCAgency_t attr, int id)

Definition at line 1154 of file libmc.c.

References `syncListNode_s::lock`, `agency_s::mc_platform`, `MUTEX_UNLOCK`, `mc_platform_s::syncList`, and `syncListFind()`.

Referenced by `MC_MutexUnlock_chdl()`.

16.47.17.3 EXPORTCH int MC_MutexUnlock_chdl (void * varg)

Definition at line 2571 of file libmc.c.

References `CHECK_NULL`, `MC_MutexUnlock()`, and `agency_s::mc_platform`.

Referenced by `agent_RunChScriptThread()`.

16.47.17.4 EXPORTMC int MC_PrintAgentCode (MCAgent_t agent)

Prints an agents code to stdout.

Returns:

0 on success, `error_code_t` on failure

Definition at line 1166 of file libmc.c.

References agent_datastate_s::agent_code, agent_s::datastate, agent_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, agent_datastate_s::number_of_tasks, and agent_datastate_s::task_progress.

Referenced by MC_PrintAgentCode_chdl().

16.47.17.5 EXPORTCH int MC_PrintAgentCode_chdl (void *varg)

Definition at line 2595 of file libmc.c.

References MC_PrintAgentCode().

Referenced by agent_RunChScriptThread().

16.47.17.6 EXPORTMC int MC_RegisterService (MCAgency_t agency, MCAgent_t agent, int agentID, const char *agentName, char **serviceNames, int numServices)

Register a new service with the Directory Facilitator.

Parameters:

agency a MobileC agency handle
agent (OPTIONAL: See note) a MobileC agent
agentID (OPTIONAL: See note) a MobileC agent id
agentName (OPTIONAL: See note) a MobileC agent name
serviceNames an array of character strings of service names
numServices the number of services described in 'serviceNames'

Returns:

0 on success, error_code_t type on failure

Note:

Three of the input arguments are optional. The function expects as input the arguments 'agent XOR (agentID AND agentName)'.

16.47.18 Example

Definition at line 1182 of file libmc.c.

References CHECK_NULL, mc_platform_s::df, df_AddRequest(), df_request_list_node_New(), agent_s::id, MC_ERR_INVALID_ARGS, MC_ERR_MEMORY, agency_s::mc_platform, MUTEX_INIT, MUTEX_T, and agent_s::name.

Referenced by MC_RegisterService_chdl().

16.47.18.1 EXPORTCH int MC_RegisterService_chdl (void *varg)

Definition at line 2611 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_RegisterService().

Referenced by agent_RunChScriptThread().

16.47.18.2 EXPORTMC int MC_ResetSignal (MCAgency_t attr)

Reset a MobileC signal.

Returns:

0 on success, error_code_t on failure

See also:

[MC_WaitSignal\(\)](#)

Definition at line 1316 of file libmc.c.

References COND_SIGNAL, mc_platform_s::giant, mc_platform_s::giant_cond, mc_platform_s::giant_lock, MC_NO_SIGNAL, agency_s::mc_platform, mc_platform_s::MC_signal, MUTEX_LOCK, and MUTEX_UNLOCK.

16.47.18.3 EXPORTMC int MC_ResumeAgency (MCAgency_t agency)

Resumes a halted agency.

Parameters:

agency An agency previously halted with the [MC_HaltAgency\(\)](#) function.

Returns:

0 on success, non-zero on failure.

Definition at line 1261 of file libmc.c.

References mc_platform_s::giant, mc_platform_s::giant_lock, agency_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_GetAllAgents(), and MC_ResumeAgency_chdl().

16.47.18.4 EXPORTCH int MC_ResumeAgency_chdl (void * varg)

Definition at line 2648 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_ResumeAgency().

Referenced by agent_RunChScriptThread().

16.47.18.5 EXPORTMC MCAgent_t MC_RetrieveAgent (MCAgency_t attr)

Retrieves the oldest agent from an agency.

Returns:

a valid agent or NULL on failure

Definition at line 1270 of file libmc.c.

References mc_platform_s::agent_queue, agent_s::agent_status, ListSearch(), MC_AGENT_NEUTRAL, agency_s::mc_platform, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_RetrieveAgent_chdl().

16.47.18.6 EXPORTCH MCAGENT_t MC_RetrieveAgent_chdl (void * varg)

Definition at line 2666 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_RetrieveAgent().

Referenced by agent_RunChScriptThread().

16.47.18.7 EXPORTMC char* MC_RetrieveAgentCode (MCAGENT_t agent)

Retrieves an agent's Ch code.

Returns:

a malloc'd character string on success, NULL on failure

Definition at line 1300 of file libmc.c.

References agent_datastate_s::agent_code, buf, agent_s::datastate, agent_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and agent_datastate_s::task_progress.

Referenced by MC_RetrieveAgentCode_chdl().

16.47.18.8 EXPORTCH char* MC_RetrieveAgentCode_chdl (void * varg)

Definition at line 2683 of file libmc.c.

References MC_RetrieveAgentCode().

Referenced by agent_RunChScriptThread().

16.47.18.9 EXPORTCH int MC_SaveData_chdl (void * varg)

Definition at line 2699 of file libmc.c.

References agent_task_s::agent_variable_list, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, agent_s::datastate, interpreter_variable_data_New(), interpreter_variable_data_s::name, interpreter_variable_data_s::size, size, agent_datastate_s::task_progress, and agent_datastate_s::tasks.

Referenced by agent_RunChScriptThread().

16.47.18.10 EXPORTMC int MC_SearchForService (MCAGENCY_t attr, const char * searchString, char * agentNames, char *** serviceNames, int ** agentIDs, int * numResults)**

Search the directory facilitator for a service.

Returns:

0 on success, error_code_t on failure

Parameters:

attr (input) a MobileC agency handle

searchString (input) substring to search services for

agentNames (return) array of agent names with matching services

serviceNames (return) array of matching service names

agentIDs (return) array of matching agent IDs

numResults (return) number of matching results

16.47.19 Example

Definition at line 1327 of file libmc.c.

References CHECK_NULL, COND_SLEEP_ACTION, mc_platform_s::df, df_AddRequest(), df_request_list_node_Destroy(), df_request_list_node_New(), df_request_search_Destroy(), df_request_search_New(), MC_ERR_MEMORY, agency_s::mc_platform, MC_SUCCESS, and search.

Referenced by MC_SearchForService_chdl().

16.47.19.1 EXPORTCH int MC_SearchForService_chdl (void * varg)

Definition at line 2734 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SearchForService().

Referenced by agent_RunChScriptThread().

16.47.19.2 EXPORTMC int MC_SemaphorePost (MCAgency_t attr, int id)

Post to a MobileC synchronization variable semaphore.

Parameters:

attr a MobileC agency handle

id the synchronization variable id to post to

Returns:

0 on success, error_code_t type on failure

16.47.20 Example

Definition at line 1377 of file libmc.c.

References agency_s::mc_platform, syncListNode_s::sem, SEMAPHORE_POST, mc_platform_s::syncList, and syncListFind().

Referenced by MC_SemaphorePost_chdl().

16.47.20.1 EXPORTCH int MC_SemaphorePost_chdl (void * varg)

Definition at line 2775 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SemaphorePost().

Referenced by agent_RunChScriptThread().

16.47.20.2 EXPORTMC int MC_SemaphoreWait (MCAgency_t *attr*, int *id*)

Decreases a MobileC synchronization variable semaphore count by one.

Parameters:

attr a MobileC agency handle
id synchronization variable id to wait on

Returns:

0 on MC_SUCCESS, error_code_t type of failure

Note:

If the semaphore count is already zero, this function will block until another thread posts to the semaphore.

16.47.21 Example

Definition at line 1389 of file libmc.c.

References agency_s::mc_platform, syncListNode_s::sem, SEMAPHORE_WAIT, mc_platform_s::syncList, and syncListFind().

Referenced by MC_SemaphoreWait_chdl().

16.47.21.1 EXPORTCH int MC_SemaphoreWait_chdl (void * *varg*)

Definition at line 2799 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SemaphoreWait().

Referenced by agent_RunChScriptThread().

16.47.21.2 EXPORTMC int MC_SendAgentMigrationMessage (MCAgency_t *attr*, const char * *message*, const char * *hostname*, int *port*)

Sends an agent migration message.

Parameters:

attr a MobileC agency handle
message a valid MobileC xml agent migration message
hostname host to send the message to
port port to send the message to

Definition at line 1411 of file libmc.c.

References MC_ERR, agency_s::mc_platform, message_Destroy(), message_InitializeFromString(), message_New(), and mc_platform_s::message_queue.

Referenced by MC_SendAgentMigrationMessage_chdl().

16.47.21.3 EXPORTCH int MC_SendAgentMigrationMessage_chdl (void * varg)

Definition at line 2823 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, MC_SendAgentMigrationMessage(), and port.

Referenced by agent_RunChScriptThread().

16.47.21.4 EXPORTMC int MC_SendAgentMigrationMessageFile (MCAgency_t attr, const char * filename, const char * hostname, int port)

Sends an agent migration message.

Parameters:

attr a MobileC agency handle

filename file containing a valid MobileC xml agent migration message

hostname hostname to send the agent to

port port to send the agent to

Definition at line 1442 of file libmc.c.

References buf, agency_s::mc_platform, message_Destroy(), message_InitializeFromString(), message_New(), and mc_platform_s::message_queue.

Referenced by handler_SEND(), and MC_SendAgentMigrationMessageFile_chdl().

16.47.21.5 EXPORTCH int MC_SendAgentMigrationMessageFile_chdl (void * varg)

Definition at line 2848 of file libmc.c.

References MC_SendAgentMigrationMessageFile(), and port.

Referenced by agent_RunChScriptThread().

16.47.21.6 int MC_SendCh (MCAgency_t attr, const char * filename, const char * remotehost, int port)

Definition at line 1401 of file libmc.c.

16.47.21.7 EXPORTMC int MC_SendSteerCommand (MCAgency_t attr, enum MC_SteerCommand_e cmd)

Definition at line 1518 of file libmc.c.

References COND_BROADCAST, agency_s::mc_platform, mc_platform_s::MC_steer_command, mc_platform_s::MC_steer_cond, mc_platform_s::MC_steer_lock, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_SendSteerCommand_chdl().

16.47.21.8 EXPORTCH int MC_SendSteerCommand_chdl (void * varg)

Definition at line 2868 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SendSteerCommand().

Referenced by agent_RunChScriptThread().

16.47.21.9 int MC_SetAgentStatus (MCAgent_t agent, int status)

Set an agent's status.

Parameters:

agent a MobileC agent

status agent status of type 'enum MC_AgentStatus_e'

Returns:

0 on success, or error_code_t on failure

Definition at line 1528 of file libmc.c.

References agent_s::agent_status, mc_platform_s::ams, COND_SIGNAL, agent_s::lock, agent_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, and agent_s::orphan.

Referenced by MC_DeleteAgent(), and MC_SetAgentStatus_chdl().

16.47.21.10 EXPORTCH int MC_SetAgentStatus_chdl (void * varg)

Definition at line 2891 of file libmc.c.

References MC_SetAgentStatus().

Referenced by agent_RunChScriptThread().

16.47.21.11 int MC_SetDefaultAgentStatus (MCAgency_t agency, enum MC_AgentStatus_e status)

Sets default incoming agent status.

Parameters:

agency a MobileC agency handle

status the status to set all incoming agents

Returns:

0 on success, error_type_t on failure

Note:

using this function will override any status the incoming agent attempts to set for itself.

Definition at line 1543 of file libmc.c.

References mc_platform_s::default_agentstatus, and agency_s::mc_platform.

Referenced by MC_SetDefaultAgentStatus_chdl().

16.47.21.12 EXPORTCH int MC_SetDefaultAgentStatus_chdl (void * *varg*)

Definition at line 2909 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SetDefaultAgentStatus().

Referenced by agent_RunChScriptThread().

16.47.21.13 EXPORTMC int MC_SetThreadOff (MCAgencyOptions_t * *options*, enum MC_ThreadIndex_e *index*)

Sets a MobileC thread to "off" status.

Parameters:

options MobileC [options](#) previously initialized with [MC_InitializeAgencyOptions\(\)](#)

index the thread to set

Returns:

0 on success, error_code_t on failure

Note:

This function must be called before [MC_Initialize\(\)](#). Once an agency is started with MC_Initialize, the MC_SetThread functions will have no effect.

Definition at line 1570 of file libmc.c.

References SET_THREAD_OFF, and MCAgencyOptions_s::threads.

16.47.21.14 EXPORTMC int MC_SetThreadOn (MCAgencyOptions_t * *options*, enum MC_ThreadIndex_e *index*)

Sets a MobileC thread to "on" status.

Parameters:

options MobileC [options](#) previously initialized with [MC_InitializeAgencyOptions\(\)](#)

index the thread to set

Returns:

0 on success, error_code_t on failure

Note:

This function must be called before [MC_Initialize\(\)](#). Once an agency is started with MC_Initialize, the MC_SetThread functions will have no effect.

Definition at line 1553 of file libmc.c.

References SET_THREAD_ON, and MCAgencyOptions_s::threads.

16.47.21.15 EXPORTMC int MC_SetThreadsAllOff (MCAgencyOptions_t * options)

Set all MobileC threads to 'off' status.

Parameters:

options a MobileC [options](#) structure initialized with with the [MC_InitializeAgencyOptions\(\)](#) function.

Returns:

0 on success, error code on failure.

Definition at line 1577 of file libmc.c.

References [MC_THREAD_ALL](#), [SET_THREAD_OFF](#), and [MCAgencyOptions_s::threads](#).

16.47.21.16 EXPORTMC int MC_SetThreadsAllOn (MCAgencyOptions_t * options)

Set all Mobile-C threads on.

Parameters:

options MobileC [options](#) structure, initialized with [MC_InitializeAgencyOptions\(\)](#)

Returns:

0 on success, error code on failure.

Definition at line 1560 of file libmc.c.

References [MC_THREAD_ALL](#), [SET_THREAD_ON](#), and [MCAgencyOptions_s::threads](#).

16.47.21.17 EXPORTMC int MC_Steer (MCAgency_t attr, int(*)(void *data) funcptr, void * arg)

Set up a steerable algorithm.

Parameters:

attr a MobileC agency handle

funcptr a function pointer to the algorithm

arg an argument for the algorithm function

Returns:

0 on success, error_code_t on failure

Note:

The algorithm function must contain a call to [MC_SteerControl](#) in order for the algorithm to be steerable.

16.47.22 Example

Definition at line 1587 of file libmc.c.

References [agency_s::mc_platform](#), [MC_RESTART](#), [MC_RUN](#), [mc_platform_s::MC_steer_command](#), [mc_platform_s::MC_steer_lock](#), [MUTEX_LOCK](#), and [MUTEX_UNLOCK](#).

16.47.22.1 EXPORTMC enum MC_SteerCommand_e MC_SteerControl (void)

The MobileC user-algorithm steering function.

Returns:

The current steering command

Note:

This function belongs inside a user's steerable algorithm.

See also:

[MC_Steer\(\)](#)

Definition at line 1606 of file libmc.c.

References COND_WAIT, mc_platform_s::MC_steer_command, mc_platform_s::MC_steer_cond, mc_platform_s::MC_steer_lock, MC_SUSPEND, MUTEX_LOCK, and MUTEX_UNLOCK.

16.47.22.2 EXPORTMC int MC_SyncDelete (MCAgency_t attr, int id)

Deletes a previously initialized synchronization variable.

Parameters:

attr a MobileC agency handle

id the sync variable id to delete

Returns:

0 on success, or error_code_t on failure

Definition at line 1622 of file libmc.c.

References syncList_s::giant_lock, syncListNode_s::lock, MC_ERR_NOT_FOUND, agency_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, mc_platform_s::syncList, syncListFind(), syncListNodeDestroy(), and syncListRemove().

Referenced by MC_SyncDelete_chdl().

16.47.22.3 EXPORTCH int MC_SyncDelete_chdl (void *varg)

Definition at line 2932 of file libmc.c.

References CHECK_NULL, agency_s::mc_platform, and MC_SyncDelete().

Referenced by agent_RunChScriptThread().

16.47.22.4 EXPORTMC int MC_SyncInit (MCAgency_t attr, int id)

Initializes a new MobileC synchronization variable.

Parameters:

attr a MobileC agency handle

id the requested sync variable id

Returns:

new sync variable's id. May be different than the requested id.

Note:

Each synchronization variable may be used as a mutex, condition variable, or semaphore. However, it should only be used as one type of synchronization variable per instance, or undefined behaviour may result.

See also:

[MC_MutexLock\(\)](#), [MC_MutexUnlock\(\)](#), [MC_CondWait\(\)](#), [MC_CondSignal\(\)](#), [MC_CondBroadcast](#), [MC_SemaphorePost\(\)](#), [MC_SemaphoreWait\(\)](#)

Definition at line 1652 of file libmc.c.

References `syncList_s::giant_lock`, `syncListNode_s::id`, `agency_s::mc_platform`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `node`, `mc_platform_s::syncList`, `syncListAddNode()`, `syncListFind()`, and `syncListNodeNew()`.

Referenced by `MC_SyncInit_chdl()`.

16.47.22.5 EXPORTCH int MC_SyncInit_chdl (void * *varg*)

Definition at line 2955 of file libmc.c.

References `CHECK_NULL`, `agency_s::mc_platform`, and `MC_SyncInit()`.

Referenced by `agent_RunChScriptThread()`.

16.47.22.6 EXPORTMC int MC_TerminateAgent (MCAgent_t *agent*)

Halt a running agent.

Returns:

0 on success, `error_code_t` on failure

Definition at line 1677 of file libmc.c.

References `agent_s::agent_interp`.

Referenced by `MC_DeleteAgent()`, and `MC_TerminateAgent_chdl()`.

16.47.22.7 EXPORTCH int MC_TerminateAgent_chdl (void * *varg*)

Definition at line 2979 of file libmc.c.

References `MC_TerminateAgent()`.

Referenced by `agent_RunChScriptThread()`.

16.47.22.8 EXPORTMC int MC_WaitAgent (MCAgency_t attr)

Wait indefinitely.

Note:

This function is intended to block the calling thread forever. Wait for an agent arrival event
This function blocks until an agent arrival signal is triggered, at which point it unblocks.

Definition at line 1704 of file libmc.c.

References mc_platform_s::agent_queue, COND_WAIT, mc_platform, agency_s::mc_platform, MUTEX_LOCK, MUTEX_UNLOCK, and size.

16.47.22.9 EXPORTMC MCAgent_t MC_WaitRetrieveAgent (MCAgency_t attr)

Wait and retrieve an agent.

Returns:

a valid MobileC agent on success, or NULL on failure

Note:

This function blocks until the arrival of an agent. The agent is retrieved after it is initialized, but before it is executed.

Definition at line 1724 of file libmc.c.

References mc_platform_s::agent_queue, ListSearch(), agency_s::mc_platform, MC_RECV_AGENT, MC_WaitSignal(), MUTEX_LOCK, and MUTEX_UNLOCK.

16.47.22.10 EXPORTMC int MC_WaitSignal (MCAgency_t attr, int signals)

Wait for a MobileC signal.

Parameters:

attr a MobileC agency handle

signals a flag of signals to wait for, of type 'enum MC_Signal_e'

Returns:

0 on success, error_code_t on failure

Note:

the parameter 'signals' may be something like 'MC_RECV_MESSAGE | MC_RECV_AGENT', etc.

16.47.23 Example

Definition at line 1742 of file libmc.c.

References COND_WAIT, mc_platform_s::giant, mc_platform_s::giant_lock, agency_s::mc_platform, mc_platform_s::MC_signal, mc_platform_s::MC_signal_cond, mc_platform_s::MC_signal_lock, MUTEX_LOCK, and MUTEX_UNLOCK.

Referenced by MC_WaitRetrieveAgent().

16.47.24 Variable Documentation

16.47.24.1 mc_platform_p g_mc_platform

Definition at line 65 of file libmc.c.

Referenced by fipa_envelope_Compose__from().

16.48 /home/dko/projects/mobilec/trunk/src/mc_list/list.c File Reference

```
#include "list.h"  
#include <stdio.h>  
#include <stdlib.h>
```

Functions

- [list_p ListInitialize](#) (void)
- void [ListTerminate](#) ([list_p](#) list)
- int [list_pGetSize](#) ([list_p](#) list)
- DATA [ListGetHead](#) ([list_p](#) list)
- DATA [ListPop](#) ([list_p](#) list)
- DATA [ListSearch](#) ([list_p](#) list, const int index)
- int [ListAdd](#) ([list_p](#) list, DATA data)
- int [ListInsert](#) ([list_p](#) list, DATA data, const int index)
- DATA [ListDelete](#) ([list_p](#) list, const int index)

16.48.1 Function Documentation

16.48.1.1 int list_pGetSize (list_p list)

Definition at line 73 of file list.c.

References [list_s::size](#).

16.48.1.2 int ListAdd (list_p list, DATA data)

Definition at line 161 of file list.c.

References [list_s::listhead](#), [listNode_s::next](#), [listNode_s::node_data](#), and [list_s::size](#).

Referenced by [barrier_queue_Add\(\)](#), [df_Add\(\)](#), [df_AddRequest\(\)](#), and [syncListAddNode\(\)](#).

16.48.1.3 DATA ListDelete (list_p list, const int index)

Definition at line 216 of file list.c.

References [DATA](#), [list_s::listhead](#), [listNode_s::next](#), [listNode_s::node_data](#), and [list_s::size](#).

Referenced by [barrier_queue_Delete\(\)](#), [syncListDelete\(\)](#), and [syncListRemove\(\)](#).

16.48.1.4 DATA ListGetHead (list_p list)

Definition at line 79 of file list.c.

References [list_s::listhead](#), and [listNode_s::node_data](#).

16.48.1.5 list_p ListInitialize (void)

Definition at line 33 of file list.c.

References list_s::listhead, and list_s::size.

Referenced by barrier_queue_New(), df_Initialize(), df_request_list_New(), and syncListInit().

16.48.1.6 int ListInsert (list_p list, DATA data, const int index)

Definition at line 203 of file list.c.

16.48.1.7 DATA ListPop (list_p list)

Definition at line 89 of file list.c.

References DATA, list_s::listhead, listNode_s::next, listNode_s::node_data, and list_s::size.

Referenced by barrier_queue_Pop(), df_Destroy(), df_request_list_Destroy(), and df_request_list_Pop().

16.48.1.8 DATA ListSearch (list_p list, const int index)

Definition at line 124 of file list.c.

References list_s::listhead, listNode_s::next, listNode_s::node_data, and list_s::size.

Referenced by ams_ManageAgentList(), ams_Print(), AP_QUEUE_SEARCH_TEMPLATE(), AP_QUEUE_STD_DEFN_TEMPLATE(), barrier_queue_Delete(), MC_RetrieveAgent(), MC_WaitRetrieveAgent(), message_queue_SendOutgoing(), syncListDelete(), and syncListRemove().

16.48.1.9 void ListTerminate (list_p list)

Definition at line 49 of file list.c.

References list_s::listhead, and list_s::size.

Referenced by barrier_queue_Destroy(), df_Destroy(), and df_request_list_Destroy().

16.49 /home/dko/projects/mobilec/trunk/src/mc_list/list.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
```

Data Structures

- struct [listNode_s](#)
- struct [list_s](#)

Defines

- #define [DATA](#) void*
- #define [QUEUE_TEMPLATE](#)(name, node_type, search_type, search_var_name)

Typedefs

- typedef struct [listNode_s](#) [listNode_t](#)
- typedef [listNode_t](#) * [listNode_p](#)
- typedef struct [list_s](#) [list_t](#)
- typedef [list_t](#) * [list_p](#)

Functions

- [list_p](#) [ListInitialize](#) (void)
- void [ListTerminate](#) ([list_p](#) list)
- int [ListGetSize](#) ([list_p](#) list)
- int [ListAdd](#) ([list_p](#) list, DATA data)
- int [ListInsert](#) ([list_p](#) list, DATA data, const int index)
- DATA [ListGetHead](#) ([list_p](#) list)
- DATA [ListPop](#) ([list_p](#) list)
- DATA [ListSearch](#) ([list_p](#) list, const int index)
- DATA [ListDelete](#) ([list_p](#) list, const int index)

16.49.1 Define Documentation

16.49.1.1 #define DATA void*

Definition at line 30 of file list.h.

Referenced by [barrier_queue_Add\(\)](#), [ListDelete\(\)](#), [ListPop\(\)](#), and [syncListAddNode\(\)](#).

16.49.1.2 #define QUEUE_TEMPLATE(name, node_type, search_type, search_var_name)

Definition at line 68 of file list.h.

16.49.2 Typedef Documentation

16.49.2.1 typedef list_t* list_p

Definition at line 49 of file list.h.

16.49.2.2 typedef struct list_s list_t

16.49.2.3 typedef listNode_t* listNode_p

Definition at line 39 of file list.h.

16.49.2.4 typedef struct listNode_s listNode_t

16.49.3 Function Documentation

16.49.3.1 int ListAdd (list_p list, DATA data)

Definition at line 161 of file list.c.

References list_s::listhead, listNode_s::next, listNode_s::node_data, and list_s::size.

Referenced by barrier_queue_Add(), df_Add(), df_AddRequest(), and syncListAddNode().

16.49.3.2 DATA ListDelete (list_p list, const int index)

Definition at line 216 of file list.c.

References DATA, list_s::listhead, listNode_s::next, listNode_s::node_data, and list_s::size.

Referenced by barrier_queue_Delete(), syncListDelete(), and syncListRemove().

16.49.3.3 DATA ListGetHead (list_p list)

Definition at line 79 of file list.c.

References list_s::listhead, and listNode_s::node_data.

16.49.3.4 int ListGetSize (list_p list)

16.49.3.5 list_p ListInitialize (void)

Definition at line 33 of file list.c.

References list_s::listhead, and list_s::size.

Referenced by barrier_queue_New(), df_Initialize(), df_request_list_New(), and syncListInit().

16.49.3.6 int ListInsert (list_p list, DATA data, const int index)

Definition at line 203 of file list.c.

16.49.3.7 DATA ListPop (*list_p list*)

Definition at line 89 of file list.c.

References DATA, list_s::listhead, listNode_s::next, listNode_s::node_data, and list_s::size.

Referenced by barrier_queue_Pop(), df_Destroy(), df_request_list_Destroy(), and df_request_list_Pop().

16.49.3.8 DATA ListSearch (*list_p list, const int index*)

Definition at line 124 of file list.c.

References list_s::listhead, listNode_s::next, listNode_s::node_data, and list_s::size.

Referenced by ams_ManageAgentList(), ams_Print(), AP_QUEUE_SEARCH_TEMPLATE(), AP_QUEUE_STD_DEFN_TEMPLATE(), barrier_queue_Delete(), MC_RetrieveAgent(), MC_WaitRetrieveAgent(), message_queue_SendOutgoing(), syncListDelete(), and syncListRemove().

16.49.3.9 void ListTerminate (*list_p list*)

Definition at line 49 of file list.c.

References list_s::listhead, and list_s::size.

Referenced by barrier_queue_Destroy(), df_Destroy(), and df_request_list_Destroy().

16.50 /home/dko/projects/mobilec/trunk/src/mc_platform.c File Reference

```
#include <unistd.h>
#include <sys/socket.h>
#include <netdb.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include "include/acc.h"
#include "include/mc_platform.h"
```

Defines

- #define [DEFAULT_HOSTNAME_LENGTH](#) 200

Functions

- [mc_platform_p mc_platform_Initialize](#) ([MCAgency_t](#) agency)
- [int mc_platform_Destroy](#) ([mc_platform_p](#) platform)

16.50.1 Define Documentation

16.50.1.1 #define [DEFAULT_HOSTNAME_LENGTH](#) 200

Definition at line 45 of file `mc_platform.c`.

Referenced by `mc_platform_Initialize()`.

16.50.2 Function Documentation

16.50.2.1 [int mc_platform_Destroy](#) ([mc_platform_p](#) platform)

Definition at line 235 of file `mc_platform.c`.

References `mc_platform_s::acc`, `acc_Destroy()`, `mc_platform_s::agent_queue`, `mc_platform_s::ams`, `ams_Destroy()`, `mc_platform_s::asm_message_queue`, `mc_platform_s::barrier_queue`, `barrier_queue_Destroy()`, `mc_platform_s::cmd_prompt`, `cmd_prompt_Destroy()`, `COND_DESTROY`, `mc_platform_s::connection_queue`, `mc_platform_s::df`, `df_Destroy()`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `mc_platform_s::interp_options`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `mc_platform_s::MC_steer_cond`, `mc_platform_s::MC_steer_lock`, `MC_SUCCESS`, `mc_platform_s::MC_sync_cond`, `mc_platform_s::MC_sync_lock`, `mc_platform_s::message_queue`, `MUTEX_DESTROY`, and `mc_platform_s::quit_lock`.

Referenced by `handler_QUIT()`, and `MC_End()`.

16.50.2.2 [mc_platform_p mc_platform_Initialize](#) ([MCAgency_t](#) agency)

Definition at line 47 of file `mc_platform.c`.

References `mc_platform_s::acc`, `acc_Initialize()`, `acc_Start()`, `mc_platform_s::agent_queue`, `mc_platform_s::ams`, `ams_Initialize()`, `ams_Start()`, `mc_platform_s::asm_message_queue`, `mc_platform_s::barrier_queue`, `barrier_queue_New()`, `CHECK_NULL`, `mc_platform_s::cmd_prompt`, `cmd_prompt_Initialize()`, `cmd_prompt_Start()`, `COND_INIT`, `COND_T`, `COND_WAIT`, `mc_platform_s::connection_queue`, `agency_s::default_agentstatus`, `mc_platform_s::default_agentstatus`, `DEFAULT_HOSTNAME_LENGTH`, `mc_platform_s::df`, `df_Initialize()`, `df_Start()`, `agency_s::enable_security`, `mc_platform_s::err`, `GET_THREAD_MODE`, `mc_platform_s::giant`, `mc_platform_s::giant_cond`, `mc_platform_s::giant_lock`, `mc_platform_s::hostname`, `mc_platform_s::interp_options`, `agency_s::last_error`, `MC_ERR_MEMORY`, `MC_NO_SIGNAL`, `mc_platform`, `mc_platform_s::MC_signal`, `mc_platform_s::MC_signal_cond`, `mc_platform_s::MC_signal_lock`, `mc_platform_s::MC_steer_cond`, `mc_platform_s::MC_steer_lock`, `mc_platform_s::MC_sync_cond`, `mc_platform_s::MC_sync_lock`, `MC_THREAD_ACC`, `MC_THREAD_ALL`, `MC_THREAD_AMS`, `MC_THREAD_CP`, `MC_THREAD_DF`, `mc_platform_s::message_queue`, `MUTEX_INIT`, `MUTEX_LOCK`, `MUTEX_T`, `MUTEX_UNLOCK`, `mc_platform_s::port`, `agency_s::portno`, `mc_platform_s::quit`, `mc_platform_s::quit_lock`, `agency_s::stack_size`, `mc_platform_s::stack_size`, `mc_platform_s::syncList`, `syncListInit()`, and `agency_s::threads`.

Referenced by `MC_Initialize()`.

16.51 /home/dko/projects/mobilec/trunk/src/mc_rwlock.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "include/macros.h"
#include "include/mc_error.h"
#include "include/mc_rwlock.h"
```

Functions

- [int mc_rwlock_init \(mc_rwlock_p rwlock\)](#)
- [int mc_rwlock_destroy \(mc_rwlock_p rwlock\)](#)
- [int mc_rwlock_rdlock \(mc_rwlock_p rwlock\)](#)
- [int mc_rwlock_rdunlock \(mc_rwlock_p rwlock\)](#)
- [int mc_rwlock_wrlock \(mc_rwlock_p rwlock\)](#)
- [int mc_rwlock_wrunlock \(mc_rwlock_p rwlock\)](#)

16.51.1 Function Documentation

16.51.1.1 int mc_rwlock_destroy (mc_rwlock_p *rwlock*)

Definition at line 61 of file mc_rwlock.c.

References [mc_rwlock_s::cond](#), [COND_DESTROY](#), [mc_rwlock_s::lock](#), and [MUTEX_DESTROY](#).

16.51.1.2 int mc_rwlock_init (mc_rwlock_p *rwlock*)

Definition at line 41 of file mc_rwlock.c.

References [CHECK_NULL](#), [mc_rwlock_s::cond](#), [COND_INIT](#), [COND_T](#), [mc_rwlock_s::lock](#), [MC_ERR_MEMORY](#), [MUTEX_INIT](#), [MUTEX_T](#), [mc_rwlock_s::num_readers](#), [mc_rwlock_s::write_flag](#), and [mc_rwlock_s::write_request](#).

16.51.1.3 int mc_rwlock_rdlock (mc_rwlock_p *rwlock*)

Definition at line 74 of file mc_rwlock.c.

References [mc_rwlock_s::cond](#), [COND_WAIT](#), [mc_rwlock_s::lock](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), [mc_rwlock_s::num_readers](#), [mc_rwlock_s::write_flag](#), and [mc_rwlock_s::write_request](#).

16.51.1.4 int mc_rwlock_rdunlock (mc_rwlock_p *rwlock*)

Definition at line 89 of file mc_rwlock.c.

References [mc_rwlock_s::cond](#), [COND_SIGNAL](#), [mc_rwlock_s::lock](#), [MUTEX_LOCK](#), [MUTEX_UNLOCK](#), and [mc_rwlock_s::num_readers](#).

16.51.1.5 int mc_rwlock_wrlock (mc_rwlock_p *rwlock*)

Definition at line 102 of file mc_rwlock.c.

References mc_rwlock_s::cond, COND_WAIT, mc_rwlock_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, mc_rwlock_s::num_readers, mc_rwlock_s::write_flag, and mc_rwlock_s::write_request.

16.51.1.6 int mc_rwlock_wrunlock (mc_rwlock_p *rwlock*)

Definition at line 121 of file mc_rwlock.c.

References mc_rwlock_s::cond, COND_SIGNAL, mc_rwlock_s::lock, MUTEX_LOCK, MUTEX_UNLOCK, and mc_rwlock_s::write_flag.

16.52 /home/dko/projects/mobilec/trunk/src/mc_sync/sync_list.c File Reference

```
#include <pthread.h>
#include "sync_list.h"
#include "../mc_list/list.h"
#include "../include/mc_error.h"
```

Functions

- [int syncListNodeInit](#) (struct [syncListNode_s](#) *node)
- [struct syncListNode_s * syncListNodeNew](#) (void)
- [int syncListNodeDestroy](#) (struct [syncListNode_s](#) *node)
- [syncListNode_t * syncListFind](#) (int id, struct [syncList_s](#) *list)
- [struct syncList_s * syncListInit](#) (void)
- [int syncListAddNode](#) (struct [syncListNode_s](#) *node, struct [syncList_s](#) *list)
- [int syncListNew](#) (int id, struct [syncList_s](#) *list)
- [int syncListDelete](#) (int id, struct [syncList_s](#) *list)
- [syncListNode_t * syncListRemove](#) (int id, struct [syncList_s](#) *list)

16.52.1 Function Documentation

16.52.1.1 [int syncListAddNode](#) (struct [syncListNode_s](#) * node, struct [syncList_s](#) * list)

Definition at line 86 of file [sync_list.c](#).

References [DATA](#), [syncListNode_s::id](#), [syncList_s::list](#), [ListAdd\(\)](#), [list_s::listhead](#), [syncList_s::lock](#), [listNode_s::next](#), [listNode_s::node_data](#), [RWLOCK_WRLock](#), and [RWLOCK_WRunlock](#).

Referenced by [MC_SyncInit\(\)](#), and [syncListNew\(\)](#).

16.52.1.2 [int syncListDelete](#) (int id, struct [syncList_s](#) * list)

Definition at line 115 of file [sync_list.c](#).

References [syncListNode_s::id](#), [syncList_s::list](#), [ListDelete\(\)](#), [ListSearch\(\)](#), [syncList_s::lock](#), [MC_ERR_NOT_FOUND](#), [RWLOCK_WRLock](#), [RWLOCK_WRunlock](#), [list_s::size](#), and [syncListNodeDestroy\(\)](#).

16.52.1.3 [syncListNode_t * syncListFind](#) (int id, struct [syncList_s](#) * list)

Definition at line 56 of file [sync_list.c](#).

References [syncList_s::list](#), [list_s::listhead](#), [syncList_s::lock](#), [listNode_s::next](#), [listNode_s::node_data](#), [RWLOCK_RDlock](#), and [RWLOCK_RDunlock](#).

Referenced by [MC_CondBroadcast\(\)](#), [MC_CondReset\(\)](#), [MC_CondSignal\(\)](#), [MC_CondWait\(\)](#), [MC_MutexLock\(\)](#), [MC_MutexUnlock\(\)](#), [MC_SemaphorePost\(\)](#), [MC_SemaphoreWait\(\)](#), [MC_SyncDelete\(\)](#), and [MC_SyncInit\(\)](#).

16.52.1.4 struct syncList_s* syncListInit (void) [read]

Definition at line 72 of file sync_list.c.

References ListInitialize(), syncList_s::lock, MUTEX_INIT, MUTEX_T, RWLOCK_INIT, and RWLOCK_T.

Referenced by mc_platform_Initialize().

16.52.1.5 int syncListNew (int id, struct syncList_s * list)

Definition at line 105 of file sync_list.c.

References node, syncListAddNode(), and syncListNodeInit().

16.52.1.6 int syncListNodeDestroy (struct syncListNode_s * node)

Definition at line 44 of file sync_list.c.

References syncListNode_s::cond, COND_DESTROY, syncListNode_s::lock, MUTEX_DESTROY, syncListNode_s::sem, and SEMAPHORE_DESTROY.

Referenced by MC_SyncDelete(), and syncListDelete().

16.52.1.7 int syncListNodeInit (struct syncListNode_s * node)

Definition at line 11 of file sync_list.c.

References CHECK_NULL, syncListNode_s::cond, COND_INIT, COND_T, syncListNode_s::lock, MUTEX_INIT, MUTEX_T, syncListNode_s::sem, SEMAPHORE_INIT, and SEMAPHORE_T.

Referenced by syncListNew().

16.52.1.8 struct syncListNode_s* syncListNodeNew (void) [read]

Definition at line 26 of file sync_list.c.

References CHECK_NULL, syncListNode_s::cond, COND_INIT, COND_T, syncListNode_s::lock, MUTEX_INIT, MUTEX_T, syncListNode_s::sem, SEMAPHORE_INIT, SEMAPHORE_T, and syncListNode_s::signalled.

Referenced by MC_SyncInit().

16.52.1.9 syncListNode_t* syncListRemove (int id, struct syncList_s * list)

Definition at line 132 of file sync_list.c.

References syncListNode_s::id, syncList_s::list, ListDelete(), ListSearch(), syncList_s::lock, RWLOCK_WRLock, RWLOCK_WRunlock, and list_s::size.

Referenced by MC_SyncDelete().

16.53 /home/dko/projects/mobilec/trunk/src/mc_sync/sync_list.h File Reference

```
#include "../include/macros.h"  
#include "../mc_list/list.h"  
#include "../include/mc_rwlock.h"
```

Data Structures

- struct [syncListNode_s](#)
- struct [syncList_s](#)

Typedefs

- typedef struct [syncListNode_s](#) [syncListNode_t](#)
- typedef [syncListNode_t](#) * [syncListNode_p](#)
- typedef struct [syncList_s](#) [syncList_t](#)
- typedef [syncList_t](#) * [syncList_p](#)

Functions

- [int syncListNodeInit](#) (struct [syncListNode_s](#) *[node](#))
- [int syncListNodeDestroy](#) (struct [syncListNode_s](#) *[node](#))
- [syncListNode_t](#) * [syncListFind](#) (int [id](#), struct [syncList_s](#) *[list](#))
- struct [syncListNode_s](#) * [syncListNodeNew](#) (void)
- [int syncListDelete](#) (int [id](#), struct [syncList_s](#) *[list](#))
- [syncListNode_t](#) * [syncListRemove](#) (int [id](#), struct [syncList_s](#) *[list](#))
- struct [syncList_s](#) * [syncListInit](#) (void)
- [int syncListAddNode](#) (struct [syncListNode_s](#) *[node](#), struct [syncList_s](#) *[list](#))
- [int syncListNew](#) (int [id](#), struct [syncList_s](#) *[list](#))
- [syncListNode_t](#) * [syncListGet](#) (int [id](#), struct [syncList_s](#) *[list](#))

16.53.1 Typedef Documentation

16.53.1.1 typedef [syncList_t](#)* [syncList_p](#)

Definition at line 33 of file [sync_list.h](#).

16.53.1.2 typedef struct [syncList_s](#) [syncList_t](#)

16.53.1.3 typedef [syncListNode_t](#)* [syncListNode_p](#)

Definition at line 23 of file [sync_list.h](#).

16.53.1.4 typedef struct syncListNode_s syncListNode_t**16.53.2 Function Documentation****16.53.2.1 int syncListAddNode (struct syncListNode_s * node, struct syncList_s * list)**

Definition at line 86 of file sync_list.c.

References DATA, syncListNode_s::id, syncList_s::list, ListAdd(), list_s::listhead, syncList_s::lock, listNode_s::next, listNode_s::node_data, RWLOCK_WRLock, and RWLOCK_WRunlock.

Referenced by MC_SyncInit(), and syncListNew().

16.53.2.2 int syncListDelete (int id, struct syncList_s * list)

Definition at line 115 of file sync_list.c.

References syncListNode_s::id, syncList_s::list, ListDelete(), ListSearch(), syncList_s::lock, MC_ERR_NOT_FOUND, RWLOCK_WRLock, RWLOCK_WRunlock, list_s::size, and syncListNodeDestroy().

16.53.2.3 syncListNode_t* syncListFind (int id, struct syncList_s * list)

Definition at line 56 of file sync_list.c.

References syncList_s::list, list_s::listhead, syncList_s::lock, listNode_s::next, listNode_s::node_data, RWLOCK_RDLOCK, and RWLOCK_RDUNLOCK.

Referenced by MC_CondBroadcast(), MC_CondReset(), MC_CondSignal(), MC_CondWait(), MC_MutexLock(), MC_MutexUnlock(), MC_SemaphorePost(), MC_SemaphoreWait(), MC_SyncDelete(), and MC_SyncInit().

16.53.2.4 syncListNode_t* syncListGet (int id, struct syncList_s * list)**16.53.2.5 struct syncList_s* syncListInit (void) [read]**

Definition at line 72 of file sync_list.c.

References ListInitialize(), syncList_s::lock, MUTEX_INIT, MUTEX_T, RWLOCK_INIT, and RWLOCK_T.

Referenced by mc_platform_Initialize().

16.53.2.6 int syncListNew (int id, struct syncList_s * list)

Definition at line 105 of file sync_list.c.

References node, syncListAddNode(), and syncListNodeInit().

16.53.2.7 int syncListNodeDestroy (struct syncListNode_s * node)

Definition at line 44 of file sync_list.c.

References syncListNode_s::cond, COND_DESTROY, syncList_s::lock, MUTEX_DESTROY, syncListNode_s::sem, and SEMAPHORE_DESTROY.

Referenced by MC_SyncDelete(), and syncListDelete().

16.53.2.8 int syncListNodeInit (struct syncListNode_s * node)

Definition at line 11 of file sync_list.c.

References CHECK_NULL, syncListNode_s::cond, COND_INIT, COND_T, syncListNode_s::lock, MUTEX_INIT, MUTEX_T, syncListNode_s::sem, SEMAPHORE_INIT, and SEMAPHORE_T.

Referenced by syncListNew().

16.53.2.9 struct syncListNode_s* syncListNodeNew (void) [read]

Definition at line 26 of file sync_list.c.

References CHECK_NULL, syncListNode_s::cond, COND_INIT, COND_T, syncListNode_s::lock, MUTEX_INIT, MUTEX_T, syncListNode_s::sem, SEMAPHORE_INIT, SEMAPHORE_T, and syncListNode_s::signalled.

Referenced by MC_SyncInit().

16.53.2.10 syncListNode_t* syncListRemove (int id, struct syncList_s * list)

Definition at line 132 of file sync_list.c.

References syncListNode_s::id, syncList_s::list, ListDelete(), ListSearch(), syncList_s::lock, RWLOCK_WRLOCK, RWLOCK_WRUNLOCK, and list_s::size.

Referenced by MC_SyncDelete().

16.54 /home/dko/projects/mobilec/trunk/src/message.c File Reference

```
#include <string.h>
#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <unistd.h>
#include <netdb.h>
#include <mxml.h>
#include "include/libmc.h"
#include "include/agent.h"
#include "include/mc_platform.h"
#include "include/message.h"
#include "include/mtp_http.h"
#include "include/xml_compose.h"
#include "include/xml_helper.h"
#include "include/xml_parser.h"
#include "security/asm_node.h"
```

Defines

- `#define SOCKET_INPUT_SIZE 4096`

Functions

- `message_p message_New (void)`
- `message_p message_Copy (message_p src)`
- `int message_InitializeFromAgent (mc_platform_p mc_platform, message_p message, agent_p agent)`
- `int message_InitializeFromConnection (mc_platform_p mc_platform, message_p message, connection_p connection)`
- `int http_to_hostport (const char *http_str, char **host, int *port, char **target)`
- `int message_InitializeFromString (mc_platform_p mc_platform, message_p message, const char *string, const char *destination_host, int destination_port, const char *target)`
- `int message_Destroy (message_p message)`
- `int message_Send (message_p message)`

16.54.1 Define Documentation

16.54.1.1 #define SOCKET_INPUT_SIZE 4096

Definition at line 58 of file message.c.

16.54.2 Function Documentation

16.54.2.1 int http_to_hostport (const char * *http_str*, char ** *host*, int * *port*, char ** *target*)

Definition at line 506 of file message.c.

References MC_ERR_PARSE.

Referenced by MC_AclSend().

16.54.2.2 message_p message_Copy (message_p *src*)

Definition at line 310 of file message.c.

16.54.2.3 int message_Destroy (message_p *message*)

Definition at line 605 of file message.c.

References message_s::addr, message_s::agent_xml_flag, message_s::from_address, MC_SUCCESS, message_s::message_body, mxmlDelete(), message_s::target, message_s::to_address, message_s::update_name, and message_s::xml_root.

Referenced by acc_MessageHandlerThread(), acc_Thread(), ams_ManageAgentList(), MC_AclSend(), MC_LoadAgentFromFile(), MC_SendAgentMigrationMessage(), MC_SendAgentMigrationMessageFile(), message_InitializeFromConnection(), and message_queue_SendOutgoing().

16.54.2.4 int message_InitializeFromAgent (mc_platform_p *mc_platform*, message_p *message*, agent_p *agent*)

Definition at line 318 of file message.c.

References message_s::addr, agent_xml_compose(), message_s::agent_xml_flag, CHECK_NULL, agent_s::datastate, mc_platform_s::err, message_s::from_address, agent_s::home, mc_platform_s::hostname, MC_ERR_MEMORY, MC_SUCCESS, message_s::message_body, message_s::message_id, message_s::message_type, MOBILE_AGENT, MXML_NO_CALLBACK, mxmlSaveAllocString(), agent_datastate_s::number_of_tasks, mc_platform_s::port, agent_task_s::server_name, strtok_r, message_s::target, agent_datastate_s::task_progress, agent_datastate_s::tasks, message_s::to_address, message_s::update_name, WARN, and message_s::xml_root.

16.54.2.5 int message_InitializeFromConnection (mc_platform_p *mc_platform*, message_p *message*, connection_p *connection*)

Definition at line 417 of file message.c.

References connection_s::addr, message_s::addr, CHECK_NULL, connection_s::clientfd, connection_s::connect_id, message_s::connect_id, message_s::from_address, MC_ERR_CONNECT, MC_ERR_

PARSE, MC_SUCCESS, message_s::message_body, message_Destroy(), message_s::message_id, message_xml_parse(), MXML_NO_CALLBACK, mxmlLoadString(), SOCKET_INPUT_SIZE, message_s::target, message_s::to_address, and message_s::xml_root.

16.54.2.6 int message_InitializeFromString (mc_platform_p mc_platform, message_p message, const char * string, const char * destination_host, int destination_port, const char * target)

Definition at line 541 of file message.c.

References message_s::addr, CHECK_NULL, message_s::connect_id, mc_platform_s::err, message_s::from_address, mc_platform_s::hostname, MC_ERR_MEMORY, MC_SUCCESS, message_s::message_body, message_s::message_id, message_s::message_type, MOBILE_AGENT, mc_platform_s::port, message_s::target, message_s::to_address, message_s::update_name, and message_s::xml_root.

16.54.2.7 message_p message_New (void)

Definition at line 286 of file message.c.

References message_s::addr, message_s::agent_xml_flag, CHECK_NULL, message_s::connect_id, message_s::from_address, message_s::http_type, message_s::isHTTP, message_s::message_body, message_s::message_id, message_s::message_type, message_s::target, message_s::to_address, message_s::update_name, message_s::update_num, message_s::xml_payload, and message_s::xml_root.

Referenced by acc_Thread(), ams_ManageAgentList(), MC_LoadAgentFromFile(), MC_SendAgentMigrationMessage(), MC_SendAgentMigrationMessageFile(), and mtp_http_CreateMessage().

16.54.2.8 int message_Send (message_p message)

Definition at line 643 of file message.c.

References CHECK_NULL, MC_ERR, MC_ERR_CONNECT, MC_ERR_SEND, message_s::message_body, mtp_http_ComposeMessage(), mtp_http_New(), mtp_http_Parse(), port, send, SOCKET_INPUT_SIZE, strtok_r, and message_s::to_address.

Referenced by acc_MessageHandlerThread(), MC_AclSend(), and message_queue_SendOutgoing().

16.55 /home/dko/projects/mobilec/trunk/src/message_queue.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <pthread.h>
#include "include/data_structures.h"
#include "include/mc_platform.h"
```

Functions

- void `message_queue_SendOutgoing` (struct `mc_platform_s *mc_platform`, `message_queue_p mqueue`)

16.55.1 Function Documentation

16.55.1.1 void `message_queue_SendOutgoing` (struct `mc_platform_s * mc_platform`, `message_queue_p mqueue`)

Definition at line 52 of file `message_queue.c`.

References `CHECK_NULL`, `mc_platform_s::hostname`, `ListSearch()`, `message_Destroy()`, `message_Send()`, `MUTEX_LOCK`, `MUTEX_UNLOCK`, `mc_platform_s::port`, and `message_s::to_address`.

16.56 /home/dko/projects/mobilec/trunk/src/mtp_http.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include <unistd.h>
#include "config.h"
#include "include/connection.h"
#include "include/mtp_http.h"
#include "include/macros.h"
#include "include/mc_error.h"
#include "include/message.h"
#include "include/dynstring.h"
```

Defines

- #define [SAFE_FREE](#)(elem)
- #define [HTTP_PARSE_EXPR](#)(parse_name, struct_name)
- #define [SAFE_FREE](#)(object)

Functions

- [int mtp_http_Destroy](#) (mtp_http_p http)
- [mtp_http_p mtp_http_New](#) (void)
- [int mtp_http_InitializeFromConnection](#) (mtp_http_p http, connection_p connection)
- const char * [http_GetExpression](#) (const char *string, char **expr)

Parse an html expression.
- [int http_ParseExpression](#) (const char *expression_string, char **name, char **value)

Parse an expression into its name and value.
- const char * [mtp_http_ParseHeader](#) (struct mtp_http_s *http, const char *string)
- [int mtp_http_Parse](#) (struct mtp_http_s *http, const char *string)
- const char * [http_ParseRequest](#) (mtp_http_p http, const char *string)
- const char * [http_GetToken](#) (const char *string, char **token)
- [int mtp_http_ParseResponse](#) (struct mtp_http_s *http, const char *string)
- [int mtp_http_ComposeMessage](#) (message_p message)
- struct message_s * [mtp_http_CreateMessage](#) (mtp_http_t *mtp_http, char *hostname, int port)

16.56.1 Define Documentation

16.56.1.1 #define HTTP_PARSE_EXPR(parse_name, struct_name)

Value:

```
if ( !strcmp(name, parse_name) ) { \
    http->struct_name = (char*)malloc \
    ( \
        sizeof(char) * \
        (strlen(value)+1) \
    ); \
    strcpy(http->struct_name, value); \
} else
```

Referenced by mtp_http_ParseHeader().

16.56.1.2 #define SAFE_FREE(object)

Value:

```
if(object) free(object); \
    object = NULL
```

16.56.1.3 #define SAFE_FREE(elem)

Value:

```
if(elem) \
    free(elem)
```

Referenced by mtp_http_Destroy(), and mtp_http_ParseHeader().

16.56.2 Function Documentation

16.56.2.1 const char* http_GetExpression (const char * *string*, char ** *expr*)

Parse an html expression.

Parameters:

- string* (input) The html block of text: Will parse the first expression pointed to by 'string'.
- expr* (output) The allocated expression

Returns:

A pointer to the next expression segment of the string block, or NULL.

Definition at line 224 of file mtp_http.c.

Referenced by mtp_http_Parse(), and mtp_http_ParseHeader().

16.56.2.2 `const char* http_GetToken (const char * string, char ** token)`

Definition at line 662 of file mtp_http.c.

References cur.

Referenced by http_ParseRequest().

16.56.2.3 `int http_ParseExpression (const char * expression_string, char ** name, char ** value)`

Parse an expression into its name and value.

Parameters:

expression_string (input) The expression

name (output) An allocated name string or NULL

value (output) An allocated value string or NULL

Returns:

error_code_t type

Note:

an http expression is something like 'Date: Mon, 23 May 2005 22:38:34 GMT
' where 'Date' is the name and the remainder of the string is the value

Definition at line 283 of file mtp_http.c.

References CHECK_NULL, MC_ERR_PARSE, and MC_SUCCESS.

Referenced by mtp_http_Parse(), and mtp_http_ParseHeader().

16.56.2.4 `const char* http_ParseRequest (mtp_http_p http, const char * string)`

Definition at line 573 of file mtp_http.c.

References cur, HTTP_CONNECT, HTTP_DELETE, HTTP_GET, http_GetToken(), HTTP_HEAD, HTTP_OPTIONS, mtp_http_s::http_performative, HTTP_PERFORMATIVE_UNDEF, HTTP_POST, HTTP_PUT, HTTP_RESPONSE, HTTP_TRACE, mtp_http_s::response_code, mtp_http_s::response_string, and mtp_http_s::target.

Referenced by mtp_http_ParseHeader().

16.56.2.5 `int mtp_http_ComposeMessage (message_p message)`

Definition at line 701 of file mtp_http.c.

References buf, message_s::isHTTP, MC_SUCCESS, message_s::message_body, PACKAGE_VERSION, message_s::target, and message_s::to_address.

16.56.2.6 `struct message_s* mtp_http_CreateMessage (mtp_http_t * mtp_http, char * hostname, int port)` [read]

Definition at line 747 of file mtp_http.c.

References `buf`, `mtp_http_s::content`, `mtp_http_content_s::content_type`, `mtp_http_content_s::data`, `dynstring_Append()`, `dynstring_Destroy()`, `dynstring_New()`, `mtp_http_s::host`, `message_s::isHTTP`, `dynstring_s::len`, `dynstring_s::message`, `message_s::message_body`, `message_New()`, `mtp_http_s::message_parts`, `PACKAGE_VERSION`, `mtp_http_s::target`, and `message_s::to_address`.

Referenced by `MC_AclSend()`.

16.56.2.7 `int mtp_http_Destroy (mtp_http_p http)`

Definition at line 53 of file `mtp_http.c`.

References `mtp_http_s::accept_ranges`, `mtp_http_s::boundary`, `mtp_http_s::connection`, `mtp_http_s::content`, `mtp_http_s::content_length`, `mtp_http_content_s::content_type`, `mtp_http_s::content_type`, `mtp_http_content_s::data`, `mtp_http_s::date`, `mtp_http_s::host`, `mtp_http_s::http_version`, `mtp_http_s::message_parts`, `mtp_http_s::return_code`, `SAFE_FREE`, `mtp_http_s::server`, `mtp_http_s::target`, and `mtp_http_s::user_agent`.

Referenced by `acc_Thread()`, `MC_AclSend()`, and `mtp_http_InitializeFromConnection()`.

16.56.2.8 `int mtp_http_InitializeFromConnection (mtp_http_p http, connection_p connection)`

Definition at line 97 of file `mtp_http.c`.

References `CHECK_NULL`, `connection_s::clientfd`, `mtp_http_s::content_length`, `dynstring_Append()`, `dynstring_Destroy()`, `dynstring_New()`, `ERR`, `mtp_http_s::header_length`, `MC_ERR_CONNECT`, `mtp_http_Destroy()`, `mtp_http_New()`, `mtp_http_Parse()`, `mtp_http_ParseHeader()`, `send`, and `SOCKET_INPUT_SIZE`.

16.56.2.9 `mtp_http_p mtp_http_New (void)`

Definition at line 85 of file `mtp_http.c`.

References `CHECK_NULL`, and `mtp_http_s::content`.

Referenced by `acc_Thread()`, `MC_AclSend()`, `message_Send()`, and `mtp_http_InitializeFromConnection()`.

16.56.2.10 `int mtp_http_Parse (struct mtp_http_s * http, const char * string)`

Definition at line 425 of file `mtp_http.c`.

References `mtp_http_s::boundary`, `mtp_http_s::content`, `mtp_http_content_s::content_type`, `mtp_http_s::content_type`, `mtp_http_content_s::data`, `http_GetExpression()`, `http_ParseExpression()`, `mtp_http_s::http_performative`, `HTTP_POST`, `HTTP_PUT`, `HTTP_RESPONSE`, `MC_SUCCESS`, `mtp_http_s::message_parts`, and `mtp_http_ParseHeader()`.

Referenced by `message_Send()`, and `mtp_http_InitializeFromConnection()`.

16.56.2.11 `const char* mtp_http_ParseHeader (struct mtp_http_s * http, const char * string)`

Definition at line 342 of file `mtp_http.c`.

References `mtp_http_s::header_length`, `http_GetExpression()`, `HTTP_PARSE_EXPR`, `http_ParseExpression()`, `http_ParseRequest()`, `MC_SUCCESS`, and `SAFE_FREE`.

Referenced by `mtp_http_InitializeFromConnection()`, and `mtp_http_Parse()`.

16.56.2.12 `int mtp_http_ParseResponse (struct mtp_http_s * http, const char * string)`

Definition at line 695 of file `mtp_http.c`.

16.57 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/config.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <stdarg.h>
#include <ctype.h>
```

Defines

- #define [MXML_VERSION](#) "Mini-XML v2.2.2"
- #define [HAVE_VSNPRINTF](#) 1
- #define [HAVE_STRDUP](#) 1

Functions

- char * [mxml_strdup](#) (const char *, va_list)

16.57.1 Define Documentation

16.57.1.1 #define HAVE_STRDUP 1

Definition at line 49 of file config.h.

16.57.1.2 #define HAVE_VSNPRINTF 1

Definition at line 42 of file config.h.

16.57.1.3 #define MXML_VERSION "Mini-XML v2.2.2"

Definition at line 35 of file config.h.

Referenced by [write_documentation\(\)](#).

16.57.2 Function Documentation

16.57.2.1 char* mxml_strdup (const char *, va_list)

Definition at line 62 of file mxml-string.c.

Referenced by [mxml_error\(\)](#), [mxmlNewTextf\(\)](#), and [mxmlSetTextf\(\)](#).

16.58 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/vcnet/config.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <stdarg.h>
#include <ctype.h>
```

Defines

- #define [MXML_VERSION](#) "Mini-XML v2.0"
- #define [HAVE_STRDUP](#) 1
- #define [vsnprintf](#) mxml_vsnprintf

Functions

- char * [mxml_strdup](#) (const char *, va_list)
- int [mxml_vsnprintf](#) (char *, size_t, const char *, va_list)

16.58.1 Define Documentation

16.58.1.1 #define HAVE_STRDUP 1

Definition at line 51 of file config.h.

16.58.1.2 #define MXML_VERSION "Mini-XML v2.0"

Definition at line 37 of file config.h.

16.58.1.3 #define vsnprintf mxml_vsnprintf

Definition at line 67 of file config.h.

16.58.2 Function Documentation

16.58.2.1 char* mxml_strdup (const char *, va_list)

Definition at line 62 of file mxml-string.c.

16.58.2.2 int mxml_vsnprintf (char *, size_t, const char *, va_list)

Definition at line 107 of file mxml-string.c.

16.59 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/vcnet2005/config.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <stdarg.h>
#include <ctype.h>
```

Defines

- #define [MXML_VERSION](#) "Mini-XML v2.0"
- #define [HAVE_STRDUP](#) 1
- #define [vsnprintf](#) mxml_vsnprintf

Functions

- char * [mxml_strdup](#) (const char *, va_list)
- int [mxml_vsnprintf](#) (char *, size_t, const char *, va_list)

16.59.1 Define Documentation

16.59.1.1 #define HAVE_STRDUP 1

Definition at line 51 of file config.h.

16.59.1.2 #define MXML_VERSION "Mini-XML v2.0"

Definition at line 37 of file config.h.

16.59.1.3 #define vsnprintf mxml_vsnprintf

Definition at line 67 of file config.h.

16.59.2 Function Documentation

16.59.2.1 char* mxml_strdup (const char *, va_list)

Definition at line 62 of file mxml-string.c.

References [mxml_vsnprintf\(\)](#).

16.59.2.2 int mxml_vsnprintf (char *, size_t, const char *, va_list)

Definition at line 107 of file mxml-string.c.

References size.

Referenced by `mxml_strdup()`.

16.60 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/config.h File Reference

Defines

- #define `_CRT_SECURE_NO_DEPRECATED` 1
- #define `XYSSL_HAVE_ASM`
- #define `XYSSL_DEBUG_MSG`
- #define `XYSSL_SELF_TEST`
- #define `XYSSL_GENPRIME`
- #define `XYSSL_AES_C`
- #define `XYSSL_ARC4_C`
- #define `XYSSL_BASE64_C`
- #define `XYSSL_BIGNUM_C`
- #define `XYSSL_CERTS_C`
- #define `XYSSL_DEBUG_C`
- #define `XYSSL_DES_C`
- #define `XYSSL_DHM_C`
- #define `XYSSL_HAVEGE_C`
- #define `XYSSL_MD5_C`
- #define `XYSSL_NET_C`
- #define `XYSSL_PADLOCK_C`
- #define `XYSSL_RSA_C`
- #define `XYSSL_SHA1_C`
- #define `XYSSL_SHA2_C`
- #define `XYSSL_SHA4_C`
- #define `XYSSL_SSL_CLI_C`
- #define `XYSSL_SSL_SRV_C`
- #define `XYSSL_SSL_TLS_C`
- #define `XYSSL_TIMING_C`
- #define `XYSSL_X509_PARSE_C`
- #define `XYSSL_X509_WRITE_C`

16.60.1 Define Documentation

16.60.1.1 #define `_CRT_SECURE_NO_DEPRECATED` 1

Definition at line 12 of file config.h.

16.60.1.2 #define `XYSSL_AES_C`

Definition at line 74 of file config.h.

16.60.1.3 #define `XYSSL_ARC4_C`

Definition at line 84 of file config.h.

16.60.1.4 #define XYSSL_BASE64_C

Definition at line 92 of file config.h.

16.60.1.5 #define XYSSL_BIGNUM_C

Definition at line 103 of file config.h.

16.60.1.6 #define XYSSL_CERTS_C

Definition at line 111 of file config.h.

16.60.1.7 #define XYSSL_DEBUG_C

Definition at line 121 of file config.h.

16.60.1.8 #define XYSSL_DEBUG_MSG

Definition at line 47 of file config.h.

16.60.1.9 #define XYSSL_DES_C

Definition at line 131 of file config.h.

16.60.1.10 #define XYSSL_DHM_C

Definition at line 142 of file config.h.

16.60.1.11 #define XYSSL_GENPRIME

Definition at line 57 of file config.h.

16.60.1.12 #define XYSSL_HAVE_ASM

Definition at line 36 of file config.h.

16.60.1.13 #define XYSSL_HAVEGE_C

Definition at line 150 of file config.h.

16.60.1.14 #define XYSSL_MD5_C

Definition at line 177 of file config.h.

16.60.1.15 #define XYSSL_NET_C

Definition at line 185 of file config.h.

16.60.1.16 #define XYSSL_PADLOCK_C

Definition at line 193 of file config.h.

16.60.1.17 #define XYSSL_RSA_C

Definition at line 204 of file config.h.

16.60.1.18 #define XYSSL_SELF_TEST

Definition at line 52 of file config.h.

16.60.1.19 #define XYSSL_SHA1_C

Definition at line 215 of file config.h.

16.60.1.20 #define XYSSL_SHA2_C

Definition at line 223 of file config.h.

16.60.1.21 #define XYSSL_SHA4_C

Definition at line 231 of file config.h.

16.60.1.22 #define XYSSL_SSL_CLI_C

Definition at line 239 of file config.h.

16.60.1.23 #define XYSSL_SSL_SRV_C

Definition at line 247 of file config.h.

16.60.1.24 #define XYSSL_SSL_TLS_C

Definition at line 256 of file config.h.

16.60.1.25 #define XYSSL_TIMING_C

Definition at line 264 of file config.h.

16.60.1.26 #define XYSSL_X509_PARSE_C

Definition at line 274 of file config.h.

16.60.1.27 #define XYSSL_X509_WRITE_C

Definition at line 282 of file config.h.

16.61 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-attr.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- const char * [mxmlElementGetAttr](#) (mxml_node_t *node, const char *name)
- void [mxmlElementSetAttr](#) (mxml_node_t *node, const char *name, const char *value)

16.61.1 Function Documentation

16.61.1.1 const char* mxmlElementGetAttr (mxml_node_t * node, const char * name)

Definition at line 43 of file mxml-attr.c.

References [mxml_value_s::attrs](#), [mxml_value_u::element](#), [MXML_ELEMENT](#), [mxml_attr_s::name](#), [mxml_value_s::num_attrs](#), [mxml_node_s::type](#), [mxml_attr_s::value](#), and [mxml_node_s::value](#).

Referenced by [agent_xml_parse__agent_code\(\)](#), [agent_xml_parse__data\(\)](#), [agent_xml_parse__task\(\)](#), [agent_xml_parse__tasks\(\)](#), [fipa_envelope_HandleReceived\(\)](#), [index_compare\(\)](#), [index_find\(\)](#), [message_xml_parse__message\(\)](#), [mxml_parse_element\(\)](#), [mxmlFindElement\(\)](#), [mxmlIndexNew\(\)](#), [scan_file\(\)](#), [sort_node\(\)](#), [type_cb\(\)](#), and [write_documentation\(\)](#).

16.61.1.2 void mxmlElementSetAttr (mxml_node_t * node, const char * name, const char * value)

Definition at line 90 of file mxml-attr.c.

References [mxml_value_s::attrs](#), [mxml_value_u::element](#), [MXML_ELEMENT](#), [mxml_error\(\)](#), [mxml_value_s::name](#), [mxml_attr_s::name](#), [mxml_value_s::num_attrs](#), [mxml_node_s::type](#), [mxml_attr_s::value](#), and [mxml_node_s::value](#).

Referenced by [add_variable\(\)](#), [agent_xml_compose__agent_code\(\)](#), [agent_xml_compose__create_row_nodes\(\)](#), [agent_xml_compose__data\(\)](#), [agent_xml_compose__message\(\)](#), [agent_xml_compose__task\(\)](#), [agent_xml_compose__tasks\(\)](#), [fipa_envelope_Compose__params\(\)](#), [main\(\)](#), [mxml_parse_element\(\)](#), [scan_file\(\)](#), [sort_node\(\)](#), and [update_comment\(\)](#).

16.62 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-entity.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- static [int default_callback](#) (const char *name)
- [int mxmlEntityAddCallback](#) (int(*cb)(const char *name))
- const char * [mxmlEntityGetName](#) (int val)
- [int mxmlEntityGetValue](#) (const char *name)
- void [mxmlEntityRemoveCallback](#) (int(*cb)(const char *name))

Variables

- static [int num_callbacks](#) = 1
- static [int\(* callbacks](#) [100])(const char *name)

16.62.1 Function Documentation

16.62.1.1 static int default_callback (const char * name) [static]

Definition at line 169 of file mxml-entity.c.

References [int](#).

16.62.1.2 int mxmlEntityAddCallback (int(*) (const char *name) cb)

Definition at line 65 of file mxml-entity.c.

References [callbacks](#), [mxml_error\(\)](#), and [num_callbacks](#).

16.62.1.3 const char* mxmlEntityGetName (int val)

Definition at line 91 of file mxml-entity.c.

Referenced by [mxml_write_name\(\)](#), and [mxml_write_string\(\)](#).

16.62.1.4 int mxmlEntityGetValue (const char * name)

Definition at line 121 of file mxml-entity.c.

References [callbacks](#), and [num_callbacks](#).

Referenced by [mxml_get_entity\(\)](#).

16.62.1.5 void mxmlEntityRemoveCallback (int(*) (const char *name) cb)

Definition at line 140 of file mxml-entity.c.

References callbacks, and num_callbacks.

16.62.2 Variable Documentation

16.62.2.1 int(* callbacks[100])(const char *name) [static]

Initial value:

```
{
    default_callback
}
```

Referenced by mxmlEntityAddCallback(), mxmlEntityGetValue(), and mxmlEntityRemoveCallback().

16.62.2.2 int num_callbacks = 1 [static]

Definition at line 53 of file mxml-entity.c.

Referenced by mxmlEntityAddCallback(), mxmlEntityGetValue(), and mxmlEntityRemoveCallback().

16.63 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-file.c File Reference

```
#include "config.h"
#include "mxml.h"
#include <unistd.h>
```

Data Structures

- struct [mxml_fdbuf_s](#)

Defines

- #define [ENCODE_UTF8](#) 0
- #define [ENCODE_UTF16BE](#) 1
- #define [ENCODE_UTF16LE](#) 2
- #define [mxml_bad_char](#)(ch) ((ch) < ' ' && (ch) != '\n' && (ch) != '\r' && (ch) != '\t')

Typedefs

- typedef struct [mxml_fdbuf_s](#) [mxml_fdbuf_t](#)

Functions

- static [int](#) [mxml_add_char](#) ([int](#) ch, [char](#) **ptr, [char](#) **buffer, [int](#) *bufsize)
- static [int](#) [mxml_fd_getc](#) ([void](#) *p, [int](#) *encoding)
- static [int](#) [mxml_fd_putc](#) ([int](#) ch, [void](#) *p)
- static [int](#) [mxml_fd_read](#) ([mxml_fdbuf_t](#) *buf)
- static [int](#) [mxml_fd_write](#) ([mxml_fdbuf_t](#) *buf)
- static [int](#) [mxml_file_getc](#) ([void](#) *p, [int](#) *encoding)
- static [int](#) [mxml_file_putc](#) ([int](#) ch, [void](#) *p)
- static [int](#) [mxml_get_entity](#) ([mxml_node_t](#) *parent, [void](#) *p, [int](#) *encoding, [int](#)(*getc_cb)([void](#) *, [int](#) *))
- static [mxml_node_t](#) * [mxml_load_data](#) ([mxml_node_t](#) *top, [void](#) *p, [mxml_type_t](#)(*cb)([mxml_node_t](#) *), [int](#)(*getc_cb)([void](#) *, [int](#) *))
- static [int](#) [mxml_parse_element](#) ([mxml_node_t](#) *node, [void](#) *p, [int](#) *encoding, [int](#)(*getc_cb)([void](#) *, [int](#) *))
- static [int](#) [mxml_string_getc](#) ([void](#) *p, [int](#) *encoding)
- static [int](#) [mxml_string_putc](#) ([int](#) ch, [void](#) *p)
- static [int](#) [mxml_write_name](#) ([const](#) [char](#) *s, [void](#) *p, [int](#)(*putc_cb)([int](#), [void](#) *))
- static [int](#) [mxml_write_node](#) ([mxml_node_t](#) *node, [void](#) *p, [const](#) [char](#) *(*cb)([mxml_node_t](#) *, [int](#)), [int](#) col, [int](#)(*putc_cb)([int](#), [void](#) *))
- static [int](#) [mxml_write_string](#) ([const](#) [char](#) *s, [void](#) *p, [int](#)(*putc_cb)([int](#), [void](#) *))
- static [int](#) [mxml_write_ws](#) ([mxml_node_t](#) *node, [void](#) *p, [const](#) [char](#) *(*cb)([mxml_node_t](#) *, [int](#)), [int](#) ws, [int](#) col, [int](#)(*putc_cb)([int](#), [void](#) *))
- [mxml_node_t](#) * [mxmlLoadFd](#) ([mxml_node_t](#) *top, [int](#) fd, [mxml_type_t](#)(*cb)([mxml_node_t](#) *node))
- [mxml_node_t](#) * [mxmlLoadFile](#) ([mxml_node_t](#) *top, [FILE](#) *fp, [mxml_type_t](#)(*cb)([mxml_node_t](#) *node))

- `mxml_node_t * mxmlLoadString (mxml_node_t *top, const char *s, mxml_type_t(*cb)(mxml_node_t *node))`
- `char * mxmlSaveAllocString (mxml_node_t *node, const char *(*cb)(mxml_node_t *node, int ws))`
- `int mxmlSaveFd (mxml_node_t *node, int fd, const char *(*cb)(mxml_node_t *node, int ws))`
- `int mxmlSaveFile (mxml_node_t *node, FILE *fp, const char *(*cb)(mxml_node_t *node, int ws))`
- `int mxmlSaveString (mxml_node_t *node, char *buffer, int bufsize, const char *(*cb)(mxml_node_t *node, int ws))`
- `void mxmlSetCustomHandlers (mxml_custom_load_cb_t load, mxml_custom_save_cb_t save)`
- `void mxmlSetErrorCallback (void(*cb)(const char *))`

Variables

- `void(* mxml_error_cb)(const char *)`
- `static mxml_custom_load_cb_t mxml_custom_load_cb = NULL`
- `static mxml_custom_save_cb_t mxml_custom_save_cb = NULL`

16.63.1 Define Documentation

16.63.1.1 #define ENCODE_UTF16BE 1

Definition at line 68 of file mxml-file.c.

Referenced by `mxml_fd_getc()`, `mxml_file_getc()`, and `mxml_string_getc()`.

16.63.1.2 #define ENCODE_UTF16LE 2

Definition at line 69 of file mxml-file.c.

Referenced by `mxml_fd_getc()`, `mxml_file_getc()`, and `mxml_string_getc()`.

16.63.1.3 #define ENCODE_UTF8 0

Definition at line 67 of file mxml-file.c.

Referenced by `mxml_fd_getc()`, `mxml_file_getc()`, `mxml_load_data()`, and `mxml_string_getc()`.

16.63.1.4 #define mxml_bad_char(ch) ((ch) < ' ' && (ch) != '\n' && (ch) != '\r' && (ch) != '\t')

Definition at line 76 of file mxml-file.c.

Referenced by `mxml_fd_getc()`, `mxml_file_getc()`, `mxml_get_entity()`, and `mxml_string_getc()`.

16.63.2 Typedef Documentation

16.63.2.1 typedef struct mxml_fdbuf_s mxml_fdbuf_t

16.63.3 Function Documentation

16.63.3.1 static int mxml_add_char (int ch, char **ptr, char **buffer, int *bufsize) [static]

Definition at line 483 of file mxml-file.c.

References `mxml_error()`.

Referenced by `mxml_load_data()`, and `mxml_parse_element()`.

16.63.3.2 `static int mxml_fd_getc (void *p, int *encoding)` [static]

Definition at line 563 of file `mxml-file.c`.

References `buf`, `mxml_fdbuf_s::current`, `ENCODE_UTF16BE`, `ENCODE_UTF16LE`, `ENCODE_UTF8`, `mxml_fdbuf_s::end`, `mxml_bad_char`, `mxml_error()`, and `mxml_fd_read()`.

Referenced by `mxmlLoadFd()`.

16.63.3.3 `static int mxml_fd_putc (int ch, void *p)` [static]

Definition at line 850 of file `mxml-file.c`.

References `buf`, `mxml_fdbuf_s::current`, `mxml_fdbuf_s::end`, and `mxml_fd_write()`.

Referenced by `mxmlSaveFd()`.

16.63.3.4 `static int mxml_fd_read (mxml_fdbuf_t *buf)` [static]

Definition at line 919 of file `mxml-file.c`.

References `mxml_fdbuf_s::buffer`, `mxml_fdbuf_s::current`, `mxml_fdbuf_s::end`, and `mxml_fdbuf_s::fd`.

Referenced by `mxml_fd_getc()`.

16.63.3.5 `static int mxml_fd_write (mxml_fdbuf_t *buf)` [static]

Definition at line 958 of file `mxml-file.c`.

References `mxml_fdbuf_s::buffer`, `mxml_fdbuf_s::current`, and `mxml_fdbuf_s::fd`.

Referenced by `mxml_fd_putc()`, and `mxmlSaveFd()`.

16.63.3.6 `static int mxml_file_getc (void *p, int *encoding)` [static]

Definition at line 1001 of file `mxml-file.c`.

References `ENCODE_UTF16BE`, `ENCODE_UTF16LE`, `ENCODE_UTF8`, `mxml_bad_char`, and `mxml_error()`.

Referenced by `mxmlLoadFile()`.

16.63.3.7 `static int mxml_file_putc (int ch, void *p)` [static]

Definition at line 1200 of file `mxml-file.c`.

Referenced by `mxmlSaveFile()`.

16.63.3.8 `static int mxml_get_entity (mxml_node_t * parent, void * p, int * encoding, int(*)(void *, int *) getc_cb) [static]`

Definition at line 1255 of file mxml-file.c.

References `mxml_value_u::element`, `mxml_bad_char`, `mxml_error()`, `mxmlEntityGetValue()`, `mxml_value_s::name`, and `mxml_node_s::value`.

Referenced by `mxml_load_data()`, and `mxml_parse_element()`.

16.63.3.9 `static mxml_node_t * mxml_load_data (mxml_node_t * top, void * p, mxml_type_t(*)(mxml_node_t *) cb, int(*)(void *, int *) getc_cb) [static]`

Definition at line 1316 of file mxml-file.c.

References `mxml_value_u::element`, `ENCODE_UTF8`, `mxml_add_char()`, `MXML_CUSTOM`, `mxml_custom_load_cb`, `mxml_error()`, `mxml_get_entity()`, `MXML_INTEGER`, `MXML_OPAQUE`, `mxml_parse_element()`, `MXML_REAL`, `MXML_TEXT`, `mxmlDelete()`, `mxmlNewCustom()`, `mxmlNewElement()`, `mxmlNewInteger()`, `mxmlNewOpaque()`, `mxmlNewReal()`, `mxmlNewText()`, `mxml_value_s::name`, `mxml_node_s::parent`, and `mxml_node_s::value`.

Referenced by `mxmlLoadFd()`, `mxmlLoadFile()`, and `mxmlLoadString()`.

16.63.3.10 `static int mxml_parse_element (mxml_node_t * node, void * p, int * encoding, int(*)(void *, int *) getc_cb) [static]`

Definition at line 1840 of file mxml-file.c.

References `mxml_value_u::element`, `mxml_add_char()`, `mxml_error()`, `mxml_get_entity()`, `mxmlElementGetAttr()`, `mxmlElementSetAttr()`, `mxml_value_s::name`, and `mxml_node_s::value`.

Referenced by `mxml_load_data()`.

16.63.3.11 `static int mxml_string_getc (void * p, int * encoding) [static]`

Definition at line 2102 of file mxml-file.c.

References `ENCODE_UTF16BE`, `ENCODE_UTF16LE`, `ENCODE_UTF8`, `mxml_bad_char`, and `mxml_error()`.

Referenced by `mxmlLoadString()`.

16.63.3.12 `static int mxml_string_putc (int ch, void * p) [static]`

Definition at line 2338 of file mxml-file.c.

Referenced by `mxmlSaveString()`.

16.63.3.13 `static int mxml_write_name (const char * s, void * p, int(*)(int, void *) putc_cb) [static]`

Definition at line 2412 of file mxml-file.c.

References `mxmlEntityGetName()`.

Referenced by `mxml_write_node()`.

16.63.3.14 `static int mxml_write_node (mxml_node_t * node, void * p, const char
()(mxml_node_t *, int) cb, int col, int(*) (int, void *) putc_cb) [static]`

Definition at line 2487 of file mxml-file.c.

References mxml_value_s::attrs, mxml_node_s::child, mxml_value_u::element, mxml_value_u::integer, MXML_CUSTOM, mxml_custom_save_cb, MXML_ELEMENT, MXML_INTEGER, MXML_OPAQUE, MXML_REAL, MXML_TEXT, MXML_WRAP, mxml_write_name(), mxml_write_string(), mxml_write_ws(), MXML_WS_AFTER_CLOSE, MXML_WS_AFTER_OPEN, MXML_WS_BEFORE_CLOSE, MXML_WS_BEFORE_OPEN, mxml_attr_s::name, mxml_value_s::name, mxml_node_s::next, mxml_value_s::num_attrs, mxml_value_u::opaque, mxml_node_s::prev, mxml_value_u::real, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, mxml_attr_s::value, mxml_node_s::value, and mxml_text_s::whitespace.

Referenced by mxmlSaveFd(), mxmlSaveFile(), and mxmlSaveString().

16.63.3.15 `static int mxml_write_string (const char * s, void * p, int(*) (int, void *) putc_cb)
[static]`

Definition at line 2768 of file mxml-file.c.

References mxmlEntityGetName().

Referenced by mxml_write_node().

16.63.3.16 `static int mxml_write_ws (mxml_node_t * node, void * p, const char *(*)(mxml_node_t
, int) cb, int ws, int col, int() (int, void *) putc_cb) [static]`

Definition at line 2808 of file mxml-file.c.

References MXML_TAB.

Referenced by mxml_write_node().

16.63.3.17 `mxml_node_t* mxmlLoadFd (mxml_node_t * top, int fd,
mxml_type_t(*) (mxml_node_t *node) cb)`

Definition at line 159 of file mxml-file.c.

References buf, mxml_fdbuf_s::buffer, mxml_fdbuf_s::current, mxml_fdbuf_s::end, mxml_fdbuf_s::fd, mxml_fd_getc(), and mxml_load_data().

Referenced by main().

16.63.3.18 `mxml_node_t* mxmlLoadFile (mxml_node_t * top, FILE * fp,
mxml_type_t(*) (mxml_node_t *node) cb)`

Definition at line 199 of file mxml-file.c.

References mxml_file_getc(), and mxml_load_data().

Referenced by main().

16.63.3.19 `mxml_node_t* mxmlLoadString (mxml_node_t * top, const char * s, mxml_type_t (*)(mxml_node_t * node) cb)`

Definition at line 228 of file mxml-file.c.

References `mxml_load_data()`, and `mxml_string_getc()`.

Referenced by `acc_Thread()`, `agent_xml_compose()`, `fipa_envelope_Compose()`, `fipa_envelope_Parse()`, `main()`, `MC_LoadAgentFromFile()`, and `message_InitializeFromConnection()`.

16.63.3.20 `char* mxmlSaveAllocString (mxml_node_t * node, const char *(*)(mxml_node_t * node, int ws) cb)`

Definition at line 258 of file mxml-file.c.

References `mxmlSaveString()`.

Referenced by `fipa_envelope_Compose()`, `MC_GetAgentXMLString()`, and `message_InitializeFromAgent()`.

16.63.3.21 `int mxmlSaveFd (mxml_node_t * node, int fd, const char *(*)(mxml_node_t * node, int ws) cb)`

Definition at line 315 of file mxml-file.c.

References `buf`, `mxml_fdbuf_s::buffer`, `mxml_fdbuf_s::current`, `mxml_fdbuf_s::end`, `mxml_fdbuf_s::fd`, `mxml_fd_putc()`, `mxml_fd_write()`, and `mxml_write_node()`.

Referenced by `main()`.

16.63.3.22 `int mxmlSaveFile (mxml_node_t * node, FILE * fp, const char *(*)(mxml_node_t * node, int ws) cb)`

Definition at line 362 of file mxml-file.c.

References `mxml_file_putc()`, and `mxml_write_node()`.

Referenced by `main()`.

16.63.3.23 `int mxmlSaveString (mxml_node_t * node, char * buffer, int bufsize, const char *(*)(mxml_node_t * node, int ws) cb)`

Definition at line 404 of file mxml-file.c.

References `mxml_string_putc()`, and `mxml_write_node()`.

Referenced by `main()`, and `mxmlSaveAllocString()`.

16.63.3.24 `void mxmlSetCustomHandlers (mxml_custom_load_cb_t load, mxml_custom_save_cb_t save)`

Definition at line 456 of file mxml-file.c.

References `mxml_custom_load_cb`, and `mxml_custom_save_cb`.

16.63.3.25 void mxmlSetErrorCallback (void*)(const char *) cb)

Definition at line 471 of file mxml-file.c.

References mxml_error_cb.

16.63.4 Variable Documentation**16.63.4.1 mxml_custom_load_cb_t mxml_custom_load_cb = NULL [static]**

Definition at line 103 of file mxml-file.c.

Referenced by mxml_load_data(), and mxmlSetCustomHandlers().

16.63.4.2 mxml_custom_save_cb_t mxml_custom_save_cb = NULL [static]

Definition at line 104 of file mxml-file.c.

Referenced by mxml_write_node(), and mxmlSetCustomHandlers().

16.63.4.3 void(* mxml_error_cb)(const char *)

Referenced by mxml_error(), and mxmlSetErrorCallback().

16.64 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-index.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- static `int index_compare (mxml_index_t *ind, mxml_node_t *first, mxml_node_t *second)`
- static `int index_find (mxml_index_t *ind, const char *element, const char *value, mxml_node_t *node)`
- static void `index_sort (mxml_index_t *ind, int left, int right)`
- void `mxmlIndexDelete (mxml_index_t *ind)`
- `mxml_node_t * mxmlIndexEnum (mxml_index_t *ind)`
- `mxml_node_t * mxmlIndexFind (mxml_index_t *ind, const char *element, const char *value)`
- `mxml_index_t * mxmlIndexNew (mxml_node_t *node, const char *element, const char *attr)`
- `mxml_node_t * mxmlIndexReset (mxml_index_t *ind)`

16.64.1 Function Documentation

16.64.1.1 static `int index_compare (mxml_index_t * ind, mxml_node_t * first, mxml_node_t * second)` [static]

Definition at line 494 of file mxml-index.c.

References `mxml_index_s::attr`, `mxml_value_u::element`, `mxmlElementGetAttr()`, `mxml_value_s::name`, and `mxml_node_s::value`.

Referenced by `index_sort()`.

16.64.1.2 static `int index_find (mxml_index_t * ind, const char * element, const char * value, mxml_node_t * node)` [static]

Definition at line 533 of file mxml-index.c.

References `mxml_index_s::attr`, `mxml_value_u::element`, `mxmlElementGetAttr()`, `mxml_value_s::name`, and `mxml_node_s::value`.

Referenced by `mxmlIndexFind()`.

16.64.1.3 static void `index_sort (mxml_index_t * ind, int left, int right)` [static]

Definition at line 576 of file mxml-index.c.

References `index_compare()`, and `mxml_index_s::nodes`.

Referenced by `mxmlIndexNew()`.

16.64.1.4 void `mxmlIndexDelete (mxml_index_t * ind)`

Definition at line 58 of file mxml-index.c.

References `mxml_index_s::alloc_nodes`, `mxml_index_s::attr`, and `mxml_index_s::nodes`.

Referenced by `main()`, and `mxmlIndexNew()`.

16.64.1.5 `mxml_node_t*` `mxmlIndexEnum` (`mxml_index_t * ind`)

Definition at line 88 of file `mxml-index.c`.

References `mxml_index_s::cur_node`, `mxml_index_s::nodes`, and `mxml_index_s::num_nodes`.

Referenced by `main()`, and `mxmlIndexFind()`.

16.64.1.6 `mxml_node_t*` `mxmlIndexFind` (`mxml_index_t * ind`, `const char * element`, `const char * value`)

Definition at line 118 of file `mxml-index.c`.

References `mxml_index_s::attr`, `mxml_index_s::cur_node`, `index_find()`, `mxmlIndexEnum()`, `mxml_index_s::nodes`, and `mxml_index_s::num_nodes`.

Referenced by `main()`.

16.64.1.7 `mxml_index_t*` `mxmlIndexNew` (`mxml_node_t * node`, `const char * element`, `const char * attr`)

Definition at line 301 of file `mxml-index.c`.

References `mxml_index_s::alloc_nodes`, `mxml_index_s::attr`, `mxml_value_u::element`, `index_sort()`, `MXML_DESCEND`, `mxml_error()`, `mxmlElementGetAttr()`, `mxmlFindElement()`, `mxmlIndexDelete()`, `mxml_value_s::name`, `mxml_index_s::nodes`, `mxml_index_s::num_nodes`, and `mxml_node_s::value`.

Referenced by `main()`.

16.64.1.8 `mxml_node_t*` `mxmlIndexReset` (`mxml_index_t * ind`)

Definition at line 459 of file `mxml-index.c`.

References `mxml_index_s::cur_node`, `mxml_index_s::nodes`, and `mxml_index_s::num_nodes`.

Referenced by `main()`.

16.65 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-node.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- static `mxml_node_t * mxml_new (mxml_node_t *parent, mxml_type_t type)`
- void `mxmlAdd (mxml_node_t *parent, int where, mxml_node_t *child, mxml_node_t *node)`
- void `mxmlDelete (mxml_node_t *node)`
- `mxml_node_t * mxmlNewCustom (mxml_node_t *parent, void *data, void(*destroy)(void *))`
- `mxml_node_t * mxmlNewElement (mxml_node_t *parent, const char *name)`
- `mxml_node_t * mxmlNewInteger (mxml_node_t *parent, int integer)`
- `mxml_node_t * mxmlNewOpaque (mxml_node_t *parent, const char *opaque)`
- `mxml_node_t * mxmlNewReal (mxml_node_t *parent, double real)`
- `mxml_node_t * mxmlNewText (mxml_node_t *parent, int whitespace, const char *string)`
- `mxml_node_t * mxmlNewTextf (mxml_node_t *parent, int whitespace, const char *format,...)`
- void `mxmlRemove (mxml_node_t *node)`

16.65.1 Function Documentation

16.65.1.1 static `mxml_node_t * mxml_new (mxml_node_t *parent, mxml_type_t type)` [static]

Definition at line 617 of file mxml-node.c.

References `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `mxmlAdd()`, `node`, and `mxml_node_s::type`.

Referenced by `mxmlNewCustom()`, `mxmlNewElement()`, `mxmlNewInteger()`, `mxmlNewOpaque()`, `mxmlNewReal()`, `mxmlNewText()`, and `mxmlNewTextf()`.

16.65.1.2 void `mxmlAdd (mxml_node_t *parent, int where, mxml_node_t *child, mxml_node_t *node)`

Definition at line 62 of file mxml-node.c.

References `mxml_node_s::child`, `mxml_node_s::last_child`, `MXML_ADD_AFTER`, `MXML_ADD_BEFORE`, `mxmlRemove()`, `mxml_node_s::next`, `mxml_node_s::parent`, and `mxml_node_s::prev`.

Referenced by `add_variable()`, `agent_xml_compose()`, `agent_xml_compose__agent_data()`, `agent_xml_compose__create_row_nodes()`, `agent_xml_compose__data()`, `agent_xml_compose__gaf_message()`, `agent_xml_compose__message()`, `agent_xml_compose__mobile_agent()`, `agent_xml_compose__task()`, `agent_xml_compose__tasks()`, `fipa_envelope_Compose()`, `fipa_envelope_Compose__envelope()`, `fipa_envelope_Compose__params()`, `mxml_new()`, `scan_file()`, and `sort_node()`.

16.65.1.3 void `mxmlDelete (mxml_node_t *node)`

Definition at line 196 of file mxml-node.c.

References `mxml_value_s::attrs`, `mxml_node_s::child`, `mxml_value_u::custom`, `mxml_custom_s::data`, `mxml_custom_s::destroy`, `mxml_value_u::element`, `MXML_CUSTOM`, `MXML_ELEMENT`, `MXML_INTEGER`, `MXML_OPAQUE`, `MXML_REAL`, `MXML_TEXT`, `mxmlDelete()`, `mxmlRemove()`, `mxml_attr_s::name`, `mxml_value_s::name`, `mxml_value_s::num_attrs`, `mxml_value_u::opaque`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, `mxml_attr_s::value`, and `mxml_node_s::value`.

Referenced by `add_variable()`, `agent_datastate_Destroy()`, `fipa_envelope_Compose()`, `fipa_envelope_Parse()`, `main()`, `message_Destroy()`, `mxml_load_data()`, `mxmlDelete()`, `scan_file()`, and `sort_node()`.

16.65.1.4 `mxml_node_t* mxmlNewCustom (mxml_node_t * parent, void * data, void(*) (void *) destroy)`

Definition at line 287 of file `mxml-node.c`.

References `mxml_value_u::custom`, `mxml_custom_s::data`, `mxml_custom_s::destroy`, `MXML_CUSTOM`, `mxml_new()`, `node`, and `mxml_node_s::value`.

Referenced by `mxml_load_data()`.

16.65.1.5 `mxml_node_t* mxmlNewElement (mxml_node_t * parent, const char * name)`

Definition at line 323 of file `mxml-node.c`.

References `mxml_value_u::element`, `MXML_ELEMENT`, `mxml_new()`, `mxml_value_s::name`, `node`, and `mxml_node_s::value`.

Referenced by `add_variable()`, `agent_xml_compose_agent_code()`, `agent_xml_compose_agent_data()`, `agent_xml_compose_create_row_nodes()`, `agent_xml_compose_data()`, `agent_xml_compose_gaf_message()`, `agent_xml_compose_home()`, `agent_xml_compose_message()`, `agent_xml_compose_mobile_agent()`, `agent_xml_compose_name()`, `agent_xml_compose_owner()`, `agent_xml_compose_task()`, `agent_xml_compose_tasks()`, `fipa_envelope_Compose_acl_representation()`, `fipa_envelope_Compose_date()`, `fipa_envelope_Compose_envelope()`, `fipa_envelope_Compose_from()`, `fipa_envelope_Compose_intended_receiver()`, `fipa_envelope_Compose_params()`, `fipa_envelope_Compose_payload_encoding()`, `fipa_envelope_Compose_to()`, `main()`, `mxml_load_data()`, `scan_file()`, and `xml_new_cdata()`.

16.65.1.6 `mxml_node_t* mxmlNewInteger (mxml_node_t * parent, int integer)`

Definition at line 361 of file `mxml-node.c`.

References `mxml_value_u::integer`, `MXML_INTEGER`, `mxml_new()`, `node`, and `mxml_node_s::value`.

Referenced by `main()`, and `mxml_load_data()`.

16.65.1.7 `mxml_node_t* mxmlNewOpaque (mxml_node_t * parent, const char * opaque)`

Definition at line 392 of file `mxml-node.c`.

References `mxml_new()`, `MXML_OPAQUE`, `node`, `mxml_value_u::opaque`, and `mxml_node_s::value`.

Referenced by `main()`, and `mxml_load_data()`.

16.65.1.8 `mxml_node_t* mxmlNewReal (mxml_node_t * parent, double real)`

Definition at line 430 of file `mxml-node.c`.

References `mxml_new()`, `MXML_REAL`, `node`, `mxml_value_u::real`, and `mxml_node_s::value`.

Referenced by `main()`, and `mxml_load_data()`.

16.65.1.9 `mxml_node_t*` `mxmlNewText` (`mxml_node_t * parent`, `int whitespace`, `const char * string`)

Definition at line 462 of file `mxml-node.c`.

References `mxml_new()`, `MXML_TEXT`, `node`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::value`, and `mxml_text_s::whitespace`.

Referenced by `agent_xml_compose__create_row_nodes()`, `agent_xml_compose__home()`, `agent_xml_compose__name()`, `agent_xml_compose__owner()`, `fipa_envelope_Compose__acl_representation()`, `fipa_envelope_Compose__date()`, `fipa_envelope_Compose__from()`, `fipa_envelope_Compose__intended_receiver()`, `fipa_envelope_Compose__payload_encoding()`, `fipa_envelope_Compose__to()`, `main()`, `mxml_load_data()`, and `scan_file()`.

16.65.1.10 `mxml_node_t*` `mxmlNewTextf` (`mxml_node_t * parent`, `int whitespace`, `const char * format`, ...))

Definition at line 506 of file `mxml-node.c`.

References `mxml_new()`, `mxml_strdupf()`, `MXML_TEXT`, `node`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::value`, and `mxml_text_s::whitespace`.

16.65.1.11 `void` `mxmlRemove` (`mxml_node_t * node`)

Definition at line 553 of file `mxml-node.c`.

References `mxml_node_s::child`, `mxml_node_s::last_child`, `mxml_node_s::next`, `mxml_node_s::parent`, and `mxml_node_s::prev`.

Referenced by `mxmlAdd()`, and `mxmlDelete()`.

16.66 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-private.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- void [mxml_error](#) (const char *format,...)
- [mxml_type_t mxml_integer_cb](#) ([mxml_node_t *node](#))
- [mxml_type_t mxml_opaque_cb](#) ([mxml_node_t *node](#))
- [mxml_type_t mxml_real_cb](#) ([mxml_node_t *node](#))

Variables

- void(* [mxml_error_cb](#))(const char *) = NULL

16.66.1 Function Documentation

16.66.1.1 void [mxml_error](#) (const char **format*, ...)

Definition at line 49 of file mxml-private.c.

References [mxml_error_cb](#), and [mxml_strdup\(\)](#).

Referenced by [mxml_add_char\(\)](#), [mxml_fd_getc\(\)](#), [mxml_file_getc\(\)](#), [mxml_get_entity\(\)](#), [mxml_load_data\(\)](#), [mxml_parse_element\(\)](#), [mxml_string_getc\(\)](#), [mxmlElementSetAttr\(\)](#), [mxmlEntityAddCallback\(\)](#), and [mxmlIndexNew\(\)](#).

16.66.1.2 [mxml_type_t mxml_integer_cb](#) ([mxml_node_t *node](#))

Definition at line 95 of file mxml-private.c.

References [MXML_INTEGER](#).

16.66.1.3 [mxml_type_t mxml_opaque_cb](#) ([mxml_node_t *node](#))

Definition at line 108 of file mxml-private.c.

References [MXML_OPAQUE](#).

16.66.1.4 [mxml_type_t mxml_real_cb](#) ([mxml_node_t *node](#))

Definition at line 121 of file mxml-private.c.

References [MXML_REAL](#).

16.66.2 Variable Documentation

16.66.2.1 `void(* mxml_error_cb)(const char *) = NULL`

Referenced by `mxml_error()`, and `mxmlSetErrorCallback()`.

16.67 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-search.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- [mxml_node_t * mxmlFindElement](#) ([mxml_node_t *node](#), [mxml_node_t *top](#), [const char *name](#), [const char *attr](#), [const char *value](#), [int descend](#))
- [mxml_node_t * mxmlWalkNext](#) ([mxml_node_t *node](#), [mxml_node_t *top](#), [int descend](#))
- [mxml_node_t * mxmlWalkPrev](#) ([mxml_node_t *node](#), [mxml_node_t *top](#), [int descend](#))

16.67.1 Function Documentation

16.67.1.1 [mxml_node_t * mxmlFindElement](#) ([mxml_node_t * node](#), [mxml_node_t * top](#), [const char * name](#), [const char * attr](#), [const char * value](#), [int descend](#))

Definition at line 51 of file mxml-search.c.

References [mxml_value_u::element](#), [MXML_DESCEND](#), [MXML_ELEMENT](#), [mxmlElementGetAttr\(\)](#), [mxmlWalkNext\(\)](#), [mxml_value_s::name](#), [mxml_node_s::next](#), [mxml_node_s::type](#), and [mxml_node_s::value](#).

Referenced by [agent_xml_parse__fill_row_data\(\)](#), [agent_xml_parse__task\(\)](#), [agent_xml_parse__tasks\(\)](#), [fipa_envelope_HandleAclRepresentation\(\)](#), [fipa_envelope_HandleComments\(\)](#), [fipa_envelope_HandleDate\(\)](#), [fipa_envelope_HandleEnvelope\(\)](#), [fipa_envelope_HandleFrom\(\)](#), [fipa_envelope_HandleIntendedReceiver\(\)](#), [fipa_envelope_HandleParams\(\)](#), [fipa_envelope_HandlePayloadEncoding\(\)](#), [fipa_envelope_HandlePayloadLength\(\)](#), [fipa_envelope_HandleReceived\(\)](#), [fipa_envelope_HandleTo\(\)](#), [fipa_envelope_ParseAddresses\(\)](#), [fipa_envelope_ParseAgentIdentifier\(\)](#), [fipa_envelope_ParseResolvers\(\)](#), [main\(\)](#), [MC_LoadAgentFromFile\(\)](#), [message_xml_parse\(\)](#), [mxmlIndexNew\(\)](#), [scan_file\(\)](#), [sort_node\(\)](#), [write_documentation\(\)](#), [write_element\(\)](#), [xml_find_sibling\(\)](#), and [xml_get_child\(\)](#).

16.67.1.2 [mxml_node_t * mxmlWalkNext](#) ([mxml_node_t * node](#), [mxml_node_t * top](#), [int descend](#))

Definition at line 133 of file mxml-search.c.

References [mxml_node_s::child](#), [mxml_node_s::next](#), and [mxml_node_s::parent](#).

Referenced by [mxmlFindElement\(\)](#), and [write_element\(\)](#).

16.67.1.3 [mxml_node_t * mxmlWalkPrev](#) ([mxml_node_t * node](#), [mxml_node_t * top](#), [int descend](#))

Definition at line 169 of file mxml-search.c.

References [mxml_node_s::last_child](#), [mxml_node_s::parent](#), and [mxml_node_s::prev](#).

16.68 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-set.c File Reference

```
#include "config.h"
#include "mxml.h"
```

Functions

- [int mxmlSetCustom](#) ([mxml_node_t *node](#), void *data, void(*destroy)(void *))
- [int mxmlSetElement](#) ([mxml_node_t *node](#), const char *name)
- [int mxmlSetInteger](#) ([mxml_node_t *node](#), int integer)
- [int mxmlSetOpaque](#) ([mxml_node_t *node](#), const char *opaque)
- [int mxmlSetReal](#) ([mxml_node_t *node](#), double real)
- [int mxmlSetText](#) ([mxml_node_t *node](#), int whitespace, const char *string)
- [int mxmlSetTextf](#) ([mxml_node_t *node](#), int whitespace, const char *format,...)

16.68.1 Function Documentation

16.68.1.1 int mxmlSetCustom (mxml_node_t * node, void * data, void(*) (void *) destroy)

Definition at line 46 of file mxml-set.c.

References [mxml_value_u::custom](#), [mxml_custom_s::data](#), [mxml_custom_s::destroy](#), [MXML_CUSTOM](#), [mxml_node_s::type](#), and [mxml_node_s::value](#).

16.68.1.2 int mxmlSetElement (mxml_node_t * node, const char * name)

Definition at line 79 of file mxml-set.c.

References [mxml_value_u::element](#), [MXML_ELEMENT](#), [mxml_value_s::name](#), [mxml_node_s::type](#), and [mxml_node_s::value](#).

16.68.1.3 int mxmlSetInteger (mxml_node_t * node, int integer)

Definition at line 109 of file mxml-set.c.

References [mxml_value_u::integer](#), [MXML_INTEGER](#), [mxml_node_s::type](#), and [mxml_node_s::value](#).

16.68.1.4 int mxmlSetOpaque (mxml_node_t * node, const char * opaque)

Definition at line 136 of file mxml-set.c.

References [MXML_OPAQUE](#), [mxml_value_u::opaque](#), [mxml_node_s::type](#), and [mxml_node_s::value](#).

16.68.1.5 int mxmlSetReal (mxml_node_t * node, double real)

Definition at line 166 of file mxml-set.c.

References [MXML_REAL](#), [mxml_value_u::real](#), [mxml_node_s::type](#), and [mxml_node_s::value](#).

16.68.1.6 `int mxmlSetText (mxml_node_t * node, int whitespace, const char * string)`

Definition at line 193 of file mxml-set.c.

References `MXML_TEXT`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, `mxml_node_s::value`, and `mxml_text_s::whitespace`.

16.68.1.7 `int mxmlSetTextf (mxml_node_t * node, int whitespace, const char * format, ...)`

Definition at line 225 of file mxml-set.c.

References `mxml_strdup()`, `MXML_TEXT`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, `mxml_node_s::value`, and `mxml_text_s::whitespace`.

16.69 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml-string.c File Reference

```
#include "config.h"
```

Functions

- char * [mxml_strdup](#) (const char *format, va_list ap)
- int [mxml_vsnprintf](#) (char *buffer, size_t bufsize, const char *format, va_list ap)

16.69.1 Function Documentation

16.69.1.1 char* [mxml_strdup](#) (const char **format*, va_list *ap*)

Definition at line 62 of file mxml-string.c.

References [mxml_vsnprintf](#)().

Referenced by [mxml_error](#)(), [mxmlNewTextf](#)(), and [mxmlSetTextf](#)().

16.69.1.2 int [mxml_vsnprintf](#) (char **buffer*, size_t *bufsize*, const char **format*, va_list *ap*)

Definition at line 107 of file mxml-string.c.

References [size](#).

Referenced by [mxml_strdup](#)().

16.70 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxml.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <ctype.h>
#include <errno.h>
```

Data Structures

- struct [mxml_attr_s](#)
- struct [mxml_value_s](#)
- struct [mxml_text_s](#)
- struct [mxml_custom_s](#)
- union [mxml_value_u](#)
- struct [mxml_node_s](#)
- struct [mxml_index_s](#)

Defines

- #define [MXML_WRAP](#) 72
- #define [MXML_TAB](#) 8
- #define [MXML_NO_CALLBACK](#) 0
- #define [MXML_INTEGER_CALLBACK](#) mxml_integer_cb
- #define [MXML_OPAQUE_CALLBACK](#) mxml_opaque_cb
- #define [MXML_REAL_CALLBACK](#) mxml_real_cb
- #define [MXML_TEXT_CALLBACK](#) 0
- #define [MXML_NO_PARENT](#) 0
- #define [MXML_DESCEND](#) 1
- #define [MXML_NO_DESCEND](#) 0
- #define [MXML_DESCEND_FIRST](#) -1
- #define [MXML_WS_BEFORE_OPEN](#) 0
- #define [MXML_WS_AFTER_OPEN](#) 1
- #define [MXML_WS_BEFORE_CLOSE](#) 2
- #define [MXML_WS_AFTER_CLOSE](#) 3
- #define [MXML_ADD_BEFORE](#) 0
- #define [MXML_ADD_AFTER](#) 1
- #define [MXML_ADD_TO_PARENT](#) NULL

Typedefs

- typedef enum [mxml_type_e](#) mxml_type_t
- typedef struct [mxml_attr_s](#) mxml_attr_t
- typedef struct [mxml_value_s](#) mxml_element_t
- typedef struct [mxml_text_s](#) mxml_text_t
- typedef struct [mxml_custom_s](#) mxml_custom_t

- typedef union `mxml_value_u` `mxml_value_t`
- typedef struct `mxml_node_s` `mxml_node_t`
- typedef struct `mxml_index_s` `mxml_index_t`
- typedef `int`(* `mxml_custom_load_cb_t`)(`mxml_node_t` *, `const char` *)
- typedef `char` *(* `mxml_custom_save_cb_t`)(`mxml_node_t` *)

Enumerations

- enum `mxml_type_e` {
`MXML_ELEMENT`, `MXML_INTEGER`, `MXML_OPAQUE`, `MXML_REAL`,
`MXML_TEXT`, `MXML_CUSTOM` }

Functions

- void `mxmlAdd` (`mxml_node_t` *parent, `int` where, `mxml_node_t` *child, `mxml_node_t` *node)
- void `mxmlDelete` (`mxml_node_t` *node)
- `const char` * `mxmlElementGetAttr` (`mxml_node_t` *node, `const char` *name)
- void `mxmlElementSetAttr` (`mxml_node_t` *node, `const char` *name, `const char` *value)
- `int` `mxmlEntityAddCallback` (`int`(*cb)(`const char` *name))
- `const char` * `mxmlEntityGetName` (`int` val)
- `int` `mxmlEntityGetValue` (`const char` *name)
- void `mxmlEntityRemoveCallback` (`int`(*cb)(`const char` *name))
- `mxml_node_t` * `mxmlFindElement` (`mxml_node_t` *node, `mxml_node_t` *top, `const char` *name, `const char` *attr, `const char` *value, `int` descend)
- void `mxmlIndexDelete` (`mxml_index_t` *ind)
- `mxml_node_t` * `mxmlIndexEnum` (`mxml_index_t` *ind)
- `mxml_node_t` * `mxmlIndexFind` (`mxml_index_t` *ind, `const char` *element, `const char` *value)
- `mxml_index_t` * `mxmlIndexNew` (`mxml_node_t` *node, `const char` *element, `const char` *attr)
- `mxml_node_t` * `mxmlIndexReset` (`mxml_index_t` *ind)
- `mxml_node_t` * `mxmlLoadFd` (`mxml_node_t` *top, `int` fd, `mxml_type_t`(*cb)(`mxml_node_t` *))
- `mxml_node_t` * `mxmlLoadFile` (`mxml_node_t` *top, `FILE` *fp, `mxml_type_t`(*cb)(`mxml_node_t` *))
- `mxml_node_t` * `mxmlLoadString` (`mxml_node_t` *top, `const char` *s, `mxml_type_t`(*cb)(`mxml_node_t` *))
- `mxml_node_t` * `mxmlNewCustom` (`mxml_node_t` *parent, `void` *data, `void`(*destroy)(`void` *))
- `mxml_node_t` * `mxmlNewElement` (`mxml_node_t` *parent, `const char` *name)
- `mxml_node_t` * `mxmlNewInteger` (`mxml_node_t` *parent, `int` integer)
- `mxml_node_t` * `mxmlNewOpaque` (`mxml_node_t` *parent, `const char` *opaque)
- `mxml_node_t` * `mxmlNewReal` (`mxml_node_t` *parent, `double` real)
- `mxml_node_t` * `mxmlNewText` (`mxml_node_t` *parent, `int` whitespace, `const char` *string)
- `mxml_node_t` * `mxmlNewTextf` (`mxml_node_t` *parent, `int` whitespace, `const char` *format,...)
- void `mxmlRemove` (`mxml_node_t` *node)
- `char` * `mxmlSaveAllocString` (`mxml_node_t` *node, `const char` *(*cb)(`mxml_node_t` *, `int`))
- `int` `mxmlSaveFd` (`mxml_node_t` *node, `int` fd, `const char` *(*cb)(`mxml_node_t` *, `int`))
- `int` `mxmlSaveFile` (`mxml_node_t` *node, `FILE` *fp, `const char` *(*cb)(`mxml_node_t` *, `int`))
- `int` `mxmlSaveString` (`mxml_node_t` *node, `char` *buffer, `int` bufsize, `const char` *(*cb)(`mxml_node_t` *, `int`))
- `int` `mxmlSetCustom` (`mxml_node_t` *node, `void` *data, `void`(*destroy)(`void` *))
- void `mxmlSetCustomHandlers` (`mxml_custom_load_cb_t` load, `mxml_custom_save_cb_t` save)
- `int` `mxmlSetElement` (`mxml_node_t` *node, `const char` *name)

- void `mxmlSetErrorCallback` (void(*cb)(const char *))
- int `mxmlSetInteger` (mxml_node_t *node, int integer)
- int `mxmlSetOpaque` (mxml_node_t *node, const char *opaque)
- int `mxmlSetReal` (mxml_node_t *node, double real)
- int `mxmlSetText` (mxml_node_t *node, int whitespace, const char *string)
- int `mxmlSetTextf` (mxml_node_t *node, int whitespace, const char *format,...)
- mxml_node_t * `mxmlWalkNext` (mxml_node_t *node, mxml_node_t *top, int descend)
- mxml_node_t * `mxmlWalkPrev` (mxml_node_t *node, mxml_node_t *top, int descend)
- void `mxml_error` (const char *format,...)
- mxml_type_t `mxml_integer_cb` (mxml_node_t *node)
- mxml_type_t `mxml_opaque_cb` (mxml_node_t *node)
- mxml_type_t `mxml_real_cb` (mxml_node_t *node)

16.70.1 Define Documentation

16.70.1.1 #define MXML_ADD_AFTER 1

Definition at line 68 of file mxml.h.

Referenced by `add_variable()`, `agent_xml_compose()`, `agent_xml_compose__agent_data()`, `agent_xml_compose__create_row_nodes()`, `agent_xml_compose__data()`, `agent_xml_compose__gaf_message()`, `agent_xml_compose__message()`, `agent_xml_compose__mobile_agent()`, `agent_xml_compose__task()`, `agent_xml_compose__tasks()`, `fipa_envelope_Compose()`, `fipa_envelope_Compose__envelope()`, `fipa_envelope_Compose__params()`, `mxml_new()`, `mxmlAdd()`, `scan_file()`, and `sort_node()`.

16.70.1.2 #define MXML_ADD_BEFORE 0

Definition at line 67 of file mxml.h.

Referenced by `mxmlAdd()`, `scan_file()`, and `sort_node()`.

16.70.1.3 #define MXML_ADD_TO_PARENT NULL

Definition at line 69 of file mxml.h.

Referenced by `add_variable()`, `agent_xml_compose()`, `agent_xml_compose__create_row_nodes()`, `fipa_envelope_Compose()`, `fipa_envelope_Compose__envelope()`, `fipa_envelope_Compose__params()`, `mxml_new()`, `scan_file()`, and `sort_node()`.

16.70.1.4 #define MXML_DESCEND 1

Definition at line 58 of file mxml.h.

Referenced by `agent_xml_parse__tasks()`, `main()`, `MC_LoadAgentFromFile()`, `message_xml_parse()`, `mxmlFindElement()`, `mxmlIndexNew()`, and `write_element()`.

16.70.1.5 #define MXML_DESCEND_FIRST -1

Definition at line 60 of file mxml.h.

Referenced by `agent_xml_parse__fill_row_data()`, `agent_xml_parse__task()`, `agent_xml_parse__tasks()`, `fipa_envelope_HandleAclRepresentation()`, `fipa_envelope_HandleComments()`, `fipa_envelope_HandleDate()`, `fipa_envelope_HandleEnvelope()`, `fipa_envelope_HandleFrom()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleParams()`, `fipa_envelope_HandlePayloadEncoding()`, `fipa_envelope_HandlePayloadLength()`, `fipa_envelope_HandleReceived()`, `fipa_envelope_HandleTo()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseAgentIdentifier()`, `fipa_envelope_ParseResolvers()`, `scan_file()`, `sort_node()`, and `write_documentation()`.

16.70.1.6 `#define MXML_INTEGER_CALLBACK mxml_integer_cb`

Definition at line 48 of file `mxml.h`.

Referenced by `main()`.

16.70.1.7 `#define MXML_NO_CALLBACK 0`

Definition at line 47 of file `mxml.h`.

Referenced by `acc_Thread()`, `agent_xml_compose()`, `fipa_envelope_Compose()`, `fipa_envelope_Parse()`, `main()`, `message_InitializeFromAgent()`, and `message_InitializeFromConnection()`.

16.70.1.8 `#define MXML_NO_DESCEND 0`

Definition at line 59 of file `mxml.h`.

Referenced by `agent_xml_parse__task()`, `agent_xml_parse__tasks()`, `fipa_envelope_HandleIntendedReceiver()`, `fipa_envelope_HandleTo()`, `fipa_envelope_ParseAddresses()`, `fipa_envelope_ParseResolvers()`, `main()`, `message_xml_parse()`, `write_documentation()`, `write_element()`, `xml_find_sibling()`, and `xml_get_deep_child()`.

16.70.1.9 `#define MXML_NO_PARENT 0`

Definition at line 56 of file `mxml.h`.

Referenced by `agent_xml_compose__agent_code()`, `agent_xml_compose__create_row_nodes()`, `main()`, and `scan_file()`.

16.70.1.10 `#define MXML_OPAQUE_CALLBACK mxml_opaque_cb`

Definition at line 50 of file `mxml.h`.

Referenced by `main()`.

16.70.1.11 `#define MXML_REAL_CALLBACK mxml_real_cb`

Definition at line 52 of file `mxml.h`.

Referenced by `main()`.

16.70.1.12 `#define MXML_TAB 8`

Definition at line 45 of file `mxml.h`.

Referenced by `mxml_write_ws()`.

16.70.1.13 #define MXML_TEXT_CALLBACK 0

Definition at line 54 of file `mxml.h`.

16.70.1.14 #define MXML_WRAP 72

Definition at line 44 of file `mxml.h`.

Referenced by `mxml_write_node()`.

16.70.1.15 #define MXML_WS_AFTER_CLOSE 3

Definition at line 65 of file `mxml.h`.

Referenced by `mxml_write_node()`, `whitespace_cb()`, and `ws_cb()`.

16.70.1.16 #define MXML_WS_AFTER_OPEN 1

Definition at line 63 of file `mxml.h`.

Referenced by `mxml_write_node()`, `whitespace_cb()`, and `ws_cb()`.

16.70.1.17 #define MXML_WS_BEFORE_CLOSE 2

Definition at line 64 of file `mxml.h`.

Referenced by `mxml_write_node()`, `whitespace_cb()`, and `ws_cb()`.

16.70.1.18 #define MXML_WS_BEFORE_OPEN 0

Definition at line 62 of file `mxml.h`.

Referenced by `mxml_write_node()`, `whitespace_cb()`, and `ws_cb()`.

16.70.2 Typedef Documentation

16.70.2.1 typedef struct mxml_attr_s mxml_attr_t

16.70.2.2 typedef int(* mxml_custom_load_cb_t)(mxml_node_t *, const char *)

Definition at line 142 of file `mxml.h`.

16.70.2.3 typedef char*(* mxml_custom_save_cb_t)(mxml_node_t *)

Definition at line 145 of file `mxml.h`.

16.70.2.4 typedef struct mxml_custom_s mxml_custom_t

16.70.2.5 typedef struct mxml_value_s mxml_element_t

16.70.2.6 typedef struct mxml_index_s mxml_index_t

16.70.2.7 typedef struct mxml_node_s mxml_node_t

16.70.2.8 typedef struct mxml_text_s mxml_text_t

16.70.2.9 typedef enum mxml_type_e mxml_type_t

16.70.2.10 typedef union mxml_value_u mxml_value_t

16.70.3 Enumeration Type Documentation

16.70.3.1 enum mxml_type_e

Enumerator:

MXML_ELEMENT

MXML_INTEGER

MXML_OPAQUE

MXML_REAL

MXML_TEXT

MXML_CUSTOM

Definition at line 76 of file mxml.h.

16.70.4 Function Documentation

16.70.4.1 void mxml_error (const char * *format*, ...)

Definition at line 49 of file mxml-private.c.

References mxml_error_cb, and mxml_strdup().

Referenced by mxml_add_char(), mxml_fd_getc(), mxml_file_getc(), mxml_get_entity(), mxml_load_data(), mxml_parse_element(), mxml_string_getc(), mxmlElementSetAttr(), mxmlEntityAddCallback(), and mxmlIndexNew().

16.70.4.2 mxml_type_t mxml_integer_cb (mxml_node_t * *node*)

Definition at line 95 of file mxml-private.c.

References MXML_INTEGER.

16.70.4.3 mxml_type_t mxml_opaque_cb (mxml_node_t * *node*)

Definition at line 108 of file mxml-private.c.

References MXML_OPAQUE.

16.70.4.4 mxmL_type_t mxmL_real_cb (mxml_node_t * node)

Definition at line 121 of file mxml-private.c.

References MXML_REAL.

16.70.4.5 void mxmlAdd (mxml_node_t * parent, int where, mxml_node_t * child, mxml_node_t * node)

Definition at line 62 of file mxml-node.c.

References mxml_node_s::child, mxml_node_s::last_child, MXML_ADD_AFTER, MXML_ADD_BEFORE, mxmlRemove(), mxml_node_s::next, mxml_node_s::parent, and mxml_node_s::prev.

Referenced by add_variable(), agent_xml_compose(), agent_xml_compose__agent_data(), agent_xml_compose__create_row_nodes(), agent_xml_compose__data(), agent_xml_compose__gaf_message(), agent_xml_compose__message(), agent_xml_compose__mobile_agent(), agent_xml_compose__task(), agent_xml_compose__tasks(), fipa_envelope_Compose(), fipa_envelope_Compose__envelope(), fipa_envelope_Compose__params(), mxml_new(), scan_file(), and sort_node().

16.70.4.6 void mxmlDelete (mxml_node_t * node)

Definition at line 196 of file mxml-node.c.

References mxml_value_s::attrs, mxml_node_s::child, mxml_value_u::custom, mxml_custom_s::data, mxml_custom_s::destroy, mxml_value_u::element, MXML_CUSTOM, MXML_ELEMENT, MXML_INTEGER, MXML_OPAQUE, MXML_REAL, MXML_TEXT, mxmlDelete(), mxmlRemove(), mxml_attr_s::name, mxml_value_s::name, mxml_value_s::num_attrs, mxml_value_u::opaque, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, mxml_attr_s::value, and mxml_node_s::value.

Referenced by add_variable(), agent_datastate_Destroy(), fipa_envelope_Compose(), fipa_envelope_Parse(), main(), message_Destroy(), mxml_load_data(), mxmlDelete(), scan_file(), and sort_node().

16.70.4.7 const char* mxmlElementGetAttr (mxml_node_t * node, const char * name)

Definition at line 43 of file mxml-attr.c.

References mxml_value_s::attrs, mxml_value_u::element, MXML_ELEMENT, mxml_attr_s::name, mxml_value_s::num_attrs, mxml_node_s::type, mxml_attr_s::value, and mxml_node_s::value.

Referenced by agent_xml_parse__agent_code(), agent_xml_parse__data(), agent_xml_parse__task(), agent_xml_parse__tasks(), fipa_envelope_HandleReceived(), index_compare(), index_find(), message_xml_parse__message(), mxml_parse_element(), mxmlFindElement(), mxmlIndexNew(), scan_file(), sort_node(), type_cb(), and write_documentation().

16.70.4.8 void mxmlElementSetAttr (mxml_node_t * node, const char * name, const char * value)

Definition at line 90 of file mxml-attr.c.

References mxml_value_s::attrs, mxml_value_u::element, MXML_ELEMENT, mxml_error(), mxml_value_s::name, mxml_attr_s::name, mxml_value_s::num_attrs, mxml_node_s::type, mxml_attr_s::value, and mxml_node_s::value.

Referenced by add_variable(), agent_xml_compose__agent_code(), agent_xml_compose__create_row_nodes(), agent_xml_compose__data(), agent_xml_compose__message(), agent_xml_compose__task(),

agent_xml_compose__tasks(), fipa_envelope_Compose__params(), main(), mxml_parse_element(), scan_file(), sort_node(), and update_comment().

16.70.4.9 int mxmlEntityAddCallback (int*)(const char *name) cb)

Definition at line 65 of file mxml-entity.c.

References callbacks, mxml_error(), and num_callbacks.

16.70.4.10 const char* mxmlEntityGetName (int val)

Definition at line 91 of file mxml-entity.c.

Referenced by mxml_write_name(), and mxml_write_string().

16.70.4.11 int mxmlEntityGetValue (const char * name)

Definition at line 121 of file mxml-entity.c.

References callbacks, and num_callbacks.

Referenced by mxml_get_entity().

16.70.4.12 void mxmlEntityRemoveCallback (int*)(const char *name) cb)

Definition at line 140 of file mxml-entity.c.

References callbacks, and num_callbacks.

16.70.4.13 mxml_node_t* mxmlFindElement (mxml_node_t * node, mxml_node_t * top, const char * name, const char * attr, const char * value, int descend)

Definition at line 51 of file mxml-search.c.

References mxml_value_u::element, MXML_DESCEND, MXML_ELEMENT, mxmlElementGetAttr(), mxmlWalkNext(), mxml_value_s::name, mxml_node_s::next, mxml_node_s::type, and mxml_node_s::value.

Referenced by agent_xml_parse__fill_row_data(), agent_xml_parse__task(), agent_xml_parse__tasks(), fipa_envelope_HandleAclRepresentation(), fipa_envelope_HandleComments(), fipa_envelope_HandleDate(), fipa_envelope_HandleEnvelope(), fipa_envelope_HandleFrom(), fipa_envelope_HandleIntendedReceiver(), fipa_envelope_HandleParams(), fipa_envelope_HandlePayloadEncoding(), fipa_envelope_HandlePayloadLength(), fipa_envelope_HandleReceived(), fipa_envelope_HandleTo(), fipa_envelope_ParseAddresses(), fipa_envelope_ParseAgentIdentifier(), fipa_envelope_ParseResolvers(), main(), MC_LoadAgentFromFile(), message_xml_parse(), mxmlIndexNew(), scan_file(), sort_node(), write_documentation(), write_element(), xml_find_sibling(), and xml_get_child().

16.70.4.14 void mxmlIndexDelete (mxml_index_t * ind)

Definition at line 58 of file mxml-index.c.

References mxml_index_s::alloc_nodes, mxml_index_s::attr, and mxml_index_s::nodes.

Referenced by main(), and mxmlIndexNew().

16.70.4.15 mxml_node_t* mxmlIndexEnum (mxml_index_t * ind)

Definition at line 88 of file mxml-index.c.

References mxml_index_s::cur_node, mxml_index_s::nodes, and mxml_index_s::num_nodes.

Referenced by main(), and mxmlIndexFind().

16.70.4.16 mxml_node_t* mxmlIndexFind (mxml_index_t * ind, const char * element, const char * value)

Definition at line 118 of file mxml-index.c.

References mxml_index_s::attr, mxml_index_s::cur_node, index_find(), mxmlIndexEnum(), mxml_index_s::nodes, and mxml_index_s::num_nodes.

Referenced by main().

16.70.4.17 mxml_index_t* mxmlIndexNew (mxml_node_t * node, const char * element, const char * attr)

Definition at line 301 of file mxml-index.c.

References mxml_index_s::alloc_nodes, mxml_index_s::attr, mxml_value_u::element, index_sort(), MXML_DESCEND, mxml_error(), mxmlElementGetAttr(), mxmlFindElement(), mxmlIndexDelete(), mxml_value_s::name, mxml_index_s::nodes, mxml_index_s::num_nodes, and mxml_node_s::value.

Referenced by main().

16.70.4.18 mxml_node_t* mxmlIndexReset (mxml_index_t * ind)

Definition at line 459 of file mxml-index.c.

References mxml_index_s::cur_node, mxml_index_s::nodes, and mxml_index_s::num_nodes.

Referenced by main().

16.70.4.19 mxml_node_t* mxmlLoadFd (mxml_node_t * top, int fd, mxml_type_t(*) (mxml_node_t *) cb)**16.70.4.20 mxml_node_t* mxmlLoadFile (mxml_node_t * top, FILE * fp, mxml_type_t(*) (mxml_node_t *) cb)****16.70.4.21 mxml_node_t* mxmlLoadString (mxml_node_t * top, const char * s, mxml_type_t(*) (mxml_node_t *) cb)****16.70.4.22 mxml_node_t* mxmlNewCustom (mxml_node_t * parent, void * data, void(*) (void *) destroy)**

Definition at line 287 of file mxml-node.c.

References mxml_value_u::custom, mxml_custom_s::data, mxml_custom_s::destroy, MXML_CUSTOM, mxml_new(), node, and mxml_node_s::value.

Referenced by mxml_load_data().

16.70.4.23 mxml_node_t* mxmlNewElement (mxml_node_t * parent, const char * name)

Definition at line 323 of file mxml-node.c.

References `mxml_value_u::element`, `MXML_ELEMENT`, `mxml_new()`, `mxml_value_s::name`, `node`, and `mxml_node_s::value`.

Referenced by `add_variable()`, `agent_xml_compose__agent_code()`, `agent_xml_compose__agent_data()`, `agent_xml_compose__create_row_nodes()`, `agent_xml_compose__data()`, `agent_xml_compose__gaf_message()`, `agent_xml_compose__home()`, `agent_xml_compose__message()`, `agent_xml_compose__mobile_agent()`, `agent_xml_compose__name()`, `agent_xml_compose__owner()`, `agent_xml_compose__task()`, `agent_xml_compose__tasks()`, `fipa_envelope_Compose__acl_representation()`, `fipa_envelope_Compose__date()`, `fipa_envelope_Compose__envelope()`, `fipa_envelope_Compose__from()`, `fipa_envelope_Compose__intended_receiver()`, `fipa_envelope_Compose__params()`, `fipa_envelope_Compose__payload_encoding()`, `fipa_envelope_Compose__to()`, `main()`, `mxml_load_data()`, `scan_file()`, and `xml_new_cdata()`.

16.70.4.24 mxml_node_t* mxmlNewInteger (mxml_node_t * parent, int integer)

Definition at line 361 of file mxml-node.c.

References `mxml_value_u::integer`, `MXML_INTEGER`, `mxml_new()`, `node`, and `mxml_node_s::value`.

Referenced by `main()`, and `mxml_load_data()`.

16.70.4.25 mxml_node_t* mxmlNewOpaque (mxml_node_t * parent, const char * opaque)

Definition at line 392 of file mxml-node.c.

References `mxml_new()`, `MXML_OPAQUE`, `node`, `mxml_value_u::opaque`, and `mxml_node_s::value`.

Referenced by `main()`, and `mxml_load_data()`.

16.70.4.26 mxml_node_t* mxmlNewReal (mxml_node_t * parent, double real)

Definition at line 430 of file mxml-node.c.

References `mxml_new()`, `MXML_REAL`, `node`, `mxml_value_u::real`, and `mxml_node_s::value`.

Referenced by `main()`, and `mxml_load_data()`.

16.70.4.27 mxml_node_t* mxmlNewText (mxml_node_t * parent, int whitespace, const char * string)

Definition at line 462 of file mxml-node.c.

References `mxml_new()`, `MXML_TEXT`, `node`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::value`, and `mxml_text_s::whitespace`.

Referenced by `agent_xml_compose__create_row_nodes()`, `agent_xml_compose__home()`, `agent_xml_compose__name()`, `agent_xml_compose__owner()`, `fipa_envelope_Compose__acl_representation()`, `fipa_envelope_Compose__date()`, `fipa_envelope_Compose__from()`, `fipa_envelope_Compose__intended_receiver()`, `fipa_envelope_Compose__payload_encoding()`, `fipa_envelope_Compose__to()`, `main()`, `mxml_load_data()`, and `scan_file()`.

16.70.4.28 `mxmnode_t* mxmNewTextf (mxmnode_t * parent, int whitespace, const char * format, ...)`

Definition at line 506 of file `mxmnode.c`.

References `mxm_new()`, `mxm_strdupf()`, `MXML_TEXT`, `node`, `mxm_text_s::string`, `mxm_value_u::text`, `mxm_node_s::value`, and `mxm_text_s::whitespace`.

16.70.4.29 `void mxmRemove (mxmnode_t * node)`

Definition at line 553 of file `mxmnode.c`.

References `mxm_node_s::child`, `mxm_node_s::last_child`, `mxm_node_s::next`, `mxm_node_s::parent`, and `mxm_node_s::prev`.

Referenced by `mxmAdd()`, and `mxmDelete()`.

16.70.4.30 `char* mxmSaveAllocString (mxmnode_t * node, const char *(*)(mxmnode_t *, int) cb)`

16.70.4.31 `int mxmSaveFd (mxmnode_t * node, int fd, const char *(*)(mxmnode_t *, int) cb)`

16.70.4.32 `int mxmSaveFile (mxmnode_t * node, FILE * fp, const char *(*)(mxmnode_t *, int) cb)`

16.70.4.33 `int mxmSaveString (mxmnode_t * node, char * buffer, int bufsize, const char *(*)(mxmnode_t *, int) cb)`

16.70.4.34 `int mxmSetCustom (mxmnode_t * node, void * data, void (*)(void *) destroy)`

Definition at line 46 of file `mxm-set.c`.

References `mxm_value_u::custom`, `mxm_custom_s::data`, `mxm_custom_s::destroy`, `MXML_CUSTOM`, `mxm_node_s::type`, and `mxm_node_s::value`.

16.70.4.35 `void mxmSetCustomHandlers (mxm_custom_load_cb_t load, mxm_custom_save_cb_t save)`

Definition at line 456 of file `mxm-file.c`.

References `mxm_custom_load_cb`, and `mxm_custom_save_cb`.

16.70.4.36 `int mxmSetElement (mxmnode_t * node, const char * name)`

Definition at line 79 of file `mxm-set.c`.

References `mxm_value_u::element`, `MXML_ELEMENT`, `mxm_value_s::name`, `mxm_node_s::type`, and `mxm_node_s::value`.

16.70.4.37 `void mxmSetErrorCallback (void (*)(const char *) cb)`

Definition at line 471 of file `mxm-file.c`.

References `mxm_error_cb`.

16.70.4.38 int mxmlSetInteger (mxml_node_t * node, int integer)

Definition at line 109 of file mxml-set.c.

References mxml_value_u::integer, MXML_INTEGER, mxml_node_s::type, and mxml_node_s::value.

16.70.4.39 int mxmlSetOpaque (mxml_node_t * node, const char * opaque)

Definition at line 136 of file mxml-set.c.

References MXML_OPAQUE, mxml_value_u::opaque, mxml_node_s::type, and mxml_node_s::value.

16.70.4.40 int mxmlSetReal (mxml_node_t * node, double real)

Definition at line 166 of file mxml-set.c.

References MXML_REAL, mxml_value_u::real, mxml_node_s::type, and mxml_node_s::value.

16.70.4.41 int mxmlSetText (mxml_node_t * node, int whitespace, const char * string)

Definition at line 193 of file mxml-set.c.

References MXML_TEXT, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, mxml_node_s::value, and mxml_text_s::whitespace.

16.70.4.42 int mxmlSetTextf (mxml_node_t * node, int whitespace, const char * format, ...)

Definition at line 225 of file mxml-set.c.

References mxml_strdupf(), MXML_TEXT, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, mxml_node_s::value, and mxml_text_s::whitespace.

16.70.4.43 mxml_node_t* mxmlWalkNext (mxml_node_t * node, mxml_node_t * top, int descend)

Definition at line 133 of file mxml-search.c.

References mxml_node_s::child, mxml_node_s::next, and mxml_node_s::parent.

Referenced by mxmlFindElement(), and write_element().

16.70.4.44 mxml_node_t* mxmlWalkPrev (mxml_node_t * node, mxml_node_t * top, int descend)

Definition at line 169 of file mxml-search.c.

References mxml_node_s::last_child, mxml_node_s::parent, and mxml_node_s::prev.

16.71 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/mxmldoc.c File Reference

```
#include "config.h"  
#include "mxml.h"
```

Defines

- #define [STATE_NONE](#) 0
- #define [STATE_PREPROCESSOR](#) 1
- #define [STATE_C_COMMENT](#) 2
- #define [STATE_CXX_COMMENT](#) 3
- #define [STATE_STRING](#) 4
- #define [STATE_CHARACTER](#) 5
- #define [STATE_IDENTIFIER](#) 6

Functions

- static [mxml_node_t](#) * [add_variable](#) ([mxml_node_t](#) *parent, const char *name, [mxml_node_t](#) *type)
- static void [safe_strcpy](#) (char *dst, const char *src)
- static int [scan_file](#) (const char *filename, FILE *fp, [mxml_node_t](#) *doc)
- static void [sort_node](#) ([mxml_node_t](#) *tree, [mxml_node_t](#) *func)
- static void [update_comment](#) ([mxml_node_t](#) *parent, [mxml_node_t](#) *comment)
- static void [write_documentation](#) ([mxml_node_t](#) *doc)
- static void [write_element](#) ([mxml_node_t](#) *doc, [mxml_node_t](#) *element)
- static void [write_string](#) (const char *s)
- static const char * [ws_cb](#) ([mxml_node_t](#) *node, int where)
- int [main](#) (int argc, char *argv[])

16.71.1 Define Documentation

16.71.1.1 #define STATE_C_COMMENT 2

Definition at line 125 of file mxmldoc.c.

Referenced by [scan_file](#)().

16.71.1.2 #define STATE_CHARACTER 5

Definition at line 128 of file mxmldoc.c.

Referenced by [scan_file](#)().

16.71.1.3 #define STATE_CXX_COMMENT 3

Definition at line 126 of file mxmldoc.c.

Referenced by [scan_file](#)().

16.71.1.4 `#define STATE_IDENTIFIER 6`

Definition at line 129 of file mxmldoc.c.

Referenced by `scan_file()`.

16.71.1.5 `#define STATE_NONE 0`

Definition at line 123 of file mxmldoc.c.

Referenced by `scan_file()`.

16.71.1.6 `#define STATE_PREPROCESSOR 1`

Definition at line 124 of file mxmldoc.c.

Referenced by `scan_file()`.

16.71.1.7 `#define STATE_STRING 4`

Definition at line 127 of file mxmldoc.c.

Referenced by `scan_file()`.

16.71.2 Function Documentation

16.71.2.1 `static mxml_node_t * add_variable (mxml_node_t * parent, const char * name, mxml_node_t * type) [static]`

Definition at line 309 of file mxmldoc.c.

References `mxml_node_s::child`, `mxml_node_s::last_child`, `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `mxmlAdd()`, `mxmlDelete()`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `mxml_node_s::next`, `node`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::value`, and `mxml_text_s::whitespace`.

Referenced by `scan_file()`.

16.71.2.2 `int main (int argc, char * argv[])`

Definition at line 155 of file mxmldoc.c.

References `MXML_DESCEND`, `MXML_NO_CALLBACK`, `mxmlDelete()`, `mxmlElementSetAttr()`, `mxmlFindElement()`, `mxmlLoadFile()`, `mxmlNewElement()`, `mxmlSaveFile()`, `scan_file()`, `write_documentation()`, and `ws_cb()`.

16.71.2.3 `static void safe_strcpy (char * dst, const char * src) [static]`

Definition at line 423 of file mxmldoc.c.

Referenced by `update_comment()`.

16.71.2.4 static int scan_file (const char *filename, FILE *fp, mxml_node_t * doc) [static]

Definition at line 438 of file mxmldoc.c.

References add_variable(), mxml_node_s::child, mxml_value_u::element, mxml_node_s::last_child, MXML_ADD_AFTER, MXML_ADD_BEFORE, MXML_ADD_TO_PARENT, MXML_DESCEND_FIRST, MXML_NO_PARENT, mxmlAdd(), mxmlDelete(), mxmlElementGetAttr(), mxmlElementSetAttr(), mxmlFindElement(), mxmlNewElement(), mxmlNewText(), mxml_value_s::name, mxml_node_s::next, node, sort_node(), STATE_C_COMMENT, STATE_CHARACTER, STATE_CXX_COMMENT, STATE_IDENTIFIER, STATE_NONE, STATE_PREPROCESSOR, STATE_STRING, mxml_text_s::string, mxml_value_u::text, update_comment(), mxml_node_s::value, and mxml_text_s::whitespace.

Referenced by main().

16.71.2.5 static void sort_node (mxml_node_t * tree, mxml_node_t * func) [static]

Definition at line 1613 of file mxmldoc.c.

References mxml_node_s::child, mxml_value_u::element, MXML_ADD_AFTER, MXML_ADD_BEFORE, MXML_ADD_TO_PARENT, MXML_DESCEND_FIRST, mxmlAdd(), mxmlDelete(), mxmlElementGetAttr(), mxmlElementSetAttr(), mxmlFindElement(), mxml_value_s::name, mxml_node_s::next, mxml_node_s::parent, and mxml_node_s::value.

Referenced by scan_file().

16.71.2.6 static void update_comment (mxml_node_t * parent, mxml_node_t * comment) [static]

Definition at line 1701 of file mxmldoc.c.

References mxml_value_u::element, mxmlElementSetAttr(), mxml_value_s::name, safe_strcpy(), mxml_text_s::string, mxml_value_u::text, and mxml_node_s::value.

Referenced by scan_file().

16.71.2.7 static void write_documentation (mxml_node_t * doc) [static]

Definition at line 1801 of file mxmldoc.c.

References mxml_node_s::child, MXML_DESCEND_FIRST, MXML_NO_DESCEND, MXML_VERSION, mxmlElementGetAttr(), mxmlFindElement(), and write_element().

Referenced by main().

16.71.2.8 static void write_element (mxml_node_t * doc, mxml_node_t * element) [static]

Definition at line 2611 of file mxmldoc.c.

References mxml_node_s::child, MXML_DESCEND, MXML_NO_DESCEND, MXML_TEXT, mxmlFindElement(), mxmlWalkNext(), node, mxml_text_s::string, mxml_value_u::text, mxml_node_s::type, mxml_node_s::value, mxml_text_s::whitespace, and write_string().

Referenced by write_documentation().

16.71.2.9 static void write_string (const char * s) [static]

Definition at line 2656 of file mxmldoc.c.

Referenced by write_element().

16.71.2.10 static const char * ws_cb (mxml_node_t * node, int where) [static]

Definition at line 2714 of file mxmldoc.c.

References mxml_value_u::element, MXML_WS_AFTER_CLOSE, MXML_WS_AFTER_OPEN, MXML_WS_BEFORE_CLOSE, MXML_WS_BEFORE_OPEN, mxml_value_s::name, mxml_node_s::parent, and mxml_node_s::value.

Referenced by main().

16.72 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/test/class.cxx File Reference

Data Structures

- class [foo_c](#)

Variables

- [foo_c f](#)
- [foo_c foo](#)
- [bar = b](#)

16.72.1 Variable Documentation

16.72.1.1 [bar = b](#)

Definition at line 77 of file class.cxx.

16.72.1.2 [foo_c f](#)

Referenced by [foo_float_function\(\)](#), [main\(\)](#), [md5_check\(\)](#), [sha1_check\(\)](#), and [sha2_check\(\)](#).

16.72.1.3 [foo_c foo](#)

16.73 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/test/enum.cxx File Reference

Typedefs

- typedef enum [foo_enum_e](#) [foo_enum_t](#)

Enumerations

- enum [foo_enum_e](#) { [FOO_ONE](#), [FOO_TWO](#), [FOO_RED](#), [FOO_BLUE](#) }

16.73.1 Typedef Documentation

16.73.1.1 [typedef enum foo_enum_e foo_enum_t](#)

16.73.2 Enumeration Type Documentation

16.73.2.1 [enum foo_enum_e](#)

Enumerator:

FOO_ONE

FOO_TWO

FOO_RED

FOO_BLUE

Definition at line 1 of file enum.cxx.

16.74 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/test/function.cxx File Reference

Functions

- void `foo_void_function` (`int one`, `float *two`, `const char *three`)
- float `foo_float_function` (`int one`, `const char *two`)
- int `foo_default_string` (`int one`, `const char *two="2"`)
- int `foo_default_int` (`int one`, `int two=2`)

16.74.1 Function Documentation

16.74.1.1 `int foo_default_int (int one, int two = 2)`

Definition at line 65 of file `function.cxx`.

16.74.1.2 `int foo_default_string (int one, const char * two = "2")`

Definition at line 45 of file `function.cxx`.

16.74.1.3 `float foo_float_function (int one, const char * two)`

Definition at line 26 of file `function.cxx`.

References `f`.

16.74.1.4 `void foo_void_function (int one, float * two, const char * three)`

Definition at line 6 of file `function.cxx`.

16.75 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/test/struct.cxx File Reference

Data Structures

- struct [foo_s](#)

Typedefs

- typedef struct [foo_s](#) [foo_t](#)

16.75.1 Typedef Documentation

16.75.1.1 typedef struct [foo_s](#) [foo_t](#)

16.76 /home/dko/projects/mobilec/trunk/src/mxml-2.2.2/testmxml.c File Reference

```
#include "config.h"
#include "mxml.h"
#include <unistd.h>
#include <fcntl.h>
```

Defines

- #define [O_BINARY](#) 0

Functions

- [mxml_type_t type_cb](#) ([mxml_node_t *node](#))
- const char * [whitespace_cb](#) ([mxml_node_t *node](#), int where)
- int [main](#) (int argc, char *argv[])

16.76.1 Define Documentation

16.76.1.1 #define O_BINARY 0

Definition at line 42 of file testmxml.c.

Referenced by [main\(\)](#).

16.76.2 Function Documentation

16.76.2.1 int main (int argc, char * argv[])

Definition at line 59 of file testmxml.c.

References [mxml_node_s::child](#), [mxml_value_u::element](#), [f](#), [mxml_value_u::integer](#), [mxml_node_s::last_child](#), [MXML_DESCEND](#), [MXML_ELEMENT](#), [MXML_INTEGER](#), [MXML_INTEGER_CALLBACK](#), [MXML_NO_CALLBACK](#), [MXML_NO_DESCEND](#), [MXML_NO_PARENT](#), [MXML_OPAQUE](#), [MXML_OPAQUE_CALLBACK](#), [MXML_REAL](#), [MXML_REAL_CALLBACK](#), [MXML_TEXT](#), [mxmlDelete\(\)](#), [mxmlFindElement\(\)](#), [mxmlIndexDelete\(\)](#), [mxmlIndexEnum\(\)](#), [mxmlIndexFind\(\)](#), [mxmlIndexNew\(\)](#), [mxmlIndexReset\(\)](#), [mxmlLoadFd\(\)](#), [mxmlLoadFile\(\)](#), [mxmlLoadString\(\)](#), [mxmlNewElement\(\)](#), [mxmlNewInteger\(\)](#), [mxmlNewOpaque\(\)](#), [mxmlNewReal\(\)](#), [mxmlNewText\(\)](#), [mxmlSaveFd\(\)](#), [mxmlSaveFile\(\)](#), [mxmlSaveString\(\)](#), [mxml_value_s::name](#), [mxml_node_s::next](#), [node](#), [mxml_index_s::num_nodes](#), [O_BINARY](#), [mxml_value_u::opaque](#), [mxml_value_u::real](#), [mxml_text_s::string](#), [mxml_value_u::text](#), [mxml_node_s::type](#), [type_cb\(\)](#), [mxml_node_s::value](#), [mxml_text_s::whitespace](#), and [whitespace_cb\(\)](#).

16.76.2.2 mxml_type_t type_cb (mxml_node_t * node)

Definition at line 542 of file testmxml.c.

References `mxml_value_u::element`, `MXML_INTEGER`, `MXML_OPAQUE`, `MXML_REAL`, `MXML_TEXT`, `mxmlElementGetAttr()`, `mxml_value_s::name`, and `mxml_node_s::value`.

Referenced by `main()`.

16.76.2.3 `const char* whitespace_cb (mxml_node_t * node, int where)`

Definition at line 249 of file `xml_helper.c`.

References `MXML_WS_AFTER_CLOSE`, and `MXML_WS_BEFORE_OPEN`.

16.77 /home/dko/projects/mobilec/trunk/src/security/asm.c File Reference

```
#include "../include/mc_platform.h"
#include "../include/message.h"
#include "asm.h"
#include "asm_message_composer.h"
#include "config.h"
#include "mc_dh.h"
```

16.78 /home/dko/projects/mobilec/trunk/src/security/asm.h File Reference

```
#include "config.h"
#include "../include/ap_queue_template.h"
#include "../include/data_structures.h"
#include "../mc_list/list.h"
#include "asm_node.h"
```

16.79 /home/dko/projects/mobilec/trunk/src/security/asm_message_composer.c File Reference

```
#include "asm_message_composer.h"  
#include "config.h"  
#include "../include/mc_platform.h"
```


16.80 /home/dko/projects/mobilec/trunk/src/security/asm_message_composer.h File Reference

```
#include <mxml.h>
#include "asm.h"
#include "config.h"
```

16.81 /home/dko/projects/mobilec/trunk/src/security/asm_message_parser.c File Reference

```
#include "asm_message_parser.h"  
#include "../include/xml_helper.h"  
#include "config.h"
```

16.82 /home/dko/projects/mobilec/trunk/src/security/asm_message_parser.h File Reference

```
#include "../include/mc_error.h"  
#include "../include/xml_parser.h"  
#include "asm_node.h"  
#include "config.h"
```

16.83 /home/dko/projects/mobilec/trunk/src/security/asm_node.c File Reference

```
#include <netdb.h>
#include "config.h"
#include "asm.h"
#include "asm_message_parser.h"
#include "asm_node.h"
#include "xyssl-0.9/include/xyssl/havege.h"
#include "xyssl-0.9/include/xyssl/bignum.h"
```

16.84 /home/dko/projects/mobilec/trunk/src/security/asm_node.h File Reference

```
#include <mxml.h>
#include <netinet/in.h>
#include "../include/macros.h"
#include "../include/message.h"
#include "xyssl-0.9/include/xyssl/dhm.h"
#include "xyssl-0.9/include/xyssl/rsa.h"
#include "xyssl-0.9/include/xyssl/aes.h"
#include "config.h"
```

16.85 /home/dko/projects/mobilec/trunk/src/security/mc_dh.c File Reference

```
#include <stdio.h>
#include "../include/mc_error.h"
#include "xyssl-0.9/include/xyssl/dhm.h"
#include "xyssl-0.9/include/xyssl/havege.h"
#include "mc_dh.h"
#include "asm_node.h"
#include "config.h"
```

16.86 /home/dko/projects/mobilec/trunk/src/security/mc_dh.h File Reference

```
#include "xyssl-0.9/include/xyssl/rsa.h"  
#include "asm_node.h"  
#include "config.h"
```

16.87 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/aes.h File Reference

Data Structures

- struct [aes_context](#)
AES context structure.

Defines

- #define [AES_ENCRYPT](#) 1
- #define [AES_DECRYPT](#) 0

Functions

- void [aes_setkey_enc](#) ([aes_context](#) *ctx, unsigned char *key, int keysize)
AES key schedule (encryption).
- void [aes_setkey_dec](#) ([aes_context](#) *ctx, unsigned char *key, int keysize)
AES key schedule (decryption).
- void [aes_crypt_ecb](#) ([aes_context](#) *ctx, int mode, unsigned char input[16], unsigned char output[16])
AES-ECB block encryption/decryption.
- void [aes_crypt_cbc](#) ([aes_context](#) *ctx, int mode, int length, unsigned char iv[16], unsigned char *input, unsigned char *output)
AES-CBC buffer encryption/decryption.
- void [aes_crypt_cfb](#) ([aes_context](#) *ctx, int mode, int length, int *iv_off, unsigned char iv[16], unsigned char *input, unsigned char *output)
AES-CFB buffer encryption/decryption.
- int [aes_self_test](#) (int verbose)
Checkup routine.

16.87.1 Detailed Description

Definition in file [aes.h](#).

16.87.2 Define Documentation

16.87.2.1 #define AES_DECRYPT 0

Definition at line 8 of file [aes.h](#).

Referenced by [main\(\)](#).

16.87.2.2 #define AES_ENCRYPT 1

Definition at line 7 of file aes.h.

Referenced by main().

16.87.3 Function Documentation

16.87.3.1 void aes_crypt_cbc (aes_context * ctx, int mode, int length, unsigned char iv[16], unsigned char * input, unsigned char * output)

AES-CBC buffer encryption/decryption.

Parameters:

ctx AES context
mode AES_ENCRYPT or AES_DECRYPT
length length of the input data
iv initialization vector (updated after use)
input buffer holding the input data
output buffer holding the output data

Referenced by main().

16.87.3.2 void aes_crypt_cfb (aes_context * ctx, int mode, int length, int * iv_off, unsigned char iv[16], unsigned char * input, unsigned char * output)

AES-CFB buffer encryption/decryption.

Parameters:

ctx AES context
mode AES_ENCRYPT or AES_DECRYPT
length length of the input data
iv_off offset in IV (updated after use)
iv initialization vector (updated after use)
input buffer holding the input data
output buffer holding the output data

16.87.3.3 void aes_crypt_ecb (aes_context * ctx, int mode, unsigned char input[16], unsigned char output[16])

AES-ECB block encryption/decryption.

Parameters:

ctx AES context
mode AES_ENCRYPT or AES_DECRYPT
input 16-byte input block
output 16-byte output block

Referenced by main().

16.87.3.4 int aes_self_test (int *verbose*)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.87.3.5 void aes_setkey_dec (aes_context * *ctx*, unsigned char * *key*, int *keysize*)

AES key schedule (decryption).

Parameters:

ctx AES context to be initialized

key decryption key

keysize must be 128, 192 or 256

Referenced by main().

16.87.3.6 void aes_setkey_enc (aes_context * *ctx*, unsigned char * *key*, int *keysize*)

AES key schedule (encryption).

Parameters:

ctx AES context to be initialized

key encryption key

keysize must be 128, 192 or 256

Referenced by main().

16.88 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/arc4.h File Reference

Data Structures

- struct [arc4_context](#)
ARC4 context structure.

Functions

- void [arc4_setup](#) ([arc4_context](#) *ctx, unsigned char *key, int keylen)
ARC4 key schedule.
- void [arc4_crypt](#) ([arc4_context](#) *ctx, unsigned char *buf, int buflen)
ARC4 cipher function.
- int [arc4_self_test](#) (int verbose)

16.88.1 Detailed Description

Definition in file [arc4.h](#).

16.88.2 Function Documentation

16.88.2.1 void [arc4_crypt](#) ([arc4_context](#) * ctx, unsigned char * buf, int buflen)

ARC4 cipher function.

Parameters:

- ctx* ARC4 context
- buf* buffer to be processed
- buflen* amount of data in buf

Referenced by [main\(\)](#).

16.88.2.2 int [arc4_self_test](#) (int verbose)

Referenced by [main\(\)](#).

16.88.2.3 void [arc4_setup](#) ([arc4_context](#) * ctx, unsigned char * key, int keylen)

ARC4 key schedule.

Parameters:

- ctx* ARC4 context to be initialized

key the secret key

keylen length of the key

Referenced by main().

16.89 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/base64.h File Reference

Defines

- #define [XYSSL_ERR_BASE64_BUFFER_TOO_SMALL](#) -0x0010
- #define [XYSSL_ERR_BASE64_INVALID_CHARACTER](#) -0x0012

Functions

- [int base64_encode](#) (unsigned char *dst, int *dlen, unsigned char *src, int slen)
Encode a buffer into base64 format.
- [int base64_decode](#) (unsigned char *dst, int *dlen, unsigned char *src, int slen)
Decode a base64-formatted buffer.
- [int base64_self_test](#) (int verbose)
Checkup routine.

16.89.1 Detailed Description

Definition in file [base64.h](#).

16.89.2 Define Documentation

16.89.2.1 #define XYSSL_ERR_BASE64_BUFFER_TOO_SMALL -0x0010

Definition at line 7 of file base64.h.

16.89.2.2 #define XYSSL_ERR_BASE64_INVALID_CHARACTER -0x0012

Definition at line 8 of file base64.h.

16.89.3 Function Documentation

16.89.3.1 int base64_decode (unsigned char * dst, int * dlen, unsigned char * src, int slen)

Decode a base64-formatted buffer.

Parameters:

- dst* destination buffer
- dlen* size of the buffer
- src* source buffer
- slen* amount of data to be decoded

Returns:

0 if successful, `XYSSL_ERR_BASE64_BUFFER_TOO_SMALL`, or `XYSSL_ERR_BASE64_INVALID_DATA` if the input data is not correct. `*dlen` is always updated to reflect the amount of data that has (or would have) been written.

Note:

Call this function with `*dlen = 0` to obtain the required buffer size in `*dlen`

16.89.3.2 int base64_encode (unsigned char *dst, int *dlen, unsigned char *src, int slen)

Encode a buffer into base64 format.

Parameters:

dst destination buffer
dlen size of the buffer
src source buffer
slen amount of data to be encoded

Returns:

0 if successful, or `XYSSL_ERR_BASE64_BUFFER_TOO_SMALL`. `*dlen` is always updated to reflect the amount of data that has (or would have) been written.

Note:

Call this function with `*dlen = 0` to obtain the required buffer size in `*dlen`

16.89.3.3 int base64_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by `main()`.

16.90 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/bignum.h File Reference

```
#include <stdio.h>
```

Data Structures

- struct [mpi](#)
MPI structure.

Defines

- #define [XYSSL_ERR_MPI_FILE_IO_ERROR](#) -0x0002
- #define [XYSSL_ERR_MPI_BAD_INPUT_DATA](#) -0x0004
- #define [XYSSL_ERR_MPI_INVALID_CHARACTER](#) -0x0006
- #define [XYSSL_ERR_MPI_BUFFER_TOO_SMALL](#) -0x0008
- #define [XYSSL_ERR_MPI_NEGATIVE_VALUE](#) -0x000A
- #define [XYSSL_ERR_MPI_DIVISION_BY_ZERO](#) -0x000C
- #define [XYSSL_ERR_MPI_NOT_ACCEPTABLE](#) -0x000E
- #define [MPI_CHK](#)(f) if((ret = f) != 0) goto cleanup

Typedefs

- typedef unsigned long [t_int](#)
- typedef unsigned long long [t_dbl](#)

Functions

- void [mpi_init](#) ([mpi](#) *X,...)
Initialize one or more [mpi](#).
- void [mpi_free](#) ([mpi](#) *X,...)
Unallocate one or more [mpi](#).
- int [mpi_grow](#) ([mpi](#) *X, int nlimbs)
Enlarge to the specified number of limbs.
- int [mpi_copy](#) ([mpi](#) *X, [mpi](#) *Y)
Copy the contents of Y into X.
- void [mpi_swap](#) ([mpi](#) *X, [mpi](#) *Y)
Swap the contents of X and Y.
- int [mpi_lset](#) ([mpi](#) *X, int z)
Set value from integer.
- int [mpi_lsb](#) ([mpi](#) *X)

Return the number of least significant bits.

- `int mpi_msb (mpi *X)`
Return the number of most significant bits.
- `int mpi_size (mpi *X)`
Return the total size in bytes.
- `int mpi_read_string (mpi *X, int radix, char *s)`
Import from an ASCII string.
- `int mpi_write_string (mpi *X, int radix, char *s, int *slen)`
Export into an ASCII string.
- `int mpi_read_file (mpi *X, int radix, FILE *fin)`
Read X from an opened file.
- `int mpi_write_file (char *p, mpi *X, int radix, FILE *fout)`
Write X into an opened file, or stdout.
- `int mpi_read_binary (mpi *X, unsigned char *buf, int buflen)`
Import X from unsigned binary data, big endian.
- `int mpi_write_binary (mpi *X, unsigned char *buf, int buflen)`
Export X into unsigned binary data, big endian.
- `int mpi_shift_l (mpi *X, int count)`
Left-shift: $X \ll = \text{count}$.
- `int mpi_shift_r (mpi *X, int count)`
Right-shift: $X \gg = \text{count}$.
- `int mpi_cmp_abs (mpi *X, mpi *Y)`
Compare unsigned values.
- `int mpi_cmp_mpi (mpi *X, mpi *Y)`
Compare signed values.
- `int mpi_cmp_int (mpi *X, int z)`
Compare signed values.
- `int mpi_add_abs (mpi *X, mpi *A, mpi *B)`
Unsigned addition: $X = |A| + |B|$.
- `int mpi_sub_abs (mpi *X, mpi *A, mpi *B)`
Unsigned subtraction: $X = |A| - |B|$.
- `int mpi_add_mpi (mpi *X, mpi *A, mpi *B)`
Signed addition: $X = A + B$.

- `int mpi_sub_mpi (mpi *X, mpi *A, mpi *B)`
Signed subtraction: $X = A - B$.
- `int mpi_add_int (mpi *X, mpi *A, int b)`
Signed addition: $X = A + b$.
- `int mpi_sub_int (mpi *X, mpi *A, int b)`
Signed subtraction: $X = A - b$.
- `int mpi_mul_mpi (mpi *X, mpi *A, mpi *B)`
*Baseline multiplication: $X = A * B$.*
- `int mpi_mul_int (mpi *X, mpi *A, t_int b)`
*Baseline multiplication: $X = A * b$.*
- `int mpi_div_mpi (mpi *Q, mpi *R, mpi *A, mpi *B)`
*Division by mpi: $A = Q * B + R$.*
- `int mpi_div_int (mpi *Q, mpi *R, mpi *A, int b)`
*Division by int: $A = Q * b + R$.*
- `int mpi_mod_mpi (mpi *R, mpi *A, mpi *B)`
Modulo: $R = A \bmod B$.
- `int mpi_mod_int (t_int *r, mpi *A, int b)`
Modulo: $r = A \bmod b$.
- `int mpi_exp_mod (mpi *X, mpi *A, mpi *E, mpi *N, mpi *_RR)`
Sliding-window exponentiation: $X = A^E \bmod N$.
- `int mpi_gcd (mpi *G, mpi *A, mpi *B)`
Greatest common divisor: $G = \gcd(A, B)$.
- `int mpi_inv_mod (mpi *X, mpi *A, mpi *N)`
Modular inverse: $X = A^{-1} \bmod N$.
- `int mpi_is_prime (mpi *X, int(*f_rng)(void *), void *p_rng)`
Miller-Rabin primality test.
- `int mpi_gen_prime (mpi *X, int nbits, int dh_flag, int(*f_rng)(void *), void *p_rng)`
Prime number generation.
- `int mpi_self_test (int verbose)`
Checkup routine.

16.90.1 Detailed Description

Definition in file [bignum.h](#).

16.90.2 Define Documentation

16.90.2.1 `#define MPI_CHK(f) if((ret = f) != 0) goto cleanup`

Definition at line 17 of file bignum.h.

16.90.2.2 `#define XYSSL_ERR_MPI_BAD_INPUT_DATA -0x0004`

Definition at line 10 of file bignum.h.

16.90.2.3 `#define XYSSL_ERR_MPI_BUFFER_TOO_SMALL -0x0008`

Definition at line 12 of file bignum.h.

16.90.2.4 `#define XYSSL_ERR_MPI_DIVISION_BY_ZERO -0x000C`

Definition at line 14 of file bignum.h.

16.90.2.5 `#define XYSSL_ERR_MPI_FILE_IO_ERROR -0x0002`

Definition at line 9 of file bignum.h.

16.90.2.6 `#define XYSSL_ERR_MPI_INVALID_CHARACTER -0x0006`

Definition at line 11 of file bignum.h.

16.90.2.7 `#define XYSSL_ERR_MPI_NEGATIVE_VALUE -0x000A`

Definition at line 13 of file bignum.h.

16.90.2.8 `#define XYSSL_ERR_MPI_NOT_ACCEPTABLE -0x000E`

Definition at line 15 of file bignum.h.

16.90.3 Typedef Documentation

16.90.3.1 `typedef unsigned long long t_dbl`

Definition at line 39 of file bignum.h.

16.90.3.2 `typedef unsigned long t_int`

Definition at line 30 of file bignum.h.

16.90.4 Function Documentation

16.90.4.1 `int mpi_add_abs (mpi * X, mpi * A, mpi * B)`

Unsigned addition: $X = |A| + |B|$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.2 `int mpi_add_int (mpi * X, mpi * A, int b)`

Signed addition: $X = A + b$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.3 `int mpi_add_mpi (mpi * X, mpi * A, mpi * B)`

Signed addition: $X = A + B$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.4 `int mpi_cmp_abs (mpi * X, mpi * Y)`

Compare unsigned values.

Returns:

1 if $|X|$ is greater than $|Y|$, -1 if $|X|$ is lesser than $|Y|$ or 0 if $|X|$ is equal to $|Y|$

16.90.4.5 `int mpi_cmp_int (mpi * X, int z)`

Compare signed values.

Returns:

1 if X is greater than z, -1 if X is lesser than z or 0 if X is equal to z

16.90.4.6 `int mpi_cmp_mpi (mpi * X, mpi * Y)`

Compare signed values.

Returns:

1 if X is greater than Y, -1 if X is lesser than Y or 0 if X is equal to Y

16.90.4.7 `int mpi_copy (mpi * X, mpi * Y)`

Copy the contents of Y into X.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.8 `int mpi_div_int (mpi * Q, mpi * R, mpi * A, int b)`

Division by int: $A = Q * b + R$.

Returns:

0 if successful, 1 if memory allocation failed, `XYSSL_ERR_MPI_DIVISION_BY_ZERO` if $b == 0$

Note:

Either Q or R can be NULL.

Referenced by `main()`.

16.90.4.9 `int mpi_div_mpi (mpi * Q, mpi * R, mpi * A, mpi * B)`

Division by `mpi`: $A = Q * B + R$.

Returns:

0 if successful, 1 if memory allocation failed, `XYSSL_ERR_MPI_DIVISION_BY_ZERO` if $B == 0$

Note:

Either Q or R can be NULL.

16.90.4.10 `int mpi_exp_mod (mpi * X, mpi * A, mpi * E, mpi * N, mpi * _RR)`

Sliding-window exponentiation: $X = A^E \text{ mod } N$.

Returns:

0 if successful, 1 if memory allocation failed, `XYSSL_ERR_MPI_BAD_INPUT_DATA` if N is negative or even

Note:

`_RR` is used to avoid re-computing $R * R \text{ mod } N$ across multiple calls, which speeds up things a bit. It can be set to NULL if the extra performance is unneeded.

Referenced by `main()`.

16.90.4.11 `void mpi_free (mpi * X, ...)`

Unallocate one or more `mpi`.

Referenced by `main()`.

16.90.4.12 `int mpi_gcd (mpi * G, mpi * A, mpi * B)`

Greatest common divisor: $G = \gcd(A, B)$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.13 `int mpi_gen_prime (mpi * X, int nbits, int dh_flag, int(*) (void *) f_rng, void * p_rng)`

Prime number generation.

Parameters:

X destination `mpi`
nbits required size of *X* in bits
dh_flag if 1, then $(X-1)/2$ will be prime too
f_rng RNG function
p_rng RNG parameter

Returns:

0 if successful (probably prime), 1 if memory allocation failed, `XYSSL_ERR_MPI_BAD_INPUT_DATA` if *nbits* is < 3

Referenced by `main()`.

16.90.4.14 `int mpi_grow (mpi * X, int nlimbs)`

Enlarge to the specified number of limbs.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.15 `void mpi_init (mpi * X, ...)`

Initialize one or more `mpi`.

Referenced by `main()`.

16.90.4.16 `int mpi_inv_mod (mpi * X, mpi * A, mpi * N)`

Modular inverse: $X = A^{-1} \pmod N$.

Returns:

0 if successful, 1 if memory allocation failed, `XYSSL_ERR_MPI_BAD_INPUT_DATA` if *N* is negative or nil `XYSSL_ERR_MPI_NOT_ACCEPTABLE` if *A* has no inverse mod *N*

Referenced by `main()`.

16.90.4.17 `int mpi_is_prime (mpi * X, int(*) (void *) f_rng, void * p_rng)`

Miller-Rabin primality test.

Returns:

0 if successful (probably prime), 1 if memory allocation failed, XYSSL_ERR_MPI_NOT_ACCEPTABLE if X is not prime

Referenced by main().

16.90.4.18 `int mpi_lsb (mpi * X)`

Return the number of least significant bits.

16.90.4.19 `int mpi_lset (mpi * X, int z)`

Set value from integer.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.20 `int mpi_mod_int (t_int * r, mpi * A, int b)`

Modulo: $r = A \bmod b$.

Returns:

0 if successful, 1 if memory allocation failed, XYSSL_ERR_MPI_DIVISION_BY_ZERO if $b == 0$

16.90.4.21 `int mpi_mod_mpi (mpi * R, mpi * A, mpi * B)`

Modulo: $R = A \bmod B$.

Returns:

0 if successful, 1 if memory allocation failed, XYSSL_ERR_MPI_DIVISION_BY_ZERO if $B == 0$

16.90.4.22 `int mpi_msb (mpi * X)`

Return the number of most significant bits.

Referenced by d2i_RSA_PUBKEY(), and main().

16.90.4.23 `int mpi_mul_int (mpi * X, mpi * A, t_int b)`

Baseline multiplication: $X = A * b$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.24 `int mpi_mul_mpi (mpi * X, mpi * A, mpi * B)`

Baseline multiplication: $X = A * B$.

Returns:

0 if successful, 1 if memory allocation failed

Referenced by `main()`.

16.90.4.25 `int mpi_read_binary (mpi * X, unsigned char * buf, int buflen)`

Import X from unsigned binary data, big endian.

Parameters:

X destination [mpi](#)

buf input buffer

buflen input buffer size

Returns:

0 if successful, 1 if memory allocation failed

Referenced by `d2i_RSA_PUBKEY()`.

16.90.4.26 `int mpi_read_file (mpi * X, int radix, FILE * fn)`

Read X from an opened file.

Parameters:

X destination [mpi](#)

radix input numeric base

fn input file handle

Returns:

0 if successful, or an `XYSSL_ERR_MPI_XXX` error code

Referenced by `main()`.

16.90.4.27 `int mpi_read_string (mpi * X, int radix, char * s)`

Import from an ASCII string.

Parameters:

X destination [mpi](#)

radix input numeric base

s null-terminated string buffer

Returns:

0 if successful, or an XYSSL_ERR_MPI_XXX error code

Referenced by main().

16.90.4.28 int mpi_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.90.4.29 int mpi_shift_l (mpi * X, int count)

Left-shift: $X \ll= \text{count}$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.30 int mpi_shift_r (mpi * X, int count)

Right-shift: $X \gg= \text{count}$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.31 int mpi_size (mpi * X)

Return the total size in bytes.

16.90.4.32 int mpi_sub_abs (mpi * X, mpi * A, mpi * B)

Unsigned subtraction: $X = |A| - |B|$.

Returns:

0 if successful, XYSSL_ERR_MPI_NEGATIVE_VALUE if B is greater than A

16.90.4.33 int mpi_sub_int (mpi * X, mpi * A, int b)

Signed subtraction: $X = A - b$.

Returns:

0 if successful, 1 if memory allocation failed

Referenced by main().

16.90.4.34 `int mpi_sub_mpi (mpi * X, mpi * A, mpi * B)`

Signed subtraction: $X = A - B$.

Returns:

0 if successful, 1 if memory allocation failed

16.90.4.35 `void mpi_swap (mpi * X, mpi * Y)`

Swap the contents of X and Y.

16.90.4.36 `int mpi_write_binary (mpi * X, unsigned char * buf, int buflen)`

Export X into unsigned binary data, big endian.

Parameters:

X source [mpi](#)

buf output buffer

buflen output buffer size

Returns:

0 if successful, XYSSL_ERR_MPI_BUFFER_TOO_SMALL if buf isn't large enough

Note:

Call this function with **buflen* = 0 to obtain the minimum required buffer size in **buflen*.

16.90.4.37 `int mpi_write_file (char * p, mpi * X, int radix, FILE * fout)`

Write X into an opened file, or stdout.

Parameters:

p prefix, can be NULL

X source [mpi](#)

radix output numeric base

fout output file handle

Returns:

0 if successful, or an XYSSL_ERR_MPI_XXX error code

Note:

Set *fout* == NULL to print X on the console.

Referenced by `main()`.

16.90.4.38 `int mpi_write_string (mpi * X, int radix, char * s, int * slen)`

Export into an ASCII string.

Parameters:

- X* source [mpi](#)
- radix* output numeric base
- s* string buffer
- slen* string buffer size

Returns:

0 if successful, or an XYSSL_ERR_MPI_XXX error code

Note:

Call this function with **slen* = 0 to obtain the minimum required buffer size in **slen*.

16.91 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/bn_mul.h File Reference

```
#include "xyssl/config.h"
```

Defines

- #define [MULADDC_INIT](#)
- #define [MULADDC_CORE](#)
- #define [MULADDC_STOP](#) }

16.91.1 Detailed Description

Definition in file [bn_mul.h](#).

16.91.2 Define Documentation

16.91.2.1 #define MULADDC_CORE

Value:

```
s0 = ( *s << biH ) >> biH;          \
    s1 = ( *s >> biH ); s++;          \
    rx = s0 * b1; r0 = s0 * b0;        \
    ry = s1 * b0; r1 = s1 * b1;        \
    r1 += ( rx >> biH );               \
    r1 += ( ry >> biH );               \
    rx <<= biH; ry <<= biH;            \
    r0 += rx; r1 += ( r0 < rx );        \
    r0 += ry; r1 += ( r0 < ry );        \
    r0 += c; r1 += ( r0 < c );          \
    r0 += *d; r1 += ( r0 < *d );        \
    c = r1; *(d++) = r0;
```

Definition at line 662 of file [bn_mul.h](#).

16.91.2.2 #define MULADDC_INIT

Value:

```
{                                     \
    t_int s0, s1, b0, b1;             \
    t_int r0, r1, rx, ry;             \
    b0 = ( b << biH ) >> biH;         \
    b1 = ( b >> biH );
```

Definition at line 655 of file [bn_mul.h](#).

16.91.2.3 #define MULADDC_STOP }

Definition at line 676 of file [bn_mul.h](#).

16.92 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/certs.h File Reference

Variables

- char [test_ca_cert](#) []
- char [test_ca_key](#) []
- char [test_ca_pwd](#) []
- char [test_srv_cert](#) []
- char [test_srv_key](#) []
- char [test_cli_cert](#) []
- char [test_cli_key](#) []
- char [xyssl_ca_cert](#) []

16.92.1 Detailed Description

Definition in file [certs.h](#).

16.92.2 Variable Documentation

16.92.2.1 char test_ca_cert[]

Referenced by [main\(\)](#), and [ssl_test\(\)](#).

16.92.2.2 char test_ca_key[]

16.92.2.3 char test_ca_pwd[]

16.92.2.4 char test_cli_cert[]

Referenced by [main\(\)](#).

16.92.2.5 char test_cli_key[]

Referenced by [main\(\)](#).

16.92.2.6 char test_srv_cert[]

Referenced by [main\(\)](#), and [ssl_test\(\)](#).

16.92.2.7 char test_srv_key[]

Referenced by [main\(\)](#), and [ssl_test\(\)](#).

16.92.2.8 char xyssl_ca_cert[]

Referenced by [main\(\)](#).

16.93 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/debug.h File Reference

```
#include "xyssl/config.h"  
#include "xyssl/ssl.h"
```

Defines

- #define `SSL_DEBUG_MSG`(level, args) do { } while(0)
- #define `SSL_DEBUG_RET`(level, text, ret) do { } while(0)
- #define `SSL_DEBUG_BUF`(level, text, buf, len) do { } while(0)
- #define `SSL_DEBUG_MPI`(level, text, X) do { } while(0)
- #define `SSL_DEBUG_CRT`(level, text, crt) do { } while(0)

Functions

- char * `debug_fmt` (const char *format,...)
- void `debug_print_msg` (ssl_context *ssl, int level, char *file, int line, char *text)
- void `debug_print_ret` (ssl_context *ssl, int level, char *file, int line, char *text, int ret)
- void `debug_print_buf` (ssl_context *ssl, int level, char *file, int line, char *text, unsigned char *buf, int len)
- void `debug_print_mpi` (ssl_context *ssl, int level, char *file, int line, char *text, mpi *X)
- void `debug_print_crt` (ssl_context *ssl, int level, char *file, int line, char *text, x509_cert *crt)

16.93.1 Detailed Description

Definition in file [debug.h](#).

16.93.2 Define Documentation

16.93.2.1 #define SSL_DEBUG_BUF(level, text, buf, len) do { } while(0)

Definition at line 31 of file [debug.h](#).

16.93.2.2 #define SSL_DEBUG_CRT(level, text, crt) do { } while(0)

Definition at line 33 of file [debug.h](#).

16.93.2.3 #define SSL_DEBUG_MPI(level, text, X) do { } while(0)

Definition at line 32 of file [debug.h](#).

16.93.2.4 #define SSL_DEBUG_MSG(level, args) do { } while(0)

Definition at line 29 of file [debug.h](#).

16.93.2.5 `#define SSL_DEBUG_RET(level, text, ret) do { } while(0)`

Definition at line 30 of file debug.h.

16.93.3 Function Documentation

16.93.3.1 `char* debug_fmt (const char * format, ...)`

16.93.3.2 `void debug_print_buf (ssl_context * ssl, int level, char * file, int line, char * text, unsigned char * buf, int len)`

16.93.3.3 `void debug_print_cert (ssl_context * ssl, int level, char * file, int line, char * text, x509_cert * cert)`

16.93.3.4 `void debug_print_mpi (ssl_context * ssl, int level, char * file, int line, char * text, mpi * X)`

16.93.3.5 `void debug_print_msg (ssl_context * ssl, int level, char * file, int line, char * text)`

16.93.3.6 `void debug_print_ret (ssl_context * ssl, int level, char * file, int line, char * text, int ret)`

16.94 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/des.h File Reference

Data Structures

- struct [des_context](#)
DES context structure.
- struct [des3_context](#)
Triple-DES context structure.

Defines

- #define [DES_ENCRYPT](#) 1
- #define [DES_DECRYPT](#) 0

Functions

- void [des_setkey_enc](#) ([des_context](#) *ctx, unsigned char key[8])
DES key schedule (56-bit, encryption).
- void [des_setkey_dec](#) ([des_context](#) *ctx, unsigned char key[8])
DES key schedule (56-bit, decryption).
- void [des3_set2key_enc](#) ([des3_context](#) *ctx, unsigned char key[16])
Triple-DES key schedule (112-bit, encryption).
- void [des3_set2key_dec](#) ([des3_context](#) *ctx, unsigned char key[16])
Triple-DES key schedule (112-bit, decryption).
- void [des3_set3key_enc](#) ([des3_context](#) *ctx, unsigned char key[24])
Triple-DES key schedule (168-bit, encryption).
- void [des3_set3key_dec](#) ([des3_context](#) *ctx, unsigned char key[24])
Triple-DES key schedule (168-bit, decryption).
- void [des_crypt_ecb](#) ([des_context](#) *ctx, unsigned char input[8], unsigned char output[8])
DES-ECB block encryption/decryption.
- void [des_crypt_cbc](#) ([des_context](#) *ctx, int mode, int length, unsigned char iv[8], unsigned char *input, unsigned char *output)
DES-CBC buffer encryption/decryption.
- void [des3_crypt_ecb](#) ([des3_context](#) *ctx, unsigned char input[8], unsigned char output[8])
3DES-ECB block encryption/decryption
- void [des3_crypt_cbc](#) ([des3_context](#) *ctx, int mode, int length, unsigned char iv[8], unsigned char *input, unsigned char *output)

3DES-CBC buffer encryption/decryption

- [int des_self_test](#) ([int](#) verbose)

16.94.1 Detailed Description

Definition in file [des.h](#).

16.94.2 Define Documentation

16.94.2.1 #define DES_DECRYPT 0

Definition at line 8 of file [des.h](#).

16.94.2.2 #define DES_ENCRYPT 1

Definition at line 7 of file [des.h](#).

Referenced by [main\(\)](#).

16.94.3 Function Documentation

16.94.3.1 void [des3_crypt_cbc](#) ([des3_context](#) * *ctx*, [int](#) *mode*, [int](#) *length*, [unsigned char](#) *iv*[8], [unsigned char](#) * *input*, [unsigned char](#) * *output*)

3DES-CBC buffer encryption/decryption

Parameters:

ctx 3DES context
mode DES_ENCRYPT or DES_DECRYPT
length length of the input data
iv initialization vector (updated after use)
input buffer holding the input data
output buffer holding the output data

Referenced by [main\(\)](#).

16.94.3.2 void [des3_crypt_ecb](#) ([des3_context](#) * *ctx*, [unsigned char](#) *input*[8], [unsigned char](#) *output*[8])

3DES-ECB block encryption/decryption

Parameters:

ctx 3DES context
input 64-bit input block
output 64-bit output block

16.94.3.3 void des3_set2key_dec (des3_context * ctx, unsigned char key[16])

Triple-DES key schedule (112-bit, decryption).

Parameters:

ctx 3DES context to be initialized
key 16-byte secret key

16.94.3.4 void des3_set2key_enc (des3_context * ctx, unsigned char key[16])

Triple-DES key schedule (112-bit, encryption).

Parameters:

ctx 3DES context to be initialized
key 16-byte secret key

16.94.3.5 void des3_set3key_dec (des3_context * ctx, unsigned char key[24])

Triple-DES key schedule (168-bit, decryption).

Parameters:

ctx 3DES context to be initialized
key 24-byte secret key

16.94.3.6 void des3_set3key_enc (des3_context * ctx, unsigned char key[24])

Triple-DES key schedule (168-bit, encryption).

Parameters:

ctx 3DES context to be initialized
key 24-byte secret key

Referenced by main().

16.94.3.7 void des_crypt_cbc (des_context * ctx, int mode, int length, unsigned char iv[8], unsigned char * input, unsigned char * output)

DES-CBC buffer encryption/decryption.

Parameters:

ctx DES context
mode DES_ENCRYPT or DES_DECRYPT
length length of the input data

iv initialization vector (updated after use)

input buffer holding the input data

output buffer holding the output data

Referenced by main().

16.94.3.8 void des_crypt_ecb (des_context * ctx, unsigned char input[8], unsigned char output[8])

DES-ECB block encryption/decryption.

Parameters:

ctx DES context

input 64-bit input block

output 64-bit output block

16.94.3.9 int des_self_test (int verbose)

Referenced by main().

16.94.3.10 void des_setkey_dec (des_context * ctx, unsigned char key[8])

DES key schedule (56-bit, decryption).

Parameters:

ctx DES context to be initialized

key 8-byte secret key

16.94.3.11 void des_setkey_enc (des_context * ctx, unsigned char key[8])

DES key schedule (56-bit, encryption).

Parameters:

ctx DES context to be initialized

key 8-byte secret key

Referenced by main().

16.95 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/dhm.h File Reference

```
#include "bignum.h"
```

Data Structures

- struct [dhm_context](#)

Defines

- #define [XYSSL_ERR_DHM_BAD_INPUT_DATA](#) -0x0480
- #define [XYSSL_ERR_DHM_READ_PARAMS_FAILED](#) -0x0490
- #define [XYSSL_ERR_DHM_MAKE_PARAMS_FAILED](#) -0x04A0
- #define [XYSSL_ERR_DHM_READ_PUBLIC_FAILED](#) -0x04B0
- #define [XYSSL_ERR_DHM_MAKE_PUBLIC_FAILED](#) -0x04C0
- #define [XYSSL_ERR_DHM_CALC_SECRET_FAILED](#) -0x04D0

Functions

- [int dhm_read_params](#) ([dhm_context](#) *ctx, unsigned char **p, unsigned char *end)
Parse the ServerKeyExchange parameters.
- [int dhm_make_params](#) ([dhm_context](#) *ctx, [int](#) s_size, unsigned char *output, [int](#) *olen, [int](#)(*f_rng)(void *), void *p_rng)
Setup and write the ServerKeyExchange parameters.
- [int dhm_read_public](#) ([dhm_context](#) *ctx, unsigned char *input, [int](#) ilen)
Import the peer's public value G^Y .
- [int dhm_make_public](#) ([dhm_context](#) *ctx, [int](#) s_size, unsigned char *output, [int](#) olen, [int](#)(*f_rng)(void *), void *p_rng)
Create own private value X and export G^X .
- [int dhm_calc_secret](#) ([dhm_context](#) *ctx, unsigned char *output, [int](#) *olen)
Derive and export the shared secret $(G^Y)^X \bmod P$.
- void [dhm_free](#) ([dhm_context](#) *ctx)
- [int dhm_self_test](#) ([int](#) verbose)
Checkup routine.

16.95.1 Detailed Description

Definition in file [dhm.h](#).

16.95.2 Define Documentation

16.95.2.1 `#define XYSSL_ERR_DHM_BAD_INPUT_DATA -0x0480`

Definition at line 9 of file dhm.h.

16.95.2.2 `#define XYSSL_ERR_DHM_CALC_SECRET_FAILED -0x04D0`

Definition at line 14 of file dhm.h.

16.95.2.3 `#define XYSSL_ERR_DHM_MAKE_PARAMS_FAILED -0x04A0`

Definition at line 11 of file dhm.h.

16.95.2.4 `#define XYSSL_ERR_DHM_MAKE_PUBLIC_FAILED -0x04C0`

Definition at line 13 of file dhm.h.

16.95.2.5 `#define XYSSL_ERR_DHM_READ_PARAMS_FAILED -0x0490`

Definition at line 10 of file dhm.h.

16.95.2.6 `#define XYSSL_ERR_DHM_READ_PUBLIC_FAILED -0x04B0`

Definition at line 12 of file dhm.h.

16.95.3 Function Documentation

16.95.3.1 `int dhm_calc_secret (dhm_context * ctx, unsigned char * output, int * olen)`

Derive and export the shared secret $(G^Y)^X \bmod P$.

Parameters:

- ctx* DHM context
- output* destination buffer
- olen* number of chars written

Returns:

- 0 if successful, or an XYSSL_ERR_DHM_XXX error code

Referenced by main().

16.95.3.2 `void dhm_free (dhm_context * ctx)`

Referenced by main().

16.95.3.3 `int dhm_make_params (dhm_context * ctx, int s_size, unsigned char * output, int * olen, int(*) (void *) f_rng, void * p_rng)`

Setup and write the ServerKeyExchange parameters.

Parameters:

ctx DHM context
s_size private value size in bits
output destination buffer
olen number of chars written
f_rng RNG function
p_rng RNG parameter

Note:

This function assumes that *ctx*->P and *ctx*->G have already been properly set (for example using `mpi_read_string` or `mpi_read_binary`).

Returns:

0 if successful, or an XYSSL_ERR_DHM_XXX error code

Referenced by `main()`.

16.95.3.4 `int dhm_make_public (dhm_context * ctx, int s_size, unsigned char * output, int olen, int(*) (void *) f_rng, void * p_rng)`

Create own private value X and export G^X .

Parameters:

ctx DHM context
s_size private value size in bits
output destination buffer
olen must be equal to *ctx*->P.len
f_rng RNG function
p_rng RNG parameter

Returns:

0 if successful, or an XYSSL_ERR_DHM_XXX error code

Referenced by `main()`.

16.95.3.5 `int dhm_read_params (dhm_context * ctx, unsigned char ** p, unsigned char * end)`

Parse the ServerKeyExchange parameters.

Parameters:

ctx DHM context

p &(start of input buffer)
end end of buffer

Returns:

0 if successful, or an XYSSL_ERR_DHM_XXX error code

Referenced by main().

16.95.3.6 int dhm_read_public (dhm_context * ctx, unsigned char * input, int ilen)

Import the peer's public value G^Y .

Parameters:

ctx DHM context
input input buffer
ilen size of buffer

Returns:

0 if successful, or an XYSSL_ERR_DHM_XXX error code

Referenced by main().

16.95.3.7 int dhm_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

16.96 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/havege.h File Reference

Data Structures

- struct [havege_state](#)
HAVEGE state structure.

Defines

- #define [COLLECT_SIZE](#) 1024

Functions

- void [havege_init](#) ([havege_state](#) *hs)
HAVEGE initialization.
- int [havege_rand](#) (void *p_rng)
HAVEGE rand function.

16.96.1 Detailed Description

Definition in file [havege.h](#).

16.96.2 Define Documentation

16.96.2.1 #define COLLECT_SIZE 1024

Definition at line 7 of file [havege.h](#).

16.96.3 Function Documentation

16.96.3.1 void [havege_init](#) ([havege_state](#) * *hs*)

HAVEGE initialization.

Parameters:

hs HAVEGE state to be initialized

Referenced by [main\(\)](#), and [ssl_test\(\)](#).

16.96.3.2 int havege_rand (void * *p_rng*)

HAVEGE rand function.

Parameters:

rng_st points to an HAVEGE state

Returns:

A random int

Referenced by main(), and ssl_test().

16.97 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/md2.h File Reference

Data Structures

- struct [md2_context](#)
MD2 context structure.

Functions

- void [md2_starts](#) ([md2_context](#) *ctx)
MD2 context setup.
- void [md2_update](#) ([md2_context](#) *ctx, unsigned char *input, [int](#) ilen)
MD2 process buffer.
- void [md2_finish](#) ([md2_context](#) *ctx, unsigned char output[16])
MD2 final digest.
- void [md2](#) (unsigned char *input, [int](#) ilen, unsigned char output[16])
Output = MD2(input buffer).
- [int](#) [md2_file](#) (char *path, unsigned char output[16])
Output = MD2(file contents).
- void [md2_hmac_starts](#) ([md2_context](#) *ctx, unsigned char *key, [int](#) keylen)
MD2 HMAC context setup.
- void [md2_hmac_update](#) ([md2_context](#) *ctx, unsigned char *input, [int](#) ilen)
MD2 HMAC process buffer.
- void [md2_hmac_finish](#) ([md2_context](#) *ctx, unsigned char output[16])
MD2 HMAC final digest.
- void [md2_hmac](#) (unsigned char *key, [int](#) keylen, unsigned char *input, [int](#) ilen, unsigned char output[16])
Output = HMAC-MD2(hmac key, input buffer).
- [int](#) [md2_self_test](#) ([int](#) verbose)
Checkup routine.

16.97.1 Detailed Description

Definition in file [md2.h](#).

16.97.2 Function Documentation

16.97.2.1 void md2 (unsigned char * *input*, int *ilen*, unsigned char *output*[16])

Output = MD2(input buffer).

Parameters:

input buffer holding the data
ilen length of the input data
output MD2 checksum result

16.97.2.2 int md2_file (char * *path*, unsigned char *output*[16])

Output = MD2(file contents).

Parameters:

path input file name
output MD2 checksum result

Returns:

0 if successful, 1 if fopen failed, or 2 if fread failed

16.97.2.3 void md2_finish (md2_context * *ctx*, unsigned char *output*[16])

MD2 final digest.

Parameters:

ctx MD2 context
output MD2 checksum result

16.97.2.4 void md2_hmac (unsigned char * *key*, int *keylen*, unsigned char * *input*, int *ilen*, unsigned char *output*[16])

Output = HMAC-MD2(hmac key, input buffer).

Parameters:

key HMAC secret key
keylen length of the HMAC key
input buffer holding the data
ilen length of the input data
output HMAC-MD2 result

16.97.2.5 void md2_hmac_finish (md2_context * ctx, unsigned char output[16])

MD2 HMAC final digest.

Parameters:

ctx HMAC context
output MD2 HMAC checksum result

16.97.2.6 void md2_hmac_starts (md2_context * ctx, unsigned char * key, int keylen)

MD2 HMAC context setup.

Parameters:

ctx HMAC context to be initialized
key HMAC secret key
keylen length of the HMAC key

16.97.2.7 void md2_hmac_update (md2_context * ctx, unsigned char * input, int ilen)

MD2 HMAC process buffer.

Parameters:

ctx HMAC context
input buffer holding the data
ilen length of the input data

16.97.2.8 int md2_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.97.2.9 void md2_starts (md2_context * ctx)

MD2 context setup.

Parameters:

ctx context to be initialized

16.97.2.10 void md2_update (md2_context * *ctx*, unsigned char * *input*, int *ilen*)

MD2 process buffer.

Parameters:

ctx MD2 context

input buffer holding the data

ilen length of the input data

16.98 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/md4.h File Reference

Data Structures

- struct [md4_context](#)
MD4 context structure.

Functions

- void [md4_starts](#) ([md4_context](#) *ctx)
MD4 context setup.
- void [md4_update](#) ([md4_context](#) *ctx, unsigned char *input, [int](#) ilen)
MD4 process buffer.
- void [md4_finish](#) ([md4_context](#) *ctx, unsigned char output[16])
MD4 final digest.
- void [md4](#) (unsigned char *input, [int](#) ilen, unsigned char output[16])
Output = MD4(input buffer).
- [int](#) [md4_file](#) (char *path, unsigned char output[16])
Output = MD4(file contents).
- void [md4_hmac_starts](#) ([md4_context](#) *ctx, unsigned char *key, [int](#) keylen)
MD4 HMAC context setup.
- void [md4_hmac_update](#) ([md4_context](#) *ctx, unsigned char *input, [int](#) ilen)
MD4 HMAC process buffer.
- void [md4_hmac_finish](#) ([md4_context](#) *ctx, unsigned char output[16])
MD4 HMAC final digest.
- void [md4_hmac](#) (unsigned char *key, [int](#) keylen, unsigned char *input, [int](#) ilen, unsigned char output[16])
Output = HMAC-MD4(hmac key, input buffer).
- [int](#) [md4_self_test](#) ([int](#) verbose)
Checkup routine.

16.98.1 Detailed Description

Definition in file [md4.h](#).

16.98.2 Function Documentation

16.98.2.1 void md4 (unsigned char * *input*, int *ilen*, unsigned char *output*[16])

Output = MD4(input buffer).

Parameters:

input buffer holding the data
ilen length of the input data
output MD4 checksum result

Referenced by main().

16.98.2.2 int md4_file (char * *path*, unsigned char *output*[16])

Output = MD4(file contents).

Parameters:

path input file name
output MD4 checksum result

Returns:

0 if successful, 1 if fopen failed, or 2 if fread failed

16.98.2.3 void md4_finish (md4_context * *ctx*, unsigned char *output*[16])

MD4 final digest.

Parameters:

ctx MD4 context
output MD4 checksum result

16.98.2.4 void md4_hmac (unsigned char * *key*, int *keylen*, unsigned char * *input*, int *ilen*, unsigned char *output*[16])

Output = HMAC-MD4(hmac key, input buffer).

Parameters:

key HMAC secret key
keylen length of the HMAC key
input buffer holding the data
ilen length of the input data
output HMAC-MD4 result

16.98.2.5 void md4_hmac_finish (md4_context * ctx, unsigned char output[16])

MD4 HMAC final digest.

Parameters:

ctx HMAC context
output MD4 HMAC checksum result

16.98.2.6 void md4_hmac_starts (md4_context * ctx, unsigned char * key, int keylen)

MD4 HMAC context setup.

Parameters:

ctx HMAC context to be initialized
key HMAC secret key
keylen length of the HMAC key

16.98.2.7 void md4_hmac_update (md4_context * ctx, unsigned char * input, int ilen)

MD4 HMAC process buffer.

Parameters:

ctx HMAC context
input buffer holding the data
ilen length of the input data

16.98.2.8 int md4_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.98.2.9 void md4_starts (md4_context * ctx)

MD4 context setup.

Parameters:

ctx context to be initialized

16.98.2.10 void md4_update (md4_context * *ctx*, unsigned char * *input*, int *ilen*)

MD4 process buffer.

Parameters:

ctx MD4 context

input buffer holding the data

ilen length of the input data

16.99 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/md5.h File Reference

Data Structures

- struct [md5_context](#)
MD5 context structure.

Functions

- void [md5_starts](#) ([md5_context](#) *ctx)
MD5 context setup.
- void [md5_update](#) ([md5_context](#) *ctx, unsigned char *input, [int](#) ilen)
MD5 process buffer.
- void [md5_finish](#) ([md5_context](#) *ctx, unsigned char output[16])
MD5 final digest.
- void [md5](#) (unsigned char *input, [int](#) ilen, unsigned char output[16])
Output = MD5(input buffer).
- [int](#) [md5_file](#) (char *path, unsigned char output[16])
Output = MD5(file contents).
- void [md5_hmac_starts](#) ([md5_context](#) *ctx, unsigned char *key, [int](#) keylen)
MD5 HMAC context setup.
- void [md5_hmac_update](#) ([md5_context](#) *ctx, unsigned char *input, [int](#) ilen)
MD5 HMAC process buffer.
- void [md5_hmac_finish](#) ([md5_context](#) *ctx, unsigned char output[16])
MD5 HMAC final digest.
- void [md5_hmac](#) (unsigned char *key, [int](#) keylen, unsigned char *input, [int](#) ilen, unsigned char output[16])
Output = HMAC-MD5(hmac key, input buffer).
- [int](#) [md5_self_test](#) ([int](#) verbose)
Checkup routine.

16.99.1 Detailed Description

Definition in file [md5.h](#).

16.99.2 Function Documentation

16.99.2.1 void md5 (unsigned char * *input*, int *ilen*, unsigned char *output*[16])

Output = MD5(input buffer).

Parameters:

input buffer holding the data
ilen length of the input data
output MD5 checksum result

Referenced by main().

16.99.2.2 int md5_file (char * *path*, unsigned char *output*[16])

Output = MD5(file contents).

Parameters:

path input file name
output MD5 checksum result

Returns:

0 if successful, 1 if fopen failed, or 2 if fread failed

Referenced by md5_wrapper().

16.99.2.3 void md5_finish (md5_context * *ctx*, unsigned char *output*[16])

MD5 final digest.

Parameters:

ctx MD5 context
output MD5 checksum result

16.99.2.4 void md5_hmac (unsigned char * *key*, int *keylen*, unsigned char * *input*, int *ilen*, unsigned char *output*[16])

Output = HMAC-MD5(hmac key, input buffer).

Parameters:

key HMAC secret key
keylen length of the HMAC key
input buffer holding the data
ilen length of the input data
output HMAC-MD5 result

16.99.2.5 void md5_hmac_finish (md5_context * ctx, unsigned char output[16])

MD5 HMAC final digest.

Parameters:

ctx HMAC context
output MD5 HMAC checksum result

16.99.2.6 void md5_hmac_starts (md5_context * ctx, unsigned char * key, int keylen)

MD5 HMAC context setup.

Parameters:

ctx HMAC context to be initialized
key HMAC secret key
keylen length of the HMAC key

16.99.2.7 void md5_hmac_update (md5_context * ctx, unsigned char * input, int ilen)

MD5 HMAC process buffer.

Parameters:

ctx HMAC context
input buffer holding the data
ilen length of the input data

16.99.2.8 int md5_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.99.2.9 void md5_starts (md5_context * ctx)

MD5 context setup.

Parameters:

ctx context to be initialized

16.99.2.10 void md5_update (md5_context * *ctx*, unsigned char * *input*, int *ilen*)

MD5 process buffer.

Parameters:

ctx MD5 context

input buffer holding the data

ilen length of the input data

16.100 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/net.h File Reference

Defines

- #define [XYSSL_ERR_NET_UNKNOWN_HOST](#) -0x0F00
- #define [XYSSL_ERR_NET_SOCKET_FAILED](#) -0x0F10
- #define [XYSSL_ERR_NET_CONNECT_FAILED](#) -0x0F20
- #define [XYSSL_ERR_NET_BIND_FAILED](#) -0x0F30
- #define [XYSSL_ERR_NET_LISTEN_FAILED](#) -0x0F40
- #define [XYSSL_ERR_NET_ACCEPT_FAILED](#) -0x0F50
- #define [XYSSL_ERR_NET_RECV_FAILED](#) -0x0F60
- #define [XYSSL_ERR_NET_SEND_FAILED](#) -0x0F70
- #define [XYSSL_ERR_NET_CONN_RESET](#) -0x0F80
- #define [XYSSL_ERR_NET_TRY_AGAIN](#) -0x0F90

Functions

- [int net_connect](#) ([int *fd](#), [char *host](#), [int port](#))
Initiate a TCP connection with host:port.
- [int net_bind](#) ([int *fd](#), [char *bind_ip](#), [int port](#))
Create a listening socket on bind_ip:port. If bind_ip == NULL, all interfaces are binded.
- [int net_accept](#) ([int bind_fd](#), [int *client_fd](#), [void *client_ip](#))
Accept a connection from a remote client.
- [int net_set_block](#) ([int fd](#))
Set the socket blocking.
- [int net_set_nonblock](#) ([int fd](#))
Set the socket non-blocking.
- [void net_usleep](#) ([unsigned long usec](#))
Portable usleep helper.
- [int net_recv](#) ([void *ctx](#), [unsigned char *buf](#), [int len](#))
Read at most 'len' characters. len is updated to reflect the actual number of characters read.
- [int net_send](#) ([void *ctx](#), [unsigned char *buf](#), [int len](#))
Write at most 'len' characters. len is updated to reflect the number of characters not written.
- [void net_close](#) ([int fd](#))
Gracefully shutdown the connection.

16.100.1 Detailed Description

Definition in file [net.h](#).

16.100.2 Define Documentation

16.100.2.1 #define XYSSL_ERR_NET_ACCEPT_FAILED -0x0F50

Definition at line 12 of file net.h.

16.100.2.2 #define XYSSL_ERR_NET_BIND_FAILED -0x0F30

Definition at line 10 of file net.h.

16.100.2.3 #define XYSSL_ERR_NET_CONN_RESET -0x0F80

Definition at line 15 of file net.h.

Referenced by main(), and ssl_test().

16.100.2.4 #define XYSSL_ERR_NET_CONNECT_FAILED -0x0F20

Definition at line 9 of file net.h.

16.100.2.5 #define XYSSL_ERR_NET_LISTEN_FAILED -0x0F40

Definition at line 11 of file net.h.

16.100.2.6 #define XYSSL_ERR_NET_RECV_FAILED -0x0F60

Definition at line 13 of file net.h.

16.100.2.7 #define XYSSL_ERR_NET_SEND_FAILED -0x0F70

Definition at line 14 of file net.h.

16.100.2.8 #define XYSSL_ERR_NET_SOCKET_FAILED -0x0F10

Definition at line 8 of file net.h.

16.100.2.9 #define XYSSL_ERR_NET_TRY_AGAIN -0x0F90

Definition at line 16 of file net.h.

Referenced by main(), and ssl_test().

16.100.2.10 #define XYSSL_ERR_NET_UNKNOWN_HOST -0x0F00

Definition at line 7 of file net.h.

16.100.3 Function Documentation

16.100.3.1 `int net_accept (int bind_fd, int * client_fd, void * client_ip)`

Accept a connection from a remote client.

Returns:

0 if successful, XYSSL_ERR_NET_ACCEPT_FAILED, or XYSSL_ERR_NET_WOULD_BLOCK if *bind_fd* was set to non-blocking and `accept()` is blocking.

Referenced by `main()`, and `ssl_test()`.

16.100.3.2 `int net_bind (int * fd, char * bind_ip, int port)`

Create a listening socket on *bind_ip*:*port*. If *bind_ip* == NULL, all interfaces are binded.

Returns:

0 if successful, or one of: XYSSL_ERR_NET_SOCKET_FAILED, XYSSL_ERR_NET_BIND_FAILED, XYSSL_ERR_NET_LISTEN_FAILED

Referenced by `main()`, and `ssl_test()`.

16.100.3.3 `void net_close (int fd)`

Gracefully shutdown the connection.

Referenced by `main()`, and `ssl_test()`.

16.100.3.4 `int net_connect (int * fd, char * host, int port)`

Initiate a TCP connection with *host*:*port*.

Returns:

0 if successful, or one of: XYSSL_ERR_NET_SOCKET_FAILED, XYSSL_ERR_NET_UNKNOWN_HOST, XYSSL_ERR_NET_CONNECT_FAILED

Referenced by `main()`, and `ssl_test()`.

16.100.3.5 `int net_recv (void * ctx, unsigned char * buf, int len)`

Read at most '*len*' characters. *len* is updated to reflect the actual number of characters read.

Returns:

This function returns the number of bytes received, or a negative error code; XYSSL_ERR_NET_TRY_AGAIN indicates `read()` is blocking.

Referenced by `main()`, and `ssl_test()`.

16.100.3.6 int net_send (void * *ctx*, unsigned char * *buf*, int *len*)

Write at most 'len' characters. len is updated to reflect the number of characters `_not_` written.

Returns:

This function returns the number of bytes sent, or a negative error code; `XYSSL_ERR_NET_TRY_AGAIN` indicates `write()` is blocking.

Referenced by `main()`, and `ssl_test()`.

16.100.3.7 int net_set_block (int *fd*)

Set the socket blocking.

Returns:

0 if successful, or a non-zero error code

16.100.3.8 int net_set_nonblock (int *fd*)

Set the socket non-blocking.

Returns:

0 if successful, or a non-zero error code

Referenced by `ssl_test()`.

16.100.3.9 void net_usleep (unsigned long *usec*)

Portable `usleep` helper.

Note:

Real amount of time slept will not be less than `select()`'s timeout granularity (typically, 10ms).

16.101 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/openssl.h File Reference

```
#include "xyssl/aes.h"
#include "xyssl/md5.h"
#include "xyssl/rsa.h"
#include "xyssl/sha1.h"
```

Defines

- #define [AES_SIZE](#) 16
- #define [AES_BLOCK_SIZE](#) 16
- #define [AES_KEY](#) aes_context
- #define [MD5_CTX](#) md5_context
- #define [SHA_CTX](#) sha1_context
- #define [SHA1_Init](#)(CTX) sha1_starts((CTX))
- #define [SHA1_Update](#)(CTX, BUF, LEN) sha1_update((CTX), (unsigned char *) (BUF), (LEN))
- #define [SHA1_Final](#)(OUT, CTX) sha1_finish((CTX), (OUT))
- #define [MD5_Init](#)(CTX) md5_starts((CTX))
- #define [MD5_Update](#)(CTX, BUF, LEN) md5_update((CTX), (unsigned char *) (BUF), (LEN))
- #define [MD5_Final](#)(OUT, CTX) md5_finish((CTX), (OUT))
- #define [AES_set_encrypt_key](#)(KEY, KEYSIZE, CTX) aes_setkey_enc((CTX), (KEY), (KEYSIZE))
- #define [AES_set_decrypt_key](#)(KEY, KEYSIZE, CTX) aes_setkey_dec((CTX), (KEY), (KEYSIZE))
- #define [AES_cbc_encrypt](#)(INPUT, OUTPUT, LEN, CTX, IV, MODE) aes_crypt_cbc((CTX), (MODE), (LEN), (IV), (INPUT), (OUTPUT))
- #define [RSA](#) rsa_context
- #define [RSA_PKCS1_PADDING](#) 1
- #define [RSA_size](#)(CTX) (CTX) → len
- #define [RSA_free](#)(CTX) rsa_free(CTX)
- #define [ERR_get_error](#)() "ERR_get_error() not supported"
- #define [RSA_blinding_off](#)(IGNORE)
- #define [d2i_RSAPrivateKey](#)(a, b, c) new_rsa_context

Functions

- [int __RSA_Passthrough](#) (void *output, void *input, [int size](#))
- [rsa_context * d2i_RSA_PUBKEY](#) (void *ignore, unsigned char **bufptr, [int len](#))
- [int RSA_public_decrypt](#) ([int size](#), unsigned char *input, unsigned char *output, RSA *key, [int ignore](#))
- [int RSA_private_decrypt](#) ([int size](#), unsigned char *input, unsigned char *output, RSA *key, [int ignore](#))
- [int RSA_public_encrypt](#) ([int size](#), unsigned char *input, unsigned char *output, RSA *key, [int ignore](#))
- [int RSA_private_encrypt](#) ([int size](#), unsigned char *input, unsigned char *output, RSA *key, [int ignore](#))

16.101.1 Detailed Description

Definition in file [openssl.h](#).

16.101.2 Define Documentation

16.101.2.1 #define AES_BLOCK_SIZE 16

Definition at line 16 of file openssl.h.

16.101.2.2 #define AES_cbc_encrypt(INPUT, OUTPUT, LEN, CTX, IV, MODE) aes_crypt_cbc(CTX), (MODE), (LEN), (IV), (INPUT), (OUTPUT))

Definition at line 39 of file openssl.h.

16.101.2.3 #define AES_KEY aes_context

Definition at line 17 of file openssl.h.

16.101.2.4 #define AES_set_decrypt_key(KEY, KEYSIZE, CTX) aes_setkey_dec((CTX), (KEY), (KEYSIZE))

Definition at line 37 of file openssl.h.

16.101.2.5 #define AES_set_encrypt_key(KEY, KEYSIZE, CTX) aes_setkey_enc((CTX), (KEY), (KEYSIZE))

Definition at line 35 of file openssl.h.

16.101.2.6 #define AES_SIZE 16

Definition at line 15 of file openssl.h.

16.101.2.7 #define d2i_RSAPrivateKey(a, b, c) new rsa_context

Definition at line 102 of file openssl.h.

16.101.2.8 #define ERR_get_error() "ERR_get_error() not supported"

Definition at line 99 of file openssl.h.

16.101.2.9 #define MD5_CTX md5_context

Definition at line 18 of file openssl.h.

16.101.2.10 #define MD5_Final(OUT, CTX) md5_finish((CTX), (OUT))

Definition at line 32 of file openssl.h.

16.101.2.11 #define MD5_Init(CTX) md5_starts((CTX))

Definition at line 28 of file openssl.h.

16.101.2.12 #define MD5_Update(CTX, BUF, LEN) md5_update((CTX), (unsigned char *) (BUF), (LEN))

Definition at line 30 of file openssl.h.

16.101.2.13 #define RSA rsa_context

Definition at line 95 of file openssl.h.

16.101.2.14 #define RSA_blinding_off(IGNORE)

Definition at line 100 of file openssl.h.

16.101.2.15 #define RSA_free(CTX) rsa_free(CTX)

Definition at line 98 of file openssl.h.

16.101.2.16 #define RSA_PKCS1_PADDING 1

Definition at line 96 of file openssl.h.

16.101.2.17 #define RSA_size(CTX) (CTX) → len

Definition at line 97 of file openssl.h.

Referenced by RSA_private_encrypt(), and RSA_public_encrypt().

16.101.2.18 #define SHA1_Final(OUT, CTX) sha1_finish((CTX), (OUT))

Definition at line 25 of file openssl.h.

16.101.2.19 #define SHA1_Init(CTX) sha1_starts((CTX))

Definition at line 21 of file openssl.h.

16.101.2.20 #define SHA1_Update(CTX, BUF, LEN) sha1_update((CTX), (unsigned char *) (BUF), (LEN))

Definition at line 23 of file openssl.h.

16.101.2.21 #define SHA_CTX sha1_context

Definition at line 19 of file openssl.h.

16.101.3 Function Documentation**16.101.3.1 int __RSA_Passthrough (void * output, void * input, int size) [inline]**

Definition at line 45 of file openssl.h.

16.101.3.2 rsa_context* d2i_RSA_PUBKEY (void * ignore, unsigned char ** bufptr, int len) [inline]

Definition at line 51 of file openssl.h.

References `rsa_context::E`, `rsa_context::len`, `mpi_msb()`, `mpi_read_binary()`, and `rsa_context::N`.

16.101.3.3 int RSA_private_decrypt (int size, unsigned char * input, unsigned char * output, RSA * key, int ignore) [inline]

Definition at line 105 of file openssl.h.

References `rsa_pkcs1_decrypt()`, and `RSA_PRIVATE`.

16.101.3.4 int RSA_private_encrypt (int size, unsigned char * input, unsigned char * output, RSA * key, int ignore) [inline]

Definition at line 107 of file openssl.h.

References `rsa_pkcs1_encrypt()`, `RSA_PRIVATE`, and `RSA_size`.

16.101.3.5 int RSA_public_decrypt (int size, unsigned char * input, unsigned char * output, RSA * key, int ignore) [inline]

Definition at line 104 of file openssl.h.

References `rsa_pkcs1_decrypt()`, and `RSA_PUBLIC`.

16.101.3.6 int RSA_public_encrypt (int size, unsigned char * input, unsigned char * output, RSA * key, int ignore) [inline]

Definition at line 106 of file openssl.h.

References `rsa_pkcs1_encrypt()`, `RSA_PUBLIC`, and `RSA_size`.

16.102 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/padlock.h File Reference

```
#include "xyssl/aes.h"
```

16.102.1 Detailed Description

Definition in file [padlock.h](#).

16.103 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/rsa.h File Reference

```
#include "bignum.h"
```

Data Structures

- struct [rsa_context](#)
RSA context structure.

Defines

- #define [XYSSL_ERR_RSA_BAD_INPUT_DATA](#) -0x0400
- #define [XYSSL_ERR_RSA_INVALID_PADDING](#) -0x0410
- #define [XYSSL_ERR_RSA_KEY_GEN_FAILED](#) -0x0420
- #define [XYSSL_ERR_RSA_KEY_CHECK_FAILED](#) -0x0430
- #define [XYSSL_ERR_RSA_PUBLIC_FAILED](#) -0x0440
- #define [XYSSL_ERR_RSA_PRIVATE_FAILED](#) -0x0450
- #define [XYSSL_ERR_RSA_VERIFY_FAILED](#) -0x0460
- #define [RSA_RAW](#) 0
- #define [RSA_MD2](#) 2
- #define [RSA_MD4](#) 3
- #define [RSA_MD5](#) 4
- #define [RSA_SHA1](#) 5
- #define [RSA_SHA256](#) 6
- #define [RSA_PUBLIC](#) 0
- #define [RSA_PRIVATE](#) 1
- #define [RSA_PKCS_V15](#) 0
- #define [RSA_PKCS_V21](#) 1
- #define [RSA_SIGN](#) 1
- #define [RSA_CRYPT](#) 2
- #define [ASN1_HASH_MDX](#)
- #define [ASN1_HASH_SHA1](#)

Functions

- void [rsa_init](#) ([rsa_context](#) *ctx, int padding, int hash_id, int(*f_rng)(void *), void *p_rng)
Initialize an RSA context.
- int [rsa_gen_key](#) ([rsa_context](#) *ctx, int nbits, int exponent)
Generate an RSA keypair.
- int [rsa_check_pubkey](#) ([rsa_context](#) *ctx)
Check a public RSA key.
- int [rsa_check_privkey](#) ([rsa_context](#) *ctx)
Check a private RSA key.

- `int rsa_public` (`rsa_context` *ctx, unsigned char *input, unsigned char *output)
Do an RSA public key operation.
- `int rsa_private` (`rsa_context` *ctx, unsigned char *input, unsigned char *output)
Do an RSA private key operation.
- `int rsa_pkcs1_encrypt` (`rsa_context` *ctx, `int` mode, `int` ilen, unsigned char *input, unsigned char *output)
Add the message padding, then do an RSA operation.
- `int rsa_pkcs1_decrypt` (`rsa_context` *ctx, `int` mode, `int` *olen, unsigned char *input, unsigned char *output)
Do an RSA operation, then remove the message padding.
- `int rsa_pkcs1_sign` (`rsa_context` *ctx, `int` mode, `int` hash_id, `int` hashlen, unsigned char *hash, unsigned char *sig)
Do a private RSA to sign a message digest.
- `int rsa_pkcs1_verify` (`rsa_context` *ctx, `int` mode, `int` hash_id, `int` hashlen, unsigned char *hash, unsigned char *sig)
Do a public RSA and check the message digest.
- `void rsa_free` (`rsa_context` *ctx)
Free the components of an RSA key.
- `int rsa_self_test` (`int` verbose)
Checkup routine.

16.103.1 Detailed Description

Definition in file [rsa.h](#).

16.103.2 Define Documentation

16.103.2.1 #define ASN1_HASH_MD5

Value:

```
"\x30\x20\x30\x0c\x06\x08\x2a\x86\x48" \
"\x86\xf7\x0d\x02\x00\x05\x00\x04\x10"
```

Definition at line 45 of file [rsa.h](#).

16.103.2.2 #define ASN1_HASH_SHA1

Value:

```
"\x30\x21\x30\x09\x06\x05\x2B\x0E\x03" \
"\x02\x1A\x05\x00\x04\x14"
```

Definition at line 49 of file rsa.h.

16.103.2.3 #define RSA_CRYPT 2

Definition at line 34 of file rsa.h.

16.103.2.4 #define RSA_MD2 2

Definition at line 21 of file rsa.h.

16.103.2.5 #define RSA_MD4 3

Definition at line 22 of file rsa.h.

16.103.2.6 #define RSA_MD5 4

Definition at line 23 of file rsa.h.

16.103.2.7 #define RSA_PKCS_V15 0

Definition at line 30 of file rsa.h.

Referenced by main().

16.103.2.8 #define RSA_PKCS_V21 1

Definition at line 31 of file rsa.h.

16.103.2.9 #define RSA_PRIVATE 1

Definition at line 28 of file rsa.h.

Referenced by main(), RSA_private_decrypt(), and RSA_private_encrypt().

16.103.2.10 #define RSA_PUBLIC 0

Definition at line 27 of file rsa.h.

Referenced by main(), RSA_public_decrypt(), and RSA_public_encrypt().

16.103.2.11 #define RSA_RAW 0

Definition at line 20 of file rsa.h.

16.103.2.12 #define RSA_SHA1 5

Definition at line 24 of file rsa.h.

Referenced by main().

16.103.2.13 #define RSA_SHA256 6

Definition at line 25 of file rsa.h.

16.103.2.14 #define RSA_SIGN 1

Definition at line 33 of file rsa.h.

16.103.2.15 #define XYSSL_ERR_RSA_BAD_INPUT_DATA -0x0400

Definition at line 9 of file rsa.h.

16.103.2.16 #define XYSSL_ERR_RSA_INVALID_PADDING -0x0410

Definition at line 10 of file rsa.h.

16.103.2.17 #define XYSSL_ERR_RSA_KEY_CHECK_FAILED -0x0430

Definition at line 12 of file rsa.h.

16.103.2.18 #define XYSSL_ERR_RSA_KEY_GEN_FAILED -0x0420

Definition at line 11 of file rsa.h.

16.103.2.19 #define XYSSL_ERR_RSA_PRIVATE_FAILED -0x0450

Definition at line 14 of file rsa.h.

16.103.2.20 #define XYSSL_ERR_RSA_PUBLIC_FAILED -0x0440

Definition at line 13 of file rsa.h.

16.103.2.21 #define XYSSL_ERR_RSA_VERIFY_FAILED -0x0460

Definition at line 15 of file rsa.h.

16.103.3 Function Documentation

16.103.3.1 int rsa_check_privkey (rsa_context * ctx)

Check a private RSA key.

Parameters:

ctx RSA context to be checked

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

16.103.3.2 int rsa_check_pubkey (rsa_context * ctx)

Check a public RSA key.

Parameters:

ctx RSA context to be checked

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

16.103.3.3 void rsa_free (rsa_context * ctx)

Free the components of an RSA key.

Referenced by main(), and ssl_test().

16.103.3.4 int rsa_gen_key (rsa_context * ctx, int nbits, int exponent)

Generate an RSA keypair.

Parameters:

ctx RSA context that will hold the key

nbits size of the public key in bits

exponent public exponent (e.g., 65537)

Note:

[rsa_init\(\)](#) must be called beforehand to setup the RSA context (especially *f_rng* and *p_rng*).

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

Referenced by main().

16.103.3.5 void rsa_init (rsa_context * ctx, int padding, int hash_id, int(*) (void *) f_rng, void * p_rng)

Initialize an RSA context.

Parameters:

ctx RSA context to be initialized

padding RSA_PKCS_V15 or RSA_PKCS_V21

hash_id RSA_PKCS_V21 hash identifier

f_rng RNG function

p_rng RNG parameter

Note:

The *hash_id* parameter is actually ignored when using RSA_PKCS_V15 padding. Currently (xyssl-0.8), RSA_PKCS_V21 padding is not supported.

Referenced by `main()`.

16.103.3.6 `int rsa_pkcs1_decrypt (rsa_context * ctx, int mode, int * olen, unsigned char * input, unsigned char * output)`

Do an RSA operation, then remove the message padding.

Parameters:

ctx RSA context

mode RSA_PUBLIC or RSA_PRIVATE

input buffer holding the encrypted data

output buffer that will hold the plaintext

olen will contain the plaintext length

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

Note:

The output buffer must be as large as the size of `ctx->N` (eg. 128 bytes if RSA-1024 is used).

Referenced by `RSA_private_decrypt()`, and `RSA_public_decrypt()`.

16.103.3.7 `int rsa_pkcs1_encrypt (rsa_context * ctx, int mode, int ilen, unsigned char * input, unsigned char * output)`

Add the message padding, then do an RSA operation.

Parameters:

ctx RSA context

mode RSA_PUBLIC or RSA_PRIVATE

ilen contains the the plaintext length

input buffer holding the data to be encrypted

output buffer that will hold the ciphertext

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

Note:

The output buffer must be as large as the size of `ctx->N` (eg. 128 bytes if RSA-1024 is used).

Referenced by `RSA_private_encrypt()`, and `RSA_public_encrypt()`.

16.103.3.8 `int rsa_pkcs1_sign (rsa_context * ctx, int mode, int hash_id, int hashlen, unsigned char * hash, unsigned char * sig)`

Do a private RSA to sign a message digest.

Parameters:

ctx RSA context
mode RSA_PUBLIC or RSA_PRIVATE
hash_id RSA_RAW, RSA_MD{2,4,5} or RSA_SHA{1,256}
hashlen message digest length (for RSA_RAW only)
hash buffer holding the message digest
sig buffer that will hold the ciphertext

Returns:

0 if the signing operation was successful, or an `XYSSL_ERR_RSA_XXX` error code

Note:

The "sig" buffer must be as large as the size of `ctx->N` (eg. 128 bytes if RSA-1024 is used).

Referenced by `main()`.

16.103.3.9 `int rsa_pkcs1_verify (rsa_context * ctx, int mode, int hash_id, int hashlen, unsigned char * hash, unsigned char * sig)`

Do a public RSA and check the message digest.

Parameters:

ctx points to an RSA public key
mode RSA_PUBLIC or RSA_PRIVATE
hash_id RSA_RAW, RSA_MD{2,4,5} or RSA_SHA{1,256}
hashlen message digest length (for RSA_RAW only)
hash buffer holding the message digest
sig buffer holding the ciphertext

Returns:

0 if the verify operation was successful, or an `XYSSL_ERR_RSA_XXX` error code

Note:

The "sig" buffer must be as large as the size of `ctx->N` (eg. 128 bytes if RSA-1024 is used).

Referenced by `main()`.

16.103.3.10 int rsa_private (rsa_context * ctx, unsigned char * input, unsigned char * output)

Do an RSA private key operation.

Parameters:

ctx RSA context
input input buffer
output output buffer

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

Note:

The input and output buffers must be large enough (eg. 128 bytes if RSA-1024 is used).

Referenced by main().

16.103.3.11 int rsa_public (rsa_context * ctx, unsigned char * input, unsigned char * output)

Do an RSA public key operation.

Parameters:

ctx RSA context
input input buffer
output output buffer

Returns:

0 if successful, or an XYSSL_ERR_RSA_XXX error code

Note:

This function does NOT take care of message padding. Also, be sure to set input[0] = 0.
The input and output buffers must be large enough (eg. 128 bytes if RSA-1024 is used).

Referenced by main().

16.103.3.12 int rsa_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.104 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/sha1.h File Reference

Data Structures

- struct [sha1_context](#)
SHA-1 context structure.

Functions

- void [sha1_starts](#) ([sha1_context](#) *ctx)
SHA-1 context setup.
- void [sha1_update](#) ([sha1_context](#) *ctx, unsigned char *input, int ilen)
SHA-1 process buffer.
- void [sha1_finish](#) ([sha1_context](#) *ctx, unsigned char output[20])
SHA-1 final digest.
- void [sha1](#) (unsigned char *input, int ilen, unsigned char output[20])
Output = SHA-1(input buffer).
- int [sha1_file](#) (char *path, unsigned char output[20])
Output = SHA-1(file contents).
- void [sha1_hmac_starts](#) ([sha1_context](#) *ctx, unsigned char *key, int keylen)
SHA-1 HMAC context setup.
- void [sha1_hmac_update](#) ([sha1_context](#) *ctx, unsigned char *input, int ilen)
SHA-1 HMAC process buffer.
- void [sha1_hmac_finish](#) ([sha1_context](#) *ctx, unsigned char output[20])
SHA-1 HMAC final digest.
- void [sha1_hmac](#) (unsigned char *key, int keylen, unsigned char *input, int ilen, unsigned char output[20])
Output = HMAC-SHA-1(hmac key, input buffer).
- int [sha1_self_test](#) (int verbose)
Checkup routine.

16.104.1 Detailed Description

Definition in file [sha1.h](#).

16.104.2 Function Documentation

16.104.2.1 void sha1 (unsigned char * *input*, int *ilen*, unsigned char *output*[20])

Output = SHA-1(input buffer).

Parameters:

input buffer holding the data
ilen length of the input data
output SHA-1 checksum result

Referenced by main().

16.104.2.2 int sha1_file (char * *path*, unsigned char *output*[20])

Output = SHA-1(file contents).

Parameters:

path input file name
output SHA-1 checksum result

Returns:

0 if successful, 1 if fopen failed, or 2 if fread failed

Referenced by main(), and sha1_wrapper().

16.104.2.3 void sha1_finish (sha1_context * *ctx*, unsigned char *output*[20])

SHA-1 final digest.

Parameters:

ctx SHA-1 context
output SHA-1 checksum result

16.104.2.4 void sha1_hmac (unsigned char * *key*, int *keylen*, unsigned char * *input*, int *ilen*, unsigned char *output*[20])

Output = HMAC-SHA-1(hmac key, input buffer).

Parameters:

key HMAC secret key
keylen length of the HMAC key
input buffer holding the data
ilen length of the input data
output HMAC-SHA-1 result

16.104.2.5 void sha1_hmac_finish (sha1_context * ctx, unsigned char output[20])

SHA-1 HMAC final digest.

Parameters:

ctx HMAC context
output SHA-1 HMAC checksum result

16.104.2.6 void sha1_hmac_starts (sha1_context * ctx, unsigned char * key, int keylen)

SHA-1 HMAC context setup.

Parameters:

ctx HMAC context to be initialized
key HMAC secret key
keylen length of the HMAC key

16.104.2.7 void sha1_hmac_update (sha1_context * ctx, unsigned char * input, int ilen)

SHA-1 HMAC process buffer.

Parameters:

ctx HMAC context
input buffer holding the data
ilen length of the input data

16.104.2.8 int sha1_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.104.2.9 void sha1_starts (sha1_context * ctx)

SHA-1 context setup.

Parameters:

ctx context to be initialized

16.104.2.10 void sha1_update (sha1_context * *ctx*, unsigned char * *input*, int *ilen*)

SHA-1 process buffer.

Parameters:

ctx SHA-1 context

input buffer holding the data

ilen length of the input data

16.105 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/sha2.h File Reference

Data Structures

- struct [sha2_context](#)
SHA-256 context structure.

Functions

- void [sha2_starts](#) ([sha2_context](#) *ctx, [int](#) is224)
SHA-256 context setup.
- void [sha2_update](#) ([sha2_context](#) *ctx, unsigned char *input, [int](#) ilen)
SHA-256 process buffer.
- void [sha2_finish](#) ([sha2_context](#) *ctx, unsigned char output[32])
SHA-256 final digest.
- void [sha2](#) (unsigned char *input, [int](#) ilen, unsigned char output[32], [int](#) is224)
Output = SHA-256(input buffer).
- [int](#) [sha2_file](#) (char *path, unsigned char output[32], [int](#) is224)
Output = SHA-256(file contents).
- void [sha2_hmac_starts](#) ([sha2_context](#) *ctx, unsigned char *key, [int](#) keylen, [int](#) is224)
SHA-256 HMAC context setup.
- void [sha2_hmac_update](#) ([sha2_context](#) *ctx, unsigned char *input, [int](#) ilen)
SHA-256 HMAC process buffer.
- void [sha2_hmac_finish](#) ([sha2_context](#) *ctx, unsigned char output[32])
SHA-256 HMAC final digest.
- void [sha2_hmac](#) (unsigned char *key, [int](#) keylen, unsigned char *input, [int](#) ilen, unsigned char output[32], [int](#) is224)
Output = HMAC-SHA-256(hmac key, input buffer).
- [int](#) [sha2_self_test](#) ([int](#) verbose)
Checkup routine.

16.105.1 Detailed Description

Definition in file [sha2.h](#).

16.105.2 Function Documentation

16.105.2.1 void sha2 (unsigned char * *input*, int *ilen*, unsigned char *output*[32], int *is224*)

Output = SHA-256(input buffer).

Parameters:

input buffer holding the data
ilen length of the input data
output SHA-224/256 checksum result
is224 0 = use SHA256, 1 = use SHA224

Referenced by main().

16.105.2.2 int sha2_file (char * *path*, unsigned char *output*[32], int *is224*)

Output = SHA-256(file contents).

Parameters:

path input file name
output SHA-224/256 checksum result
is224 0 = use SHA256, 1 = use SHA224

Returns:

0 if successful, 1 if fopen failed, or 2 if fread failed

Referenced by sha2_wrapper().

16.105.2.3 void sha2_finish (sha2_context * *ctx*, unsigned char *output*[32])

SHA-256 final digest.

Parameters:

ctx SHA-256 context
output SHA-224/256 checksum result

Referenced by main().

16.105.2.4 void sha2_hmac (unsigned char * *key*, int *keylen*, unsigned char * *input*, int *ilen*, unsigned char *output*[32], int *is224*)

Output = HMAC-SHA-256(hmac key, input buffer).

Parameters:

key HMAC secret key
keylen length of the HMAC key

input buffer holding the data
ilen length of the input data
output HMAC-SHA-224/256 result
is224 0 = use SHA256, 1 = use SHA224

16.105.2.5 void sha2_hmac_finish (sha2_context * ctx, unsigned char output[32])

SHA-256 HMAC final digest.

Parameters:

ctx HMAC context
output SHA-224/256 HMAC checksum result

Referenced by main().

16.105.2.6 void sha2_hmac_starts (sha2_context * ctx, unsigned char * key, int keylen, int is224)

SHA-256 HMAC context setup.

Parameters:

ctx HMAC context to be initialized
key HMAC secret key
keylen length of the HMAC key
is224 0 = use SHA256, 1 = use SHA224

Referenced by main().

16.105.2.7 void sha2_hmac_update (sha2_context * ctx, unsigned char * input, int ilen)

SHA-256 HMAC process buffer.

Parameters:

ctx HMAC context
input buffer holding the data
ilen length of the input data

Referenced by main().

16.105.2.8 int sha2_self_test (int verbose)

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.105.2.9 void sha2_starts (sha2_context * ctx, int is224)

SHA-256 context setup.

Parameters:

ctx context to be initialized

is224 0 = use SHA256, 1 = use SHA224

Referenced by main().

16.105.2.10 void sha2_update (sha2_context * ctx, unsigned char * input, int ilen)

SHA-256 process buffer.

Parameters:

ctx SHA-256 context

input buffer holding the data

ilen length of the input data

Referenced by main().

16.106 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/sha4.h File Reference

Data Structures

- struct [sha4_context](#)
SHA-512 context structure.

Defines

- #define [UL64\(x\)](#) x##ULL
- #define [int64](#) long long

Functions

- void [sha4_starts](#) ([sha4_context](#) *ctx, [int](#) is384)
SHA-512 context setup.
- void [sha4_update](#) ([sha4_context](#) *ctx, unsigned char *input, [int](#) ilen)
SHA-512 process buffer.
- void [sha4_finish](#) ([sha4_context](#) *ctx, unsigned char output[64])
SHA-512 final digest.
- void [sha4](#) (unsigned char *input, [int](#) ilen, unsigned char output[64], [int](#) is384)
Output = SHA-512(input buffer).
- [int](#) [sha4_file](#) (char *path, unsigned char output[64], [int](#) is384)
Output = SHA-512(file contents).
- void [sha4_hmac_starts](#) ([sha4_context](#) *ctx, unsigned char *key, [int](#) keylen, [int](#) is384)
SHA-512 HMAC context setup.
- void [sha4_hmac_update](#) ([sha4_context](#) *ctx, unsigned char *input, [int](#) ilen)
SHA-512 HMAC process buffer.
- void [sha4_hmac_finish](#) ([sha4_context](#) *ctx, unsigned char output[64])
SHA-512 HMAC final digest.
- void [sha4_hmac](#) (unsigned char *key, [int](#) keylen, unsigned char *input, [int](#) ilen, unsigned char output[64], [int](#) is384)
Output = HMAC-SHA-512(hmac key, input buffer).
- [int](#) [sha4_self_test](#) ([int](#) verbose)
Checkup routine.

16.106.1 Detailed Description

Definition in file [sha4.h](#).

16.106.2 Define Documentation

16.106.2.1 #define int64 long long

Definition at line 12 of file sha4.h.

16.106.2.2 #define UL64(x) x##ULL

Definition at line 11 of file sha4.h.

16.106.3 Function Documentation

16.106.3.1 void sha4 (unsigned char * *input*, int *ilen*, unsigned char *output*[64], int *is384*)

Output = SHA-512(input buffer).

Parameters:

input buffer holding the data
ilen length of the input data
output SHA-384/512 checksum result
is384 0 = use SHA512, 1 = use SHA384

16.106.3.2 int sha4_file (char * *path*, unsigned char *output*[64], int *is384*)

Output = SHA-512(file contents).

Parameters:

path input file name
output SHA-384/512 checksum result
is384 0 = use SHA512, 1 = use SHA384

Returns:

0 if successful, 1 if fopen failed, or 2 if fread failed

16.106.3.3 void sha4_finish (sha4_context * *ctx*, unsigned char *output*[64])

SHA-512 final digest.

Parameters:

ctx SHA-512 context
output SHA-384/512 checksum result

16.106.3.4 void sha4_hmac (unsigned char * *key*, int *keylen*, unsigned char * *input*, int *ilen*, unsigned char *output*[64], int *is384*)

Output = HMAC-SHA-512(hmac key, input buffer).

Parameters:

key HMAC secret key
keylen length of the HMAC key
input buffer holding the data
ilen length of the input data
output HMAC-SHA-384/512 result
is384 0 = use SHA512, 1 = use SHA384

16.106.3.5 void sha4_hmac_finish (sha4_context * *ctx*, unsigned char *output*[64])

SHA-512 HMAC final digest.

Parameters:

ctx HMAC context
output SHA-384/512 HMAC checksum result

16.106.3.6 void sha4_hmac_starts (sha4_context * *ctx*, unsigned char * *key*, int *keylen*, int *is384*)

SHA-512 HMAC context setup.

Parameters:

ctx HMAC context to be initialized
is384 0 = use SHA512, 1 = use SHA384
key HMAC secret key
keylen length of the HMAC key

16.106.3.7 void sha4_hmac_update (sha4_context * *ctx*, unsigned char * *input*, int *ilen*)

SHA-512 HMAC process buffer.

Parameters:

ctx HMAC context
input buffer holding the data
ilen length of the input data

16.106.3.8 `int sha4_self_test (int verbose)`

Checksum routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by main().

16.106.3.9 `void sha4_starts (sha4_context * ctx, int is384)`

SHA-512 context setup.

Parameters:

ctx context to be initialized

is384 0 = use SHA512, 1 = use SHA384

16.106.3.10 `void sha4_update (sha4_context * ctx, unsigned char * input, int ilen)`

SHA-512 process buffer.

Parameters:

ctx SHA-512 context

input buffer holding the data

ilen length of the input data

16.107 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/ssl.h File Reference

```
#include <time.h>
#include "xyssl/net.h"
#include "xyssl/dhm.h"
#include "xyssl/rsa.h"
#include "xyssl/md5.h"
#include "xyssl/sha1.h"
#include "xyssl/x509.h"
```

Data Structures

- struct [_ssl_session](#)
- struct [_ssl_context](#)

Defines

- #define [XYSSL_ERR_SSL_FEATURE_UNAVAILABLE](#) -0x1000
- #define [XYSSL_ERR_SSL_BAD_INPUT_DATA](#) -0x1800
- #define [XYSSL_ERR_SSL_INVALID_MAC](#) -0x2000
- #define [XYSSL_ERR_SSL_INVALID_RECORD](#) -0x2800
- #define [XYSSL_ERR_SSL_INVALID_MODULUS_SIZE](#) -0x3000
- #define [XYSSL_ERR_SSL_UNKNOWN_CIPHER](#) -0x3800
- #define [XYSSL_ERR_SSL_NO_CIPHER_CHOSEN](#) -0x4000
- #define [XYSSL_ERR_SSL_NO_SESSION_FOUND](#) -0x4800
- #define [XYSSL_ERR_SSL_NO_CLIENT_CERTIFICATE](#) -0x5000
- #define [XYSSL_ERR_SSL_CERTIFICATE_TOO_LARGE](#) -0x5800
- #define [XYSSL_ERR_SSL_CERTIFICATE_REQUIRED](#) -0x6000
- #define [XYSSL_ERR_SSL_PRIVATE_KEY_REQUIRED](#) -0x6800
- #define [XYSSL_ERR_SSL_CA_CHAIN_REQUIRED](#) -0x7000
- #define [XYSSL_ERR_SSL_UNEXPECTED_MESSAGE](#) -0x7800
- #define [XYSSL_ERR_SSL_FATAL_ALERT_MESSAGE](#) -0x8000
- #define [XYSSL_ERR_SSL_PEER_VERIFY_FAILED](#) -0x8800
- #define [XYSSL_ERR_SSL_PEER_CLOSE_NOTIFY](#) -0x9000
- #define [XYSSL_ERR_SSL_BAD_HS_CLIENT_HELLO](#) -0x9800
- #define [XYSSL_ERR_SSL_BAD_HS_SERVER_HELLO](#) -0xA000
- #define [XYSSL_ERR_SSL_BAD_HS_CERTIFICATE](#) -0xA800
- #define [XYSSL_ERR_SSL_BAD_HS_CERTIFICATE_REQUEST](#) -0xB000
- #define [XYSSL_ERR_SSL_BAD_HS_SERVER_KEY_EXCHANGE](#) -0xB800
- #define [XYSSL_ERR_SSL_BAD_HS_SERVER_HELLO_DONE](#) -0xC000
- #define [XYSSL_ERR_SSL_BAD_HS_CLIENT_KEY_EXCHANGE](#) -0xC800
- #define [XYSSL_ERR_SSL_BAD_HS_CERTIFICATE_VERIFY](#) -0xD000
- #define [XYSSL_ERR_SSL_BAD_HS_CHANGE_CIPHER_SPEC](#) -0xD800
- #define [XYSSL_ERR_SSL_BAD_HS_FINISHED](#) -0xE000
- #define [SSL_MAJOR_VERSION_3](#) 3

- #define [SSL_MINOR_VERSION_0](#) 0
- #define [SSL_MINOR_VERSION_1](#) 1
- #define [SSL_MINOR_VERSION_2](#) 2
- #define [SSL_IS_CLIENT](#) 0
- #define [SSL_IS_SERVER](#) 1
- #define [SSL_COMPRESS_NULL](#) 0
- #define [SSL_VERIFY_NONE](#) 0
- #define [SSL_VERIFY_OPTIONAL](#) 1
- #define [SSL_VERIFY_REQUIRED](#) 2
- #define [SSL_MAX_CONTENT_LEN](#) 16384
- #define [SSL_BUFFER_LEN](#) (SSL_MAX_CONTENT_LEN + 512)
- #define [SSL_RSA_RC4_128_MD5](#) 4
- #define [SSL_RSA_RC4_128_SHA](#) 5
- #define [SSL_RSA_DES_168_SHA](#) 10
- #define [SSL_EDH_RSA_DES_168_SHA](#) 22
- #define [SSL_RSA_AES_128_SHA](#) 47
- #define [SSL_RSA_AES_256_SHA](#) 53
- #define [SSL_EDH_RSA_AES_256_SHA](#) 57
- #define [SSL_MSG_CHANGE_CIPHER_SPEC](#) 20
- #define [SSL_MSG_ALERT](#) 21
- #define [SSL_MSG_HANDSHAKE](#) 22
- #define [SSL_MSG_APPLICATION_DATA](#) 23
- #define [SSL_ALERT_CLOSE_NOTIFY](#) 0
- #define [SSL_ALERT_WARNING](#) 1
- #define [SSL_ALERT_FATAL](#) 2
- #define [SSL_ALERT_NO_CERTIFICATE](#) 41
- #define [SSL_HS_HELLO_REQUEST](#) 0
- #define [SSL_HS_CLIENT_HELLO](#) 1
- #define [SSL_HS_SERVER_HELLO](#) 2
- #define [SSL_HS_CERTIFICATE](#) 11
- #define [SSL_HS_SERVER_KEY_EXCHANGE](#) 12
- #define [SSL_HS_CERTIFICATE_REQUEST](#) 13
- #define [SSL_HS_SERVER_HELLO_DONE](#) 14
- #define [SSL_HS_CERTIFICATE_VERIFY](#) 15
- #define [SSL_HS_CLIENT_KEY_EXCHANGE](#) 16
- #define [SSL_HS_FINISHED](#) 20
- #define [TLS_EXT_SERVERNAME](#) 0
- #define [TLS_EXT_SERVERNAME_HOSTNAME](#) 0

Typedefs

- typedef struct [_ssl_session](#) [ssl_session](#)
- typedef struct [_ssl_context](#) [ssl_context](#)

Enumerations

- enum `ssl_states` {
`SSL_HELLO_REQUEST`, `SSL_CLIENT_HELLO`, `SSL_SERVER_HELLO`, `SSL_SERVER_CERTIFICATE`,
`SSL_SERVER_KEY_EXCHANGE`, `SSL_CERTIFICATE_REQUEST`, `SSL_SERVER_HELLO_DONE`, `SSL_CLIENT_CERTIFICATE`,
`SSL_CLIENT_KEY_EXCHANGE`, `SSL_CERTIFICATE_VERIFY`, `SSL_CLIENT_CHANGE_CIPHER_SPEC`, `SSL_CLIENT_FINISHED`,
`SSL_SERVER_CHANGE_CIPHER_SPEC`, `SSL_SERVER_FINISHED`, `SSL_FLUSH_BUFFERS`, `SSL_HANDSHAKE_OVER` }

Functions

- `int ssl_init (ssl_context *ssl)`
Initialize an SSL context.
- `void ssl_set_endpoint (ssl_context *ssl, int endpoint)`
Set the current endpoint type.
- `void ssl_set_authmode (ssl_context *ssl, int authmode)`
Set the certificate verification mode.
- `void ssl_set_rng (ssl_context *ssl, int(*f_rng)(void *), void *p_rng)`
Set the random number generator callback.
- `void ssl_set_dbg (ssl_context *ssl, void(*f_dbg)(void *, int, char *), void *p_dbg)`
Set the debug callback.
- `void ssl_set_bio (ssl_context *ssl, int(*f_recv)(void *, unsigned char *, int), void *p_recv, int(*f_send)(void *, unsigned char *, int), void *p_send)`
Set the underlying BIO read and write callbacks.
- `void ssl_set_scb (ssl_context *ssl, int(*s_get)(ssl_context *), int(*s_set)(ssl_context *))`
Set the session callbacks (server-side only).
- `void ssl_set_session (ssl_context *ssl, int resume, int timeout, ssl_session *session)`
Set the session resuming flag, timeout and data.
- `void ssl_set_ciphers (ssl_context *ssl, int *ciphers)`
Set the list of allowed ciphersuites.
- `void ssl_set_ca_chain (ssl_context *ssl, x509_cert *ca_chain, char *peer_cn)`
Set the data required to verify peer certificate.
- `void ssl_set_own_cert (ssl_context *ssl, x509_cert *own_cert, rsa_context *rsa_key)`
Set own certificate and private key.
- `int ssl_set_dh_param (ssl_context *ssl, char *dhm_P, char *dhm_G)`

Set the Diffie-Hellman public P and G values, read as hexadecimal strings (server-side only).

- `int ssl_set_hostname (ssl_context *ssl, char *hostname)`
Set hostname for ServerName TLS Extension.
- `int ssl_get_bytes_avail (ssl_context *ssl)`
Return the number of data bytes available to read.
- `int ssl_get_verify_result (ssl_context *ssl)`
Return the result of the certificate verification.
- `char * ssl_get_cipher (ssl_context *ssl)`
Return the name of the current cipher.
- `int ssl_handshake (ssl_context *ssl)`
Perform the SSL handshake.
- `int ssl_read (ssl_context *ssl, unsigned char *buf, int len)`
Read at most 'len' application data bytes.
- `int ssl_write (ssl_context *ssl, unsigned char *buf, int len)`
Write exactly 'len' application data bytes.
- `int ssl_close_notify (ssl_context *ssl)`
Notify the peer that the connection is being closed.
- `void ssl_free (ssl_context *ssl)`
Free an SSL context.
- `int ssl_handshake_client (ssl_context *ssl)`
- `int ssl_handshake_server (ssl_context *ssl)`
- `int ssl_derive_keys (ssl_context *ssl)`
- `void ssl_calc_verify (ssl_context *ssl, unsigned char hash[36])`
- `int ssl_read_record (ssl_context *ssl)`
- `int ssl_fetch_input (ssl_context *ssl, int nb_want)`
- `int ssl_write_record (ssl_context *ssl)`
- `int ssl_flush_output (ssl_context *ssl)`
- `int ssl_parse_certificate (ssl_context *ssl)`
- `int ssl_write_certificate (ssl_context *ssl)`
- `int ssl_parse_change_cipher_spec (ssl_context *ssl)`
- `int ssl_write_change_cipher_spec (ssl_context *ssl)`
- `int ssl_parse_finished (ssl_context *ssl)`
- `int ssl_write_finished (ssl_context *ssl)`

Variables

- `int ssl_default_ciphers []`

16.107.1 Detailed Description

Definition in file [ssl.h](#).

16.107.2 Define Documentation

16.107.2.1 #define SSL_ALERT_CLOSE_NOTIFY 0

Definition at line 87 of file [ssl.h](#).

16.107.2.2 #define SSL_ALERT_FATAL 2

Definition at line 89 of file [ssl.h](#).

16.107.2.3 #define SSL_ALERT_NO_CERTIFICATE 41

Definition at line 90 of file [ssl.h](#).

16.107.2.4 #define SSL_ALERT_WARNING 1

Definition at line 88 of file [ssl.h](#).

16.107.2.5 #define SSL_BUFFER_LEN (SSL_MAX_CONTENT_LEN + 512)

Definition at line 66 of file [ssl.h](#).

16.107.2.6 #define SSL_COMPRESS_NULL 0

Definition at line 54 of file [ssl.h](#).

16.107.2.7 #define SSL_EDH_RSA_AES_256_SHA 57

Definition at line 77 of file [ssl.h](#).

Referenced by [main\(\)](#).

16.107.2.8 #define SSL_EDH_RSA_DES_168_SHA 22

Definition at line 74 of file [ssl.h](#).

Referenced by [main\(\)](#).

16.107.2.9 #define SSL_HS_CERTIFICATE 11

Definition at line 95 of file [ssl.h](#).

16.107.2.10 #define SSL_HS_CERTIFICATE_REQUEST 13

Definition at line 97 of file ssl.h.

16.107.2.11 #define SSL_HS_CERTIFICATE_VERIFY 15

Definition at line 99 of file ssl.h.

16.107.2.12 #define SSL_HS_CLIENT_HELLO 1

Definition at line 93 of file ssl.h.

16.107.2.13 #define SSL_HS_CLIENT_KEY_EXCHANGE 16

Definition at line 100 of file ssl.h.

16.107.2.14 #define SSL_HS_FINISHED 20

Definition at line 101 of file ssl.h.

16.107.2.15 #define SSL_HS_HELLO_REQUEST 0

Definition at line 92 of file ssl.h.

16.107.2.16 #define SSL_HS_SERVER_HELLO 2

Definition at line 94 of file ssl.h.

16.107.2.17 #define SSL_HS_SERVER_HELLO_DONE 14

Definition at line 98 of file ssl.h.

16.107.2.18 #define SSL_HS_SERVER_KEY_EXCHANGE 12

Definition at line 96 of file ssl.h.

16.107.2.19 #define SSL_IS_CLIENT 0

Definition at line 52 of file ssl.h.

Referenced by main(), and ssl_test().

16.107.2.20 #define SSL_IS_SERVER 1

Definition at line 53 of file ssl.h.

Referenced by main(), and ssl_test().

16.107.2.21 #define SSL_MAJOR_VERSION_3 3

Definition at line 47 of file ssl.h.

16.107.2.22 #define SSL_MAX_CONTENT_LEN 16384

Definition at line 60 of file ssl.h.

16.107.2.23 #define SSL_MINOR_VERSION_0 0

SSL v3.0

Definition at line 48 of file ssl.h.

16.107.2.24 #define SSL_MINOR_VERSION_1 1

TLS v1.0

Definition at line 49 of file ssl.h.

16.107.2.25 #define SSL_MINOR_VERSION_2 2

TLS v1.1

Definition at line 50 of file ssl.h.

16.107.2.26 #define SSL_MSG_ALERT 21

Definition at line 83 of file ssl.h.

16.107.2.27 #define SSL_MSG_APPLICATION_DATA 23

Definition at line 85 of file ssl.h.

16.107.2.28 #define SSL_MSG_CHANGE_CIPHER_SPEC 20

Definition at line 82 of file ssl.h.

16.107.2.29 #define SSL_MSG_HANDSHAKE 22

Definition at line 84 of file ssl.h.

16.107.2.30 #define SSL_RSA_AES_128_SHA 47

Definition at line 75 of file ssl.h.

Referenced by main().

16.107.2.31 #define SSL_RSA_AES_256_SHA 53

Definition at line 76 of file ssl.h.

Referenced by main().

16.107.2.32 #define SSL_RSA_DES_168_SHA 10

Definition at line 73 of file ssl.h.

Referenced by main().

16.107.2.33 #define SSL_RSA_RC4_128_MD5 4

Definition at line 71 of file ssl.h.

Referenced by main().

16.107.2.34 #define SSL_RSA_RC4_128_SHA 5

Definition at line 72 of file ssl.h.

Referenced by main().

16.107.2.35 #define SSL_VERIFY_NONE 0

Definition at line 56 of file ssl.h.

Referenced by main(), and ssl_test().

16.107.2.36 #define SSL_VERIFY_OPTIONAL 1

Definition at line 57 of file ssl.h.

Referenced by main().

16.107.2.37 #define SSL_VERIFY_REQUIRED 2

Definition at line 58 of file ssl.h.

16.107.2.38 #define TLS_EXT_SERVERNAME 0

Definition at line 106 of file ssl.h.

16.107.2.39 #define TLS_EXT_SERVERNAME_HOSTNAME 0

Definition at line 107 of file ssl.h.

16.107.2.40 #define XYSSL_ERR_SSL_BAD_HS_CERTIFICATE -0xA800

Definition at line 35 of file ssl.h.

16.107.2.41 #define XYSSL_ERR_SSL_BAD_HS_CERTIFICATE_REQUEST -0xB000

Definition at line 36 of file ssl.h.

16.107.2.42 #define XYSSL_ERR_SSL_BAD_HS_CERTIFICATE_VERIFY -0xD000

Definition at line 40 of file ssl.h.

16.107.2.43 #define XYSSL_ERR_SSL_BAD_HS_CHANGE_CIPHER_SPEC -0xD800

Definition at line 41 of file ssl.h.

16.107.2.44 #define XYSSL_ERR_SSL_BAD_HS_CLIENT_HELLO -0x9800

Definition at line 33 of file ssl.h.

16.107.2.45 #define XYSSL_ERR_SSL_BAD_HS_CLIENT_KEY_EXCHANGE -0xC800

Definition at line 39 of file ssl.h.

16.107.2.46 #define XYSSL_ERR_SSL_BAD_HS_FINISHED -0xE000

Definition at line 42 of file ssl.h.

16.107.2.47 #define XYSSL_ERR_SSL_BAD_HS_SERVER_HELLO -0xA000

Definition at line 34 of file ssl.h.

16.107.2.48 #define XYSSL_ERR_SSL_BAD_HS_SERVER_HELLO_DONE -0xC000

Definition at line 38 of file ssl.h.

16.107.2.49 #define XYSSL_ERR_SSL_BAD_HS_SERVER_KEY_EXCHANGE -0xB800

Definition at line 37 of file ssl.h.

16.107.2.50 #define XYSSL_ERR_SSL_BAD_INPUT_DATA -0x1800

Definition at line 17 of file ssl.h.

16.107.2.51 #define XYSSL_ERR_SSL_CA_CHAIN_REQUIRED -0x7000

Definition at line 28 of file ssl.h.

16.107.2.52 #define XYSSL_ERR_SSL_CERTIFICATE_REQUIRED -0x6000

Definition at line 26 of file ssl.h.

16.107.2.53 #define XYSSL_ERR_SSL_CERTIFICATE_TOO_LARGE -0x5800

Definition at line 25 of file ssl.h.

16.107.2.54 #define XYSSL_ERR_SSL_FATAL_ALERT_MESSAGE -0x8000

Definition at line 30 of file ssl.h.

16.107.2.55 #define XYSSL_ERR_SSL_FEATURE_UNAVAILABLE -0x1000

Definition at line 16 of file ssl.h.

16.107.2.56 #define XYSSL_ERR_SSL_INVALID_MAC -0x2000

Definition at line 18 of file ssl.h.

16.107.2.57 #define XYSSL_ERR_SSL_INVALID_MODULUS_SIZE -0x3000

Definition at line 20 of file ssl.h.

16.107.2.58 #define XYSSL_ERR_SSL_INVALID_RECORD -0x2800

Definition at line 19 of file ssl.h.

16.107.2.59 #define XYSSL_ERR_SSL_NO_CIPHER_CHOSEN -0x4000

Definition at line 22 of file ssl.h.

16.107.2.60 #define XYSSL_ERR_SSL_NO_CLIENT_CERTIFICATE -0x5000

Definition at line 24 of file ssl.h.

16.107.2.61 #define XYSSL_ERR_SSL_NO_SESSION_FOUND -0x4800

Definition at line 23 of file ssl.h.

16.107.2.62 #define XYSSL_ERR_SSL_PEER_CLOSE_NOTIFY -0x9000

Definition at line 32 of file ssl.h.

Referenced by main(), and ssl_test().

16.107.2.63 #define XYSSL_ERR_SSL_PEER_VERIFY_FAILED -0x8800

Definition at line 31 of file ssl.h.

16.107.2.64 #define XYSSL_ERR_SSL_PRIVATE_KEY_REQUIRED -0x6800

Definition at line 27 of file ssl.h.

16.107.2.65 #define XYSSL_ERR_SSL_UNEXPECTED_MESSAGE -0x7800

Definition at line 29 of file ssl.h.

16.107.2.66 #define XYSSL_ERR_SSL_UNKNOWN_CIPHER -0x3800

Definition at line 21 of file ssl.h.

16.107.3 Typedef Documentation**16.107.3.1 typedef struct _ssl_context ssl_context**

Definition at line 134 of file ssl.h.

16.107.3.2 typedef struct _ssl_session ssl_session

Definition at line 133 of file ssl.h.

16.107.4 Enumeration Type Documentation**16.107.4.1 enum ssl_states**

Enumerator:

SSL_HELLO_REQUEST
SSL_CLIENT_HELLO
SSL_SERVER_HELLO
SSL_SERVER_CERTIFICATE
SSL_SERVER_KEY_EXCHANGE
SSL_CERTIFICATE_REQUEST
SSL_SERVER_HELLO_DONE
SSL_CLIENT_CERTIFICATE
SSL_CLIENT_KEY_EXCHANGE
SSL_CERTIFICATE_VERIFY
SSL_CLIENT_CHANGE_CIPHER_SPEC
SSL_CLIENT_FINISHED
SSL_SERVER_CHANGE_CIPHER_SPEC
SSL_SERVER_FINISHED

SSL_FLUSH_BUFFERS
SSL_HANDSHAKE_OVER

Definition at line 112 of file ssl.h.

16.107.5 Function Documentation

16.107.5.1 void ssl_calc_verify (ssl_context * ssl, unsigned char hash[36])

16.107.5.2 int ssl_close_notify (ssl_context * ssl)

Notify the peer that the connection is being closed.

Referenced by main(), and ssl_test().

16.107.5.3 int ssl_derive_keys (ssl_context * ssl)

16.107.5.4 int ssl_fetch_input (ssl_context * ssl, int nb_want)

16.107.5.5 int ssl_flush_output (ssl_context * ssl)

16.107.5.6 void ssl_free (ssl_context * ssl)

Free an SSL context.

Referenced by main(), and ssl_test().

16.107.5.7 int ssl_get_bytes_avail (ssl_context * ssl)

Return the number of data bytes available to read.

Parameters:

ssl SSL context

Returns:

how many bytes are available in the read buffer

16.107.5.8 char* ssl_get_cipher (ssl_context * ssl)

Return the name of the current cipher.

Parameters:

ssl SSL context

Returns:

a string containing the cipher name

Referenced by main().

16.107.5.9 int ssl_get_verify_result (ssl_context * ssl)

Return the result of the certificate verification.

Parameters:

ssl SSL context

Returns:

0 if successful, or a combination of: BADCERT_EXPIRED BADCERT_REVOKED BADCERT_CN_MISMATCH BADCERT_NOT_TRUSTED

Referenced by main().

16.107.5.10 int ssl_handshake (ssl_context * ssl)

Perform the SSL handshake.

Parameters:

ssl SSL context

Returns:

0 if successful, XYSSL_ERR_NET_TRY_AGAIN, or a specific SSL error code.

Referenced by main().

16.107.5.11 int ssl_handshake_client (ssl_context * ssl)**16.107.5.12 int ssl_handshake_server (ssl_context * ssl)****16.107.5.13 int ssl_init (ssl_context * ssl)**

Initialize an SSL context.

Parameters:

ssl SSL context

Returns:

0 if successful, or 1 if memory allocation failed

Referenced by main(), and ssl_test().

16.107.5.14 int ssl_parse_certificate (ssl_context * ssl)**16.107.5.15 int ssl_parse_change_cipher_spec (ssl_context * ssl)****16.107.5.16 int ssl_parse_finished (ssl_context * ssl)****16.107.5.17 int ssl_read (ssl_context * ssl, unsigned char * buf, int len)**

Read at most 'len' application data bytes.

Parameters:

ssl SSL context
buf buffer that will hold the data
len how many bytes must be read

Returns:

This function returns the number of bytes read, or a negative error code.

Referenced by `main()`, and `ssl_test()`.

16.107.5.18 `int ssl_read_record(ssl_context * ssl)`

16.107.5.19 `void ssl_set_authmode(ssl_context * ssl, int authmode)`

Set the certificate verification mode.

Parameters:

ssl SSL context
mode can be:

SSL_VERIFY_NONE: peer certificate is not checked (default), this is insecure and SHOULD be avoided.

SSL_VERIFY_OPTIONAL: peer certificate is checked, however the handshake continues even if verification failed; `ssl_get_verify_result()` can be called after the handshake is complete.

SSL_VERIFY_REQUIRED: peer *must* present a valid certificate, handshake is aborted if verification failed.

Referenced by `main()`, and `ssl_test()`.

16.107.5.20 `void ssl_set_bio(ssl_context * ssl, int(*) (void *, unsigned char *, int) f_recv, void * p_recv, int(*) (void *, unsigned char *, int) f_send, void * p_send)`

Set the underlying BIO read and write callbacks.

Parameters:

ssl SSL context
f_recv read callback
p_recv read parameter
f_send write callback
p_send write parameter

Referenced by `main()`, and `ssl_test()`.

16.107.5.21 `void ssl_set_ca_chain(ssl_context * ssl, x509_cert * ca_chain, char * peer_cn)`

Set the data required to verify peer certificate.

Parameters:

ssl SSL context
ca_chain trusted CA chain
peer_cn expected peer CommonName (or NULL)

Note:

TODO: add two more parameters: depth and crl

Referenced by main(), and ssl_test().

16.107.5.22 void ssl_set_ciphers (ssl_context * ssl, int * ciphers)

Set the list of allowed ciphersuites.

Parameters:

ssl SSL context
ciphers 0-terminated list of allowed ciphers

Referenced by main(), and ssl_test().

16.107.5.23 void ssl_set_dbg (ssl_context * ssl, void(*)(void *, int, char *) f_dbg, void * p_dbg)

Set the debug callback.

Parameters:

ssl SSL context
f_dbg debug function
p_dbg debug parameter

Referenced by main(), and ssl_test().

16.107.5.24 int ssl_set_dh_param (ssl_context * ssl, char * dhm_P, char * dhm_G)

Set the Diffie-Hellman public P and G values, read as hexadecimal strings (server-side only).

Parameters:

ssl SSL context
dhm_P Diffie-Hellman-Merkle modulus
dhm_G Diffie-Hellman-Merkle generator

Returns:

0 if successful

Referenced by main(), and ssl_test().

16.107.5.25 void `ssl_set_endpoint` (`ssl_context * ssl`, `int endpoint`)

Set the current endpoint type.

Parameters:

ssl SSL context

endpoint must be `SSL_IS_CLIENT` or `SSL_IS_SERVER`

Referenced by `main()`, and `ssl_test()`.

16.107.5.26 int `ssl_set_hostname` (`ssl_context * ssl`, `char * hostname`)

Set hostname for ServerName TLS Extension.

Parameters:

ssl SSL context

hostname the server hostname

Returns:

0 if successful

Referenced by `main()`.

16.107.5.27 void `ssl_set_own_cert` (`ssl_context * ssl`, `x509_cert * own_cert`, `rsa_context * rsa_key`)

Set own certificate and private key.

Parameters:

ssl SSL context

own_cert own public certificate

rsa_key own private RSA key

Referenced by `main()`, and `ssl_test()`.

16.107.5.28 void `ssl_set_rng` (`ssl_context * ssl`, `int(*) (void *) f_rng`, `void * p_rng`)

Set the random number generator callback.

Parameters:

ssl SSL context

f_rng RNG function

p_rng RNG parameter

Referenced by `main()`, and `ssl_test()`.

16.107.5.29 `void ssl_set_scb (ssl_context * ssl, int(*)(ssl_context *) s_get, int(*)(ssl_context *) s_set)`

Set the session callbacks (server-side only).

Parameters:

ssl SSL context
s_get session get callback
s_set session set callback

Referenced by main().

16.107.5.30 `void ssl_set_session (ssl_context * ssl, int resume, int timeout, ssl_session * session)`

Set the session resuming flag, timeout and data.

Parameters:

ssl SSL context
resume if 0 (default), the session will not be resumed
timeout session timeout in seconds, or 0 (no timeout)
session session context

Referenced by main(), and ssl_test().

16.107.5.31 `int ssl_write (ssl_context * ssl, unsigned char * buf, int len)`

Write exactly 'len' application data bytes.

Parameters:

ssl SSL context
buf buffer holding the data
len how many bytes must be written

Returns:

This function returns the number of bytes written, or a negative error code.

Note:

When this function returns XYSSL_ERR_NET_TRY_AGAIN, it must be called later with the *same* arguments, until it returns a positive value.

Referenced by main(), and ssl_test().

16.107.5.32 int `ssl_write_certificate` (`ssl_context *ssl`)

16.107.5.33 int `ssl_write_change_cipher_spec` (`ssl_context *ssl`)

16.107.5.34 int `ssl_write_finished` (`ssl_context *ssl`)

16.107.5.35 int `ssl_write_record` (`ssl_context *ssl`)

16.107.6 Variable Documentation

16.107.6.1 int `ssl_default_ciphers` []

Referenced by `main()`, and `ssl_test()`.

16.108 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/timing.h File Reference

Data Structures

- struct [hr_time](#)
timer structure

Functions

- unsigned long [hardclock](#) (void)
Return the CPU cycle counter value.
- unsigned long [get_timer](#) (struct [hr_time](#) *val, int reset)
Return the elapsed time in milliseconds.
- void [set_alarm](#) (int seconds)
Setup an alarm clock.
- void [m_sleep](#) (int milliseconds)
Sleep for a certain amount of time.

Variables

- int [alarmed](#)

16.108.1 Detailed Description

Definition in file [timing.h](#).

16.108.2 Function Documentation

16.108.2.1 unsigned long [get_timer](#) (struct [hr_time](#) * val, int reset)

Return the elapsed time in milliseconds.

Parameters:

- val* points to a timer structure
- reset* if set to 1, the timer is restarted

Referenced by [ssl_test\(\)](#).

16.108.2.2 unsigned long [hardclock](#) (void)

Return the CPU cycle counter value.

Referenced by [main\(\)](#).

16.108.2.3 void m_sleep (int *milliseconds*)

Sleep for a certain amount of time.

16.108.2.4 void set_alarm (int *seconds*)

Setup an alarm clock.

Parameters:

seconds delay before the "alarmed" flag is set

Referenced by main().

16.108.3 Variable Documentation

16.108.3.1 int alarmed

Referenced by main().

16.109 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/include/xyssl/x509.h File Reference

```
#include "xyssl/rsa.h"
```

Data Structures

- struct [_x509_buf](#)
- struct [_x509_name](#)
- struct [_x509_time](#)
- struct [_x509_cert](#)
- struct [_x509_node](#)
- struct [_x509_raw](#)

Defines

- #define [XYSSL_ERR_ASN1_OUT_OF_DATA](#) -0x0014
- #define [XYSSL_ERR_ASN1_UNEXPECTED_TAG](#) -0x0016
- #define [XYSSL_ERR_ASN1_INVALID_LENGTH](#) -0x0018
- #define [XYSSL_ERR_ASN1_LENGTH_MISMATCH](#) -0x001A
- #define [XYSSL_ERR_ASN1_INVALID_DATA](#) -0x001C
- #define [XYSSL_ERR_X509_FEATURE_UNAVAILABLE](#) -0x0020
- #define [XYSSL_ERR_X509_CERT_INVALID_PEM](#) -0x0040
- #define [XYSSL_ERR_X509_CERT_INVALID_FORMAT](#) -0x0060
- #define [XYSSL_ERR_X509_CERT_INVALID_VERSION](#) -0x0080
- #define [XYSSL_ERR_X509_CERT_INVALID_SERIAL](#) -0x00A0
- #define [XYSSL_ERR_X509_CERT_INVALID_ALG](#) -0x00C0
- #define [XYSSL_ERR_X509_CERT_INVALID_NAME](#) -0x00E0
- #define [XYSSL_ERR_X509_CERT_INVALID_DATE](#) -0x0100
- #define [XYSSL_ERR_X509_CERT_INVALID_PUBKEY](#) -0x0120
- #define [XYSSL_ERR_X509_CERT_INVALID_SIGNATURE](#) -0x0140
- #define [XYSSL_ERR_X509_CERT_INVALID_EXTENSIONS](#) -0x0160
- #define [XYSSL_ERR_X509_CERT_UNKNOWN_VERSION](#) -0x0180
- #define [XYSSL_ERR_X509_CERT_UNKNOWN_SIG_ALG](#) -0x01A0
- #define [XYSSL_ERR_X509_CERT_UNKNOWN_PK_ALG](#) -0x01C0
- #define [XYSSL_ERR_X509_CERT_SIG_MISMATCH](#) -0x01E0
- #define [XYSSL_ERR_X509_CERT_VERIFY_FAILED](#) -0x0200
- #define [XYSSL_ERR_X509_KEY_INVALID_PEM](#) -0x0220
- #define [XYSSL_ERR_X509_KEY_INVALID_VERSION](#) -0x0240
- #define [XYSSL_ERR_X509_KEY_INVALID_FORMAT](#) -0x0260
- #define [XYSSL_ERR_X509_KEY_INVALID_ENC_IV](#) -0x0280
- #define [XYSSL_ERR_X509_KEY_UNKNOWN_ENC_ALG](#) -0x02A0
- #define [XYSSL_ERR_X509_KEY_PASSWORD_REQUIRED](#) -0x02C0
- #define [XYSSL_ERR_X509_KEY_PASSWORD_MISMATCH](#) -0x02E0
- #define [XYSSL_ERR_X509_POINT_ERROR](#) -0x0300
- #define [XYSSL_ERR_X509_VALUE_TO_LENGTH](#) -0x0320
- #define [BADCERT_EXPIRED](#) 1
- #define [BADCERT_REVOKED](#) 2
- #define [BADCERT_CN_MISMATCH](#) 4

- #define `BADCERT_NOT_TRUSTED` 8
- #define `ASN1_BOOLEAN` 0x01
- #define `ASN1_INTEGER` 0x02
- #define `ASN1_BIT_STRING` 0x03
- #define `ASN1_OCTET_STRING` 0x04
- #define `ASN1_NULL` 0x05
- #define `ASN1_OID` 0x06
- #define `ASN1_UTF8_STRING` 0x0C
- #define `ASN1_SEQUENCE` 0x10
- #define `ASN1_SET` 0x11
- #define `ASN1_PRINTABLE_STRING` 0x13
- #define `ASN1_T61_STRING` 0x14
- #define `ASN1_IA5_STRING` 0x16
- #define `ASN1_UTC_TIME` 0x17
- #define `ASN1_UNIVERSAL_STRING` 0x1C
- #define `ASN1_BMP_STRING` 0x1E
- #define `ASN1_PRIMITIVE` 0x00
- #define `ASN1_CONSTRUCTED` 0x20
- #define `ASN1_CONTEXT_SPECIFIC` 0x80
- #define `X520_COMMON_NAME` 3
- #define `X520_COUNTRY` 6
- #define `X520_LOCALITY` 7
- #define `X520_STATE` 8
- #define `X520_ORGANIZATION` 10
- #define `X520_ORG_UNIT` 11
- #define `PKCS9_EMAIL` 1
- #define `X509_OUTPUT_DER` 0x01
- #define `X509_OUTPUT_PEM` 0x02
- #define `PEM_LINE_LENGTH` 72
- #define `X509_ISSUER` 0x01
- #define `X509_SUBJECT` 0x02
- #define `OID_X520` "\x55\x04"
- #define `OID_CN` "\x55\x04\x03"
- #define `OID_PKCS1` "\x2A\x86\x48\x86\xF7\x0D\x01\x01"
- #define `OID_PKCS1_RSA` "\x2A\x86\x48\x86\xF7\x0D\x01\x01\x01"
- #define `OID_PKCS1_RSA_SHA` "\x2A\x86\x48\x86\xF7\x0D\x01\x01\x05"
- #define `OID_PKCS9` "\x2A\x86\x48\x86\xF7\x0D\x01\x09"
- #define `OID_PKCS9_EMAIL` "\x2A\x86\x48\x86\xF7\x0D\x01\x09\x01"

Typedefs

- typedef struct `_x509_buf` `x509_buf`
- typedef struct `_x509_name` `x509_name`
- typedef struct `_x509_time` `x509_time`
- typedef struct `_x509_cert` `x509_cert`
- typedef struct `_x509_node` `x509_node`
- typedef struct `_x509_raw` `x509_raw`

Functions

- `int x509parse_cert (x509_cert *crt, unsigned char *buf, int buflen)`
Parse one or more certificates and add them to the chained list.
- `int x509parse_crtfile (x509_cert *crt, char *path)`
Load one or more certificates and add them to the chained list.
- `int x509parse_key (rsa_context *rsa, unsigned char *buf, int buflen, unsigned char *pwd, int pwrlen)`
Parse a private RSA key.
- `int x509parse_keyfile (rsa_context *rsa, char *path, char *password)`
Load and parse a private RSA key.
- `int x509parse_dn_gets (char *buf, char *end, x509_name *dn)`
Store the certificate DN in printable form into buf; no more than (end - buf) characters will be written.
- `char * x509parse_cert_info (char *prefix, x509_cert *crt)`
Returns an informational string about the certificate.
- `int x509parse_expired (x509_cert *crt)`
Return 0 if the certificate is still valid, or BADCERT_EXPIRED.
- `int x509parse_verify (x509_cert *crt, x509_cert *trust_ca, char *cn, int *flags)`
Verify the certificate signature.
- `void x509_free (x509_cert *crt)`
Unallocate all certificate data.
- `int x509_self_test (int verbose)`
Checkup routine.

16.109.1 Detailed Description

Definition in file [x509.h](#).

16.109.2 Define Documentation

16.109.2.1 #define ASN1_BIT_STRING 0x03

Definition at line 51 of file [x509.h](#).

16.109.2.2 #define ASN1_BMP_STRING 0x1E

Definition at line 63 of file [x509.h](#).

16.109.2.3 #define ASN1_BOOLEAN 0x01

Definition at line 49 of file x509.h.

16.109.2.4 #define ASN1_CONSTRUCTED 0x20

Definition at line 65 of file x509.h.

16.109.2.5 #define ASN1_CONTEXT_SPECIFIC 0x80

Definition at line 66 of file x509.h.

16.109.2.6 #define ASN1_IA5_STRING 0x16

Definition at line 60 of file x509.h.

16.109.2.7 #define ASN1_INTEGER 0x02

Definition at line 50 of file x509.h.

16.109.2.8 #define ASN1_NULL 0x05

Definition at line 53 of file x509.h.

16.109.2.9 #define ASN1_OCTET_STRING 0x04

Definition at line 52 of file x509.h.

16.109.2.10 #define ASN1_OID 0x06

Definition at line 54 of file x509.h.

16.109.2.11 #define ASN1_PRIMITIVE 0x00

Definition at line 64 of file x509.h.

16.109.2.12 #define ASN1_PRINTABLE_STRING 0x13

Definition at line 58 of file x509.h.

16.109.2.13 #define ASN1_SEQUENCE 0x10

Definition at line 56 of file x509.h.

16.109.2.14 #define ASN1_SET 0x11

Definition at line 57 of file x509.h.

16.109.2.15 #define ASN1_T61_STRING 0x14

Definition at line 59 of file x509.h.

16.109.2.16 #define ASN1_UNIVERSAL_STRING 0x1C

Definition at line 62 of file x509.h.

16.109.2.17 #define ASN1_UTC_TIME 0x17

Definition at line 61 of file x509.h.

16.109.2.18 #define ASN1_UTF8_STRING 0x0C

Definition at line 55 of file x509.h.

16.109.2.19 #define BADCERT_CN_MISMATCH 4

Definition at line 43 of file x509.h.

Referenced by main().

16.109.2.20 #define BADCERT_EXPIRED 1

Definition at line 41 of file x509.h.

Referenced by main().

16.109.2.21 #define BADCERT_NOT_TRUSTED 8

Definition at line 44 of file x509.h.

Referenced by main().

16.109.2.22 #define BADCERT_REVOKED 2

Definition at line 42 of file x509.h.

Referenced by main().

16.109.2.23 #define OID_CN "\x55\x04\x03"

Definition at line 86 of file x509.h.

16.109.2.24 #define OID_PKCS1 "\x2A\x86\x48\x86\xF7\x0D\x01\x01"

Definition at line 87 of file x509.h.

16.109.2.25 #define OID_PKCS1_RSA "\x2A\x86\x48\x86\xF7\x0D\x01\x01\x01"

Definition at line 88 of file x509.h.

16.109.2.26 #define OID_PKCS1_RSA_SHA "\x2A\x86\x48\x86\xF7\x0D\x01\x01\x05"

Definition at line 89 of file x509.h.

16.109.2.27 #define OID_PKCS9 "\x2A\x86\x48\x86\xF7\x0D\x01\x09"

Definition at line 90 of file x509.h.

16.109.2.28 #define OID_PKCS9_EMAIL "\x2A\x86\x48\x86\xF7\x0D\x01\x09\x01"

Definition at line 91 of file x509.h.

16.109.2.29 #define OID_X520 "\x55\x04"

Definition at line 85 of file x509.h.

16.109.2.30 #define PEM_LINE_LENGTH 72

Definition at line 81 of file x509.h.

16.109.2.31 #define PKCS9_EMAIL 1

Definition at line 77 of file x509.h.

16.109.2.32 #define X509_ISSUER 0x01

Definition at line 82 of file x509.h.

16.109.2.33 #define X509_OUTPUT_DER 0x01

Definition at line 79 of file x509.h.

16.109.2.34 #define X509_OUTPUT_PEM 0x02

Definition at line 80 of file x509.h.

16.109.2.35 #define X509_SUBJECT 0x02

Definition at line 83 of file x509.h.

16.109.2.36 #define X520_COMMON_NAME 3

Definition at line 71 of file x509.h.

16.109.2.37 #define X520_COUNTRY 6

Definition at line 72 of file x509.h.

16.109.2.38 #define X520_LOCALITY 7

Definition at line 73 of file x509.h.

16.109.2.39 #define X520_ORG_UNIT 11

Definition at line 76 of file x509.h.

16.109.2.40 #define X520_ORGANIZATION 10

Definition at line 75 of file x509.h.

16.109.2.41 #define X520_STATE 8

Definition at line 74 of file x509.h.

16.109.2.42 #define XYSSL_ERR_ASN1_INVALID_DATA -0x001C

Definition at line 13 of file x509.h.

16.109.2.43 #define XYSSL_ERR_ASN1_INVALID_LENGTH -0x0018

Definition at line 11 of file x509.h.

16.109.2.44 #define XYSSL_ERR_ASN1_LENGTH_MISMATCH -0x001A

Definition at line 12 of file x509.h.

16.109.2.45 #define XYSSL_ERR_ASN1_OUT_OF_DATA -0x0014

Definition at line 9 of file x509.h.

16.109.2.46 #define XYSSL_ERR_ASN1_UNEXPECTED_TAG -0x0016

Definition at line 10 of file x509.h.

16.109.2.47 #define XYSSL_ERR_X509_CERT_INVALID_ALG -0x00C0

Definition at line 20 of file x509.h.

16.109.2.48 #define XYSSL_ERR_X509_CERT_INVALID_DATE -0x0100

Definition at line 22 of file x509.h.

16.109.2.49 #define XYSSL_ERR_X509_CERT_INVALID_EXTENSIONS -0x0160

Definition at line 25 of file x509.h.

16.109.2.50 #define XYSSL_ERR_X509_CERT_INVALID_FORMAT -0x0060

Definition at line 17 of file x509.h.

16.109.2.51 #define XYSSL_ERR_X509_CERT_INVALID_NAME -0x00E0

Definition at line 21 of file x509.h.

16.109.2.52 #define XYSSL_ERR_X509_CERT_INVALID_PEM -0x0040

Definition at line 16 of file x509.h.

16.109.2.53 #define XYSSL_ERR_X509_CERT_INVALID_PUBKEY -0x0120

Definition at line 23 of file x509.h.

16.109.2.54 #define XYSSL_ERR_X509_CERT_INVALID_SERIAL -0x00A0

Definition at line 19 of file x509.h.

16.109.2.55 #define XYSSL_ERR_X509_CERT_INVALID_SIGNATURE -0x0140

Definition at line 24 of file x509.h.

16.109.2.56 #define XYSSL_ERR_X509_CERT_INVALID_VERSION -0x0080

Definition at line 18 of file x509.h.

16.109.2.57 #define XYSSL_ERR_X509_CERT_SIG_MISMATCH -0x01E0

Definition at line 29 of file x509.h.

16.109.2.58 #define XYSSL_ERR_X509_CERT_UNKNOWN_PK_ALG -0x01C0

Definition at line 28 of file x509.h.

16.109.2.59 #define XYSSL_ERR_X509_CERT_UNKNOWN_SIG_ALG -0x01A0

Definition at line 27 of file x509.h.

16.109.2.60 #define XYSSL_ERR_X509_CERT_UNKNOWN_VERSION -0x0180

Definition at line 26 of file x509.h.

16.109.2.61 #define XYSSL_ERR_X509_CERT_VERIFY_FAILED -0x0200

Definition at line 30 of file x509.h.

16.109.2.62 #define XYSSL_ERR_X509_FEATURE_UNAVAILABLE -0x0020

Definition at line 15 of file x509.h.

16.109.2.63 #define XYSSL_ERR_X509_KEY_INVALID_ENC_IV -0x0280

Definition at line 34 of file x509.h.

16.109.2.64 #define XYSSL_ERR_X509_KEY_INVALID_FORMAT -0x0260

Definition at line 33 of file x509.h.

16.109.2.65 #define XYSSL_ERR_X509_KEY_INVALID_PEM -0x0220

Definition at line 31 of file x509.h.

16.109.2.66 #define XYSSL_ERR_X509_KEY_INVALID_VERSION -0x0240

Definition at line 32 of file x509.h.

16.109.2.67 #define XYSSL_ERR_X509_KEY_PASSWORD_MISMATCH -0x02E0

Definition at line 37 of file x509.h.

16.109.2.68 `#define XYSSL_ERR_X509_KEY_PASSWORD_REQUIRED -0x02C0`

Definition at line 36 of file x509.h.

16.109.2.69 `#define XYSSL_ERR_X509_KEY_UNKNOWN_ENC_ALG -0x02A0`

Definition at line 35 of file x509.h.

16.109.2.70 `#define XYSSL_ERR_X509_POINT_ERROR -0x0300`

Definition at line 38 of file x509.h.

16.109.2.71 `#define XYSSL_ERR_X509_VALUE_TO_LENGTH -0x0320`

Definition at line 39 of file x509.h.

16.109.3 Typedef Documentation

16.109.3.1 `typedef struct _x509_buf x509_buf`

16.109.3.2 `typedef struct _x509_cert x509_cert`

16.109.3.3 `typedef struct _x509_name x509_name`

16.109.3.4 `typedef struct _x509_node x509_node`

16.109.3.5 `typedef struct _x509_raw x509_raw`

16.109.3.6 `typedef struct _x509_time x509_time`

16.109.4 Function Documentation

16.109.4.1 `void x509_free (x509_cert * crt)`

Unallocate all certificate data.

Referenced by `main()`, and `ssl_test()`.

16.109.4.2 `int x509_self_test (int verbose)`

Checkup routine.

Returns:

0 if successful, or 1 if the test failed

Referenced by `main()`.

16.109.4.3 `char* x509parse_cert_info (char * prefix, x509_cert * crt)`

Returns an informational string about the certificate.

Referenced by `main()`.

16.109.4.4 `int x509parse_cert (x509_cert * crt, unsigned char * buf, int buflen)`

Parse one or more certificates and add them to the chained list.

Parameters:

chain points to the start of the chain
buf buffer holding the certificate data
buflen size of the buffer

Returns:

0 if successful, or a specific X509 error code

Referenced by `main()`, and `ssl_test()`.

16.109.4.5 `int x509parse_crtfile (x509_cert * crt, char * path)`

Load one or more certificates and add them to the chained list.

Parameters:

chain points to the start of the chain
path filename to read the certificates from

Returns:

0 if successful, or a specific X509 error code

16.109.4.6 `int x509parse_dn_gets (char * buf, char * end, x509_name * dn)`

Store the certificate DN in printable form into *buf*; no more than (*end* - *buf*) characters will be written.

16.109.4.7 `int x509parse_expired (x509_cert * crt)`

Return 0 if the certificate is still valid, or `BADCERT_EXPIRED`.

16.109.4.8 `int x509parse_key (rsa_context * rsa, unsigned char * buf, int buflen, unsigned char * pwd, int pwdlen)`

Parse a private RSA key.

Parameters:

rsa RSA context to be initialized

buf input buffer
buflen size of the buffer
pwd password for decryption (optional)
pwdlen size of the password

Returns:

0 if successful, or a specific X509 error code

Referenced by main(), and ssl_test().

16.109.4.9 int x509parse_keyfile (rsa_context *rsa, char *path, char *password)

Load and parse a private RSA key.

Parameters:

rsa RSA context to be initialized
path filename to read the private key from
pwd password to decrypt the file (can be NULL)

Returns:

0 if successful, or a specific X509 error code

16.109.4.10 int x509parse_verify (x509_cert *crt, x509_cert *trust_ca, char *cn, int *flags)

Verify the certificate signature.

Parameters:

crt a certificate to be verified
trust_ca the trusted CA chain
cn expected Common Name (can be set to NULL if the CN must not be verified)
flags result of the verification

Returns:

0 if successful or XYSSL_ERR_X509_SIG_VERIFY_FAILED, in which case *flags will have one or more of the following values set: BADCERT_EXPIRED – BADCERT_REVOKED – BADCERT_CN_MISMATCH – BADCERT_NOT_TRUSTED

Note:

TODO: add two arguments, depth and crl

16.110 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/aes.c File Reference

```
#include "xyssl/config.h"
```

16.111 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/arc4.c File Reference

```
#include "xyssl/config.h"
```

16.112 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/base64.c File Reference

```
#include "xyssl/config.h"
```

16.113 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/bignum.c File Reference

```
#include "xyssl/config.h"
```

16.114 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/certs.c File Reference

```
#include "xyssl/config.h"
```

16.115 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/debug.c File Reference

```
#include "xyssl/config.h"
```

16.116 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/des.c File Reference

```
#include "xyssl/config.h"
```


16.117 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/dhm.c File Reference

```
#include "xyssl/config.h"
```

16.118 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/havege.c File Reference

```
#include <string.h>
#include <time.h>
#include "xyssl/config.h"
```

16.119 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/md2.c File Reference

```
#include "xyssl/config.h"
```

16.120 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/md4.c File Reference

```
#include "xyssl/config.h"
```

16.121 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/md5.c File Reference

```
#include "xyssl/config.h"
```

16.122 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/net.c File Reference

```
#include "xyssl/config.h"
```

16.123 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/padlock.c File Reference

```
#include "xyssl/config.h"
```

16.124 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/rsa.c File Reference

```
#include "xyssl/config.h"
```


16.125 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/sha1.c File Reference

```
#include "xyssl/config.h"
```

16.126 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/sha2.c File Reference

```
#include "xyssl/config.h"
```

16.127 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/sha4.c File Reference

```
#include "xyssl/config.h"
```

16.128 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/ssl_cli.c File Reference

```
#include "xyssl/config.h"
```

16.129 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/ssl_srv.c File Reference

```
#include "xyssl/config.h"
```

16.130 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/ssl_tls.c File Reference

```
#include "xyssl/config.h"
```

16.131 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/timing.c File Reference

```
#include "xyssl/config.h"
```

16.132 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/library/x509parse.c File Reference

```
#include "xyssl/config.h"
```


16.133 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/aes/aescript2.c File Reference

```
#include <sys/types.h>
#include <unistd.h>
#include <string.h>
#include <stdlib.h>
#include <stdio.h>
#include <time.h>
#include "xyssl/aes.h"
#include "xyssl/sha2.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`
- `#define MODE_ENCRYPT 0`
- `#define MODE_DECRYPT 1`
- `#define USAGE`

Functions

- `int main (int argc, char *argv[])`

16.133.1 Define Documentation

16.133.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file aescript2.c.

16.133.1.2 `#define MODE_DECRYPT 1`

Definition at line 42 of file aescript2.c.

Referenced by `main()`.

16.133.1.3 `#define MODE_ENCRYPT 0`

Definition at line 41 of file aescript2.c.

Referenced by `main()`.

16.133.1.4 `#define USAGE`

Value:

```
"\n aescrypt2 <mode> <input filename> <output filename> <key>\n" \  
"\n  <mode>: 0 = encrypt, 1 = decrypt\n" \  
"\n  example: aescrypt2 0 file file.aes hex:E76B2413958B00E193\n" \  
"\n"
```

Definition at line 44 of file aescrypt2.c.

Referenced by main().

16.133.2 Function Documentation

16.133.2.1 int main (int argc, char * argv[])

Definition at line 50 of file aescrypt2.c.

References aes_crypt_ecb(), AES_DECRYPT, AES_ENCRYPT, aes_setkey_dec(), aes_setkey_enc(), int, MODE_DECRYPT, MODE_ENCRYPT, sha2_finish(), sha2_hmac_finish(), sha2_hmac_starts(), sha2_hmac_update(), sha2_starts(), sha2_update(), and USAGE.

16.134 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/hash/hello.c File Reference

```
#include <stdio.h>
#include "xyssl/md5.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- `int main (void)`

16.134.1 Define Documentation

16.134.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file hello.c.

16.134.2 Function Documentation

16.134.2.1 `int main (void)`

Definition at line 29 of file hello.c.

References `md5()`.

16.135 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/hash/md5sum.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/md5.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- static `int md5_wrapper` (char *filename, unsigned char *sum)
- static `int md5_print` (char *filename)
- static `int md5_check` (char *filename)
- `int main` (int argc, char *argv[])

16.135.1 Define Documentation

16.135.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file md5sum.c.

16.135.2 Function Documentation

16.135.2.1 `int main` (int *argc*, char * *argv*[])

Definition at line 131 of file md5sum.c.

References `md5_check`(), and `md5_print`().

16.135.2.2 `static int md5_check` (char * *filename*) [`static`]

Definition at line 58 of file md5sum.c.

References `buf`, `f`, and `md5_wrapper`().

Referenced by `main`().

16.135.2.3 `static int md5_print` (char * *filename*) [`static`]

Definition at line 43 of file md5sum.c.

References `md5_wrapper`().

Referenced by `main`().

16.135.2.4 `static int md5_wrapper (char *filename, unsigned char *sum)` [static]

Definition at line 30 of file md5sum.c.

References md5_file().

Referenced by md5_check(), and md5_print().

16.136 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/hash/sha1sum.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/sha1.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- static `int sha1_wrapper` (char *filename, unsigned char *sum)
- static `int sha1_print` (char *filename)
- static `int sha1_check` (char *filename)
- `int main` (int argc, char *argv[])

16.136.1 Define Documentation

16.136.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file sha1sum.c.

16.136.2 Function Documentation

16.136.2.1 `int main` (int *argc*, char * *argv*[])

Definition at line 131 of file sha1sum.c.

References `sha1_check`(), and `sha1_print`().

16.136.2.2 `static int sha1_check` (char * *filename*) [`static`]

Definition at line 58 of file sha1sum.c.

References `buf`, `f`, and `sha1_wrapper`().

Referenced by `main`().

16.136.2.3 `static int sha1_print` (char * *filename*) [`static`]

Definition at line 43 of file sha1sum.c.

References `sha1_wrapper`().

Referenced by `main`().

16.136.2.4 `static int sha1_wrapper (char *filename, unsigned char *sum)` [static]

Definition at line 30 of file sha1sum.c.

References sha1_file().

Referenced by sha1_check(), and sha1_print().

16.137 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/hash/sha2sum.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/sha2.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- static `int sha2_wrapper` (char *filename, unsigned char *sum)
- static `int sha2_print` (char *filename)
- static `int sha2_check` (char *filename)
- `int main` (int argc, char *argv[])

16.137.1 Define Documentation

16.137.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file sha2sum.c.

16.137.2 Function Documentation

16.137.2.1 `int main` (int *argc*, char * *argv*[])

Definition at line 131 of file sha2sum.c.

References `sha2_check`(), and `sha2_print`().

16.137.2.2 `static int sha2_check` (char * *filename*) [`static`]

Definition at line 58 of file sha2sum.c.

References `buf`, `f`, and `sha2_wrapper`().

Referenced by `main`().

16.137.2.3 `static int sha2_print` (char * *filename*) [`static`]

Definition at line 43 of file sha2sum.c.

References `sha2_wrapper`().

Referenced by `main`().

16.137.2.4 `static int sha2_wrapper (char *filename, unsigned char *sum)` [static]

Definition at line 30 of file sha2sum.c.

References sha2_file().

Referenced by sha2_check(), and sha2_print().

16.138 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/dh_client.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/net.h"
#include "xyssl/aes.h"
#include "xyssl/dhm.h"
#include "xyssl/rsa.h"
#include "xyssl/sha1.h"
#include "xyssl/havege.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`
- `#define SERVER_NAME "localhost"`
- `#define SERVER_PORT 11999`

Functions

- `int main (void)`

16.138.1 Define Documentation

16.138.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `dh_client.c`.

16.138.1.2 `#define SERVER_NAME "localhost"`

Definition at line 35 of file `dh_client.c`.

Referenced by `main()`.

16.138.1.3 `#define SERVER_PORT 11999`

Definition at line 36 of file `dh_client.c`.

Referenced by `main()`.

16.138.2 Function Documentation

16.138.2.1 `int main (void)`

Definition at line 38 of file `dh_client.c`.

References aes_crypt_ecb(), AES_DECRYPT, aes_setkey_dec(), buf, dhm_calc_secret(), dhm_free(), dhm_make_public(), dhm_read_params(), rsa_context::E, f, havege_init(), havege_rand(), dhm_context::len, rsa_context::len, mpi_msb(), mpi_read_file(), rsa_context::N, net_close(), net_connect(), net_recv(), net_send(), rsa_free(), rsa_init(), rsa_pkcs1_verify(), RSA_PKCS_V15, RSA_PUBLIC, RSA_SHA1, server_fd, SERVER_NAME, SERVER_PORT, and sha1().

16.139 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/dh_genprime.c File Reference

```
#include <stdio.h>
#include "xyssl/bignum.h"
#include "xyssl/config.h"
#include "xyssl/havege.h"
```

Defines

- #define `_CRT_SECURE_NO_DEPRECATED` 1
- #define `DH_P_SIZE` 1024
- #define `GENERATOR` "4"

Functions

- `int main` (void)

16.139.1 Define Documentation

16.139.1.1 #define `_CRT_SECURE_NO_DEPRECATED` 1

Definition at line 22 of file `dh_genprime.c`.

16.139.1.2 #define `DH_P_SIZE` 1024

Definition at line 35 of file `dh_genprime.c`.

Referenced by `main()`.

16.139.1.3 #define `GENERATOR` "4"

Definition at line 36 of file `dh_genprime.c`.

Referenced by `main()`.

16.139.2 Function Documentation

16.139.2.1 `int main` (void)

Definition at line 38 of file `dh_genprime.c`.

References `DH_P_SIZE`, `GENERATOR`, `havege_init()`, `havege_rand()`, `mpi_div_int()`, `mpi_free()`, `mpi_gen_prime()`, `mpi_init()`, `mpi_is_prime()`, `mpi_read_string()`, `mpi_sub_int()`, and `mpi_write_file()`.

16.140 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/dh_server.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/net.h"
#include "xyssl/aes.h"
#include "xyssl/dhm.h"
#include "xyssl/rsa.h"
#include "xyssl/sha1.h"
#include "xyssl/havege.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`
- `#define SERVER_PORT 11999`
- `#define PLAINTEXT "=="Hello there!=="`

Functions

- `int main (void)`

16.140.1 Define Documentation

16.140.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `dh_server.c`.

16.140.1.2 `#define PLAINTEXT "=="Hello there!=="`

Definition at line 36 of file `dh_server.c`.

Referenced by `main()`.

16.140.1.3 `#define SERVER_PORT 11999`

Definition at line 35 of file `dh_server.c`.

16.140.2 Function Documentation

16.140.2.1 `int main (void)`

Definition at line 38 of file `dh_server.c`.

References `aes_crypt_ecb()`, `AES_ENCRYPT`, `aes_setkey_enc()`, `buf`, `client_fd`, `rsa_context::D`, `dhm_calc_secret()`, `dhm_free()`, `dhm_make_params()`, `dhm_read_public()`, `rsa_context::DP`, `rsa_context::DQ`,

rsa_context::E, f, dhm_context::G, havege_init(), havege_rand(), dhm_context::len, rsa_context::len, mpi_msb(), mpi_read_file(), rsa_context::N, net_accept(), net_bind(), net_close(), net_recv(), net_send(), dhm_context::P, rsa_context::P, PLAINTEXT, rsa_context::Q, rsa_context::QP, rsa_free(), rsa_init(), rsa_pkcs1_sign(), RSA_PKCS_V15, RSA_PRIVATE, RSA_SHA1, SERVER_PORT, and sha1().

16.141 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/mpi_demo.c File Reference

```
#include <stdio.h>
#include "xyssl/bignum.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- `int main (void)`

16.141.1 Define Documentation

16.141.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `mpi_demo.c`.

16.141.2 Function Documentation

16.141.2.1 `int main (void)`

Definition at line 29 of file `mpi_demo.c`.

References `mpi_exp_mod\(\)`, `mpi_free\(\)`, `mpi_init\(\)`, `mpi_inv_mod\(\)`, `mpi_mul_mpi\(\)`, `mpi_read_string\(\)`, `mpi_sub_int\(\)`, and `mpi_write_file\(\)`.

16.142 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/rsa_genkey.c File Reference

```
#include <stdio.h>
#include "xyssl/havege.h"
#include "xyssl/bignum.h"
#include "xyssl/x509.h"
#include "xyssl/rsa.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`
- `#define KEY_SIZE 1024`
- `#define EXPONENT 65537`

Functions

- `int main` (void)

16.142.1 Define Documentation

16.142.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `rsa_genkey.c`.

16.142.1.2 `#define EXPONENT 65537`

Definition at line 33 of file `rsa_genkey.c`.

Referenced by `main()`.

16.142.1.3 `#define KEY_SIZE 1024`

Definition at line 32 of file `rsa_genkey.c`.

Referenced by `main()`.

16.142.2 Function Documentation

16.142.2.1 `int main` (void)

Definition at line 35 of file `rsa_genkey.c`.

References `rsa_context::D`, `rsa_context::DP`, `rsa_context::DQ`, `rsa_context::E`, `EXPONENT`, `havege_init()`, `havege_rand()`, `KEY_SIZE`, `mpi_write_file()`, `rsa_context::N`, `rsa_context::P`, `rsa_context::Q`, `rsa_context::QP`, `rsa_free()`, `rsa_gen_key()`, `rsa_init()`, and `RSA_PKCS_V15`.

16.143 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/rsa_sign.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/rsa.h"
#include "xyssl/sha1.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- `int main (int argc, char *argv[])`

16.143.1 Define Documentation

16.143.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `rsa_sign.c`.

16.143.2 Function Documentation

16.143.2.1 `int main (int argc, char * argv[])`

Definition at line 31 of file `rsa_sign.c`.

References `buf`, `rsa_context::D`, `rsa_context::DP`, `rsa_context::DQ`, `rsa_context::E`, `f`, `rsa_context::len`, `mpi_msb()`, `mpi_read_file()`, `rsa_context::N`, `rsa_context::P`, `rsa_context::Q`, `rsa_context::QP`, `rsa_init()`, `rsa_pkcs1_sign()`, `RSA_PKCS_V15`, `RSA_PRIVATE`, `RSA_SHA1`, and `sha1_file()`.

16.144 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/pkey/rsa_verify.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/rsa.h"
#include "xyssl/sha1.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- `int main (int argc, char *argv\[\])`

16.144.1 Define Documentation

16.144.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `rsa_verify.c`.

16.144.2 Function Documentation

16.144.2.1 `int main (int argc, char * argv\[\])`

Definition at line 31 of file `rsa_verify.c`.

References `buf`, `rsa_context::E`, `f`, `rsa_context::len`, `mpi_msb()`, `mpi_read_file()`, `rsa_context::N`, `rsa_init()`, `rsa_pkcs1_verify()`, `RSA_PKCS_V15`, `RSA_PUBLIC`, `RSA_SHA1`, and `sha1_file()`.

16.145 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/ssl/ssl_client1.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/net.h"
#include "xyssl/ssl.h"
#include "xyssl/havege.h"
```

Defines

- #define [_CRT_SECURE_NO_DEPRECATED](#) 1
- #define [SERVER_PORT](#) 443
- #define [SERVER_NAME](#) "xyssl.org"
- #define [GET_REQUEST](#)
- #define [DEBUG_LEVEL](#) 0

Functions

- void [my_debug](#) (void *ctx, int level, char *str)
- int [main](#) (void)

16.145.1 Define Documentation

16.145.1.1 #define [_CRT_SECURE_NO_DEPRECATED](#) 1

Definition at line 22 of file ssl_client1.c.

16.145.1.2 #define [DEBUG_LEVEL](#) 0

Definition at line 42 of file ssl_client1.c.

Referenced by [my_debug\(\)](#).

16.145.1.3 #define [GET_REQUEST](#)

Value:

```
"GET /hello/ HTTP/1.1\r\n" \
  "Host: xyssl.org\r\n\r\n"
```

Definition at line 38 of file ssl_client1.c.

Referenced by [main\(\)](#).

16.145.1.4 #define [SERVER_NAME](#) "xyssl.org"

Definition at line 37 of file ssl_client1.c.

16.145.1.5 `#define SERVER_PORT 443`

Definition at line 32 of file `ssl_client1.c`.

16.145.2 Function Documentation

16.145.2.1 `int main (void)`

Definition at line 53 of file `ssl_client1.c`.

References `buf`, `GET_REQUEST`, `havege_init()`, `havege_rand()`, `my_debug()`, `net_close()`, `net_connect()`, `net_recv()`, `net_send()`, `server_fd`, `SERVER_NAME`, `SERVER_PORT`, `ssl_close_notify()`, `ssl_default_ciphers`, `ssl_free()`, `ssl_init()`, `SSL_IS_CLIENT`, `ssl_read()`, `ssl_set_authmode()`, `ssl_set_bio()`, `ssl_set_ciphers()`, `ssl_set_dbg()`, `ssl_set_endpoint()`, `ssl_set_rng()`, `ssl_set_session()`, `SSL_VERIFY_NONE`, `ssl_write()`, `XYSSL_ERR_NET_TRY_AGAIN`, and `XYSSL_ERR_SSL_PEER_CLOSE_NOTIFY`.

16.145.2.2 `void my_debug (void * ctx, int level, char * str)`

Definition at line 44 of file `ssl_client1.c`.

References `DEBUG_LEVEL`.

Referenced by `main()`, and `ssl_test()`.

16.146 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/ssl/ssl_client2.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/net.h"
#include "xyssl/ssl.h"
#include "xyssl/havege.h"
#include "xyssl/certs.h"
#include "xyssl/x509.h"
```

Defines

- #define [_CRT_SECURE_NO_DEPRECATED](#) 1
- #define [SERVER_PORT](#) 443
- #define [SERVER_NAME](#) "xyssl.org"
- #define [GET_REQUEST](#)
- #define [DEBUG_LEVEL](#) 0

Functions

- void [my_debug](#) (void *ctx, int level, char *str)
- int [main](#) (void)

16.146.1 Define Documentation

16.146.1.1 #define [_CRT_SECURE_NO_DEPRECATED](#) 1

Definition at line 22 of file ssl_client2.c.

16.146.1.2 #define [DEBUG_LEVEL](#) 0

Definition at line 44 of file ssl_client2.c.

16.146.1.3 #define [GET_REQUEST](#)

Value:

```
"GET /hello/ HTTP/1.1\r\n" \
"Host: xyssl.org\r\n\r\n"
```

Definition at line 40 of file ssl_client2.c.

16.146.1.4 #define [SERVER_NAME](#) "xyssl.org"

Definition at line 39 of file ssl_client2.c.

16.146.1.5 `#define SERVER_PORT 443`

Definition at line 34 of file `ssl_client2.c`.

16.146.2 Function Documentation

16.146.2.1 `int main (void)`

Definition at line 55 of file `ssl_client2.c`.

References `BADCERT_CN_MISMATCH`, `BADCERT_EXPIRED`, `BADCERT_NOT_TRUSTED`, `BADCERT_REVOKED`, `buf`, `GET_REQUEST`, `havege_init()`, `havege_rand()`, `net_close()`, `net_connect()`, `net_recv()`, `net_send()`, `_ssl_context::peer_cert`, `rsa_free()`, `server_fd`, `SERVER_NAME`, `SERVER_PORT`, `ssl_close_notify()`, `ssl_default_ciphers`, `ssl_free()`, `ssl_get_cipher()`, `ssl_get_verify_result()`, `ssl_handshake()`, `ssl_init()`, `SSL_IS_CLIENT`, `ssl_read()`, `ssl_set_authmode()`, `ssl_set_bio()`, `ssl_set_ca_chain()`, `ssl_set_ciphers()`, `ssl_set_endpoint()`, `ssl_set_hostname()`, `ssl_set_own_cert()`, `ssl_set_rng()`, `ssl_set_session()`, `SSL_VERIFY_OPTIONAL`, `ssl_write()`, `test_cli_cert`, `test_cli_key`, `x509_free()`, `x509parse_cert_info()`, `x509parse_cert()`, `x509parse_key()`, `xyssl_ca_cert`, `XYSSL_ERR_NET_TRY_AGAIN`, and `XYSSL_ERR_SSL_PEER_CLOSE_NOTIFY`.

16.146.2.2 `void my_debug (void * ctx, int level, char * str)`

Definition at line 46 of file `ssl_client2.c`.

References `DEBUG_LEVEL`.

16.147 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/ssl/ssl_server.c File Reference

```
#include <string.h>
#include <stdlib.h>
#include <stdio.h>
#include "xyssl/havege.h"
#include "xyssl/certs.h"
#include "xyssl/x509.h"
#include "xyssl/ssl.h"
#include "xyssl/net.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`
- `#define HTTP_RESPONSE`
- `#define DEBUG_LEVEL 0`

Functions

- void `my_debug` (void *ctx, int level, char *str)
- static int `my_get_session` (ssl_context *ssl)
- static int `my_set_session` (ssl_context *ssl)
- int `main` (void)

Variables

- char * `my_dhm_P`
- char * `my_dhm_G` = "4"
- int `my_ciphers` []
- ssl_session * `s_list_1st` = NULL
- ssl_session * `cur`
- ssl_session * `prv`

16.147.1 Define Documentation

16.147.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file `ssl_server.c`.

16.147.1.2 `#define DEBUG_LEVEL 0`

Definition at line 75 of file `ssl_server.c`.

16.147.1.3 #define HTTP_RESPONSE

Value:

```
"HTTP/1.0 200 OK\r\nContent-Type: text/html\r\n\r\n" \
  "<h2><p><center>Successful connection using: %s\r\n"
```

Definition at line 39 of file `ssl_server.c`.

Referenced by `http_ParseRequest()`, `main()`, and `mtp_http_Parse()`.

16.147.2 Function Documentation

16.147.2.1 int main (void)

Definition at line 160 of file `ssl_server.c`.

References `buf`, `client_fd`, `havege_init()`, `havege_rand()`, `HTTP_RESPONSE`, `my_ciphers`, `my_debug()`, `my_dhm_G`, `my_dhm_P`, `my_get_session()`, `my_set_session()`, `net_accept()`, `net_bind()`, `net_close()`, `net_recv()`, `net_send()`, `_ssl_session::next`, `_x509_cert::next`, `rsa_free()`, `ssl_close_notify()`, `ssl_free()`, `ssl_get_cipher()`, `ssl_handshake()`, `ssl_init()`, `SSL_IS_SERVER`, `ssl_read()`, `ssl_set_authmode()`, `ssl_set_bio()`, `ssl_set_ca_chain()`, `ssl_set_ciphers()`, `ssl_set_dbg()`, `ssl_set_dh_param()`, `ssl_set_endpoint()`, `ssl_set_own_cert()`, `ssl_set_rng()`, `ssl_set_scb()`, `ssl_set_session()`, `SSL_VERIFY_NONE`, `ssl_write()`, `test_ca crt`, `test_srv crt`, `test_srv_key`, `x509_free()`, `x509parse crt()`, `x509parse_key()`, `XYSSL_ERR_NET_CONN_RESET`, `XYSSL_ERR_NET_TRY_AGAIN`, and `XYSSL_ERR_SSL_PEER_CLOSE_NOTIFY`.

16.147.2.2 void my_debug (void * ctx, int level, char * str)

Definition at line 77 of file `ssl_server.c`.

References `DEBUG_LEVEL`.

16.147.2.3 static int my_get_session (ssl_context * ssl) [static]

Definition at line 93 of file `ssl_server.c`.

References `_ssl_session::cipher`, `_ssl_session::id`, `_ssl_session::length`, `_ssl_session::master`, `_ssl_session::next`, `_ssl_context::resume`, `_ssl_context::session`, `_ssl_session::start`, and `_ssl_context::timeout`.

Referenced by `main()`.

16.147.2.4 static int my_set_session (ssl_context * ssl) [static]

Definition at line 125 of file `ssl_server.c`.

References `_ssl_session::id`, `_ssl_session::length`, `_ssl_session::next`, `_ssl_context::session`, `_ssl_session::start`, and `_ssl_context::timeout`.

Referenced by `main()`.

16.147.3 Variable Documentation

16.147.3.1 `ssl_session* cur`

Definition at line 91 of file `ssl_server.c`.

Referenced by `http_GetToken()`, and `http_ParseRequest()`.

16.147.3.2 `int my_ciphers[]`

Initial value:

```
{
    SSL_EDH_RSA_AES_256_SHA,
    SSL_EDH_RSA_DES_168_SHA,
    SSL_RSA_AES_256_SHA,
    SSL_RSA_AES_128_SHA,
    SSL_RSA_DES_168_SHA,
    SSL_RSA_RC4_128_SHA,
    SSL_RSA_RC4_128_MD5,
    0
}
```

Definition at line 63 of file `ssl_server.c`.

Referenced by `main()`.

16.147.3.3 `char* my_dhm_G = "4"`

Definition at line 58 of file `ssl_server.c`.

Referenced by `main()`.

16.147.3.4 `char* my_dhm_P`

Initial value:

```
"E4004C1F94182000103D883A448B3F80"
"2CE4B44A83301270002C20D0321CFD00"
"11CCEF784C26A400F43DFB901BCA7538"
"F2C6B176001CF5A0FD16D2C48B1D0C1C"
"F6AC8E1DA6BCC3B4E1F96B0564965300"
"FFA1D0B601EB2800F489AA512C4B248C"
"01F76949A60BB7F00A40B1EAB64BDD48"
"E8A700D60B7F1200FA8E77B0A979DABF"
```

Definition at line 48 of file `ssl_server.c`.

Referenced by `main()`.

16.147.3.5 `ssl_session * prv`

Definition at line 91 of file `ssl_server.c`.

16.147.3.6 `ssl_session* s_list_1st = NULL`

Definition at line 90 of file `ssl_server.c`.

16.148 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/test/benchmark.c File Reference

```
#include <string.h>
#include <stdlib.h>
#include <stdio.h>
#include "xyssl/config.h"
#include "xyssl/md4.h"
#include "xyssl/md5.h"
#include "xyssl/sha1.h"
#include "xyssl/sha2.h"
#include "xyssl/arc4.h"
#include "xyssl/des.h"
#include "xyssl/aes.h"
#include "xyssl/rsa.h"
#include "xyssl/timing.h"
```

Defines

- #define [_CRT_SECURE_NO_DEPRECATED](#) 1
- #define [BUFSIZE](#) 1024

Functions

- static [int myrand](#) (void *rng_state)
- [int main](#) (void)

Variables

- unsigned char [buf](#) [BUFSIZE]

16.148.1 Define Documentation

16.148.1.1 #define [_CRT_SECURE_NO_DEPRECATED](#) 1

Definition at line 22 of file benchmark.c.

16.148.1.2 #define [BUFSIZE](#) 1024

Definition at line 41 of file benchmark.c.

Referenced by [main\(\)](#).

16.148.2 Function Documentation

16.148.2.1 `int main (void)`

Definition at line 53 of file benchmark.c.

References `aes_crypt_cbc()`, `AES_ENCRYPT`, `aes_setkey_enc()`, `alarmed`, `arc4_crypt()`, `arc4_setup()`, `buf`, `BUFSIZE`, `des3_crypt_cbc()`, `des3_set3key_enc()`, `des_crypt_cbc()`, `DES_ENCRYPT`, `des_setkey_enc()`, `hardclock()`, `md4()`, `md5()`, `myrand()`, `rsa_free()`, `rsa_gen_key()`, `rsa_init()`, `RSA_PKCS_V15`, `rsa_private()`, `rsa_public()`, `set_alarm()`, `sha1()`, and `sha2()`.

16.148.2.2 `static int myrand (void *rng_state) [static]`

Definition at line 43 of file benchmark.c.

Referenced by `main()`.

16.148.3 Variable Documentation

16.148.3.1 `unsigned char buf[BUFSIZE]`

Definition at line 51 of file benchmark.c.

Referenced by `agent_xml_compose__create_row_nodes()`, `agent_xml_compose__data()`, `agent_xml_compose__task()`, `agent_xml_compose__tasks()`, `agent_xml_parse__fill_row_data()`, `agent_xml_parse__tasks()`, `cmd_prompt_Thread()`, `fipa_DateTime_Compose()`, `fipa_datetime_Parse()`, `fipa_envelope_Compose__date()`, `fipa_envelope_Compose__from()`, `fipa_envelope_HandleParams()`, `main()`, `MC_LoadAgentFromFile()`, `MC_RetrieveAgentCode()`, `MC_SendAgentMigrationMessageFile()`, `md5_check()`, `message_xml_parse__message()`, `mtp_http_ComposeMessage()`, `mtp_http_CreateMessage()`, `mxml_fd_getc()`, `mxml_fd_putc()`, `mxmlLoadFd()`, `mxmlSaveFd()`, `sha1_check()`, `sha2_check()`, and `xml_get_cdata()`.

16.149 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/test/selftest.c File Reference

```
#include <string.h>
#include <stdio.h>
#include "xyssl/config.h"
#include "xyssl/md2.h"
#include "xyssl/md4.h"
#include "xyssl/md5.h"
#include "xyssl/sha1.h"
#include "xyssl/sha2.h"
#include "xyssl/sha4.h"
#include "xyssl/arc4.h"
#include "xyssl/des.h"
#include "xyssl/aes.h"
#include "xyssl/base64.h"
#include "xyssl/bignum.h"
#include "xyssl/rsa.h"
#include "xyssl/x509.h"
```

Defines

- `#define _CRT_SECURE_NO_DEPRECATED 1`

Functions

- `int main (int argc, char *argv[])`

16.149.1 Define Documentation

16.149.1.1 `#define _CRT_SECURE_NO_DEPRECATED 1`

Definition at line 22 of file selftest.c.

16.149.2 Function Documentation

16.149.2.1 `int main (int argc, char * argv[])`

Definition at line 44 of file selftest.c.

References `aes_self_test()`, `arc4_self_test()`, `base64_self_test()`, `des_self_test()`, `md2_self_test()`, `md4_self_test()`, `md5_self_test()`, `mpi_self_test()`, `rsa_self_test()`, `sha1_self_test()`, `sha2_self_test()`, `sha4_self_test()`, and `x509_self_test()`.

16.150 /home/dko/projects/mobilec/trunk/src/security/xyssl-0.9/programs/test/ssl_test.c File Reference

```
#include <string.h>
#include <stdlib.h>
#include <stdio.h>
#include "xyssl/net.h"
#include "xyssl/ssl.h"
#include "xyssl/havege.h"
#include "xyssl/timing.h"
#include "xyssl/certs.h"
```

Data Structures

- struct [options](#)

Defines

- #define [_CRT_SECURE_NO_DEPRECATED](#) 1
- #define [OPMODE_NONE](#) 0
- #define [OPMODE_CLIENT](#) 1
- #define [OPMODE_SERVER](#) 2
- #define [IOMODE_BLOCK](#) 0
- #define [IOMODE_NONBLOCK](#) 1
- #define [COMMAND_READ](#) 1
- #define [COMMAND_WRITE](#) 2
- #define [COMMAND_BOTH](#) 3
- #define [DFL_OPMODE](#) OPMODE_NONE
- #define [DFL_IOMODE](#) IOMODE_BLOCK
- #define [DFL_SERVER_NAME](#) "localhost"
- #define [DFL_SERVER_PORT](#) 4433
- #define [DFL_COMMAND](#) COMMAND_READ
- #define [DFL_BUFFER_SIZE](#) 1024
- #define [DFL_MAX_BYTES](#) 0
- #define [DFL_DEBUG_LEVEL](#) 0
- #define [DFL_CONN_TIMEOUT](#) 0
- #define [DFL_MAX_CONNECTIONS](#) 0
- #define [DFL_SESSION_REUSE](#) 1
- #define [DFL_SESSION_LIFETIME](#) 86400
- #define [DFL_FORCE_CIPHER](#) 0
- #define [USAGE](#)

Functions

- unsigned long [int lcppm5](#) (unsigned long [int](#) *state)
- void [my_debug](#) (void *ctx, [int](#) level, char *str)
- static [int ssl_test](#) (struct [options](#) *opt)
- [int main](#) ([int](#) argc, char *argv[])

Variables

- char * [dhm_G](#) = "4"
- char * [dhm_P](#)
- [int server_fd](#) = -1

16.150.1 Define Documentation

16.150.1.1 #define _CRT_SECURE_NO_DEPRECATED 1

Definition at line 22 of file `ssl_test.c`.

16.150.1.2 #define COMMAND_BOTH 3

Definition at line 44 of file `ssl_test.c`.

Referenced by `main()`.

16.150.1.3 #define COMMAND_READ 1

Definition at line 42 of file `ssl_test.c`.

Referenced by `main()`, and `ssl_test()`.

16.150.1.4 #define COMMAND_WRITE 2

Definition at line 43 of file `ssl_test.c`.

Referenced by `main()`, and `ssl_test()`.

16.150.1.5 #define DFL_BUFFER_SIZE 1024

Definition at line 51 of file `ssl_test.c`.

Referenced by `main()`.

16.150.1.6 #define DFL_COMMAND COMMAND_READ

Definition at line 50 of file `ssl_test.c`.

Referenced by `main()`.

16.150.1.7 #define DFL_CONN_TIMEOUT 0

Definition at line 54 of file ssl_test.c.

Referenced by main().

16.150.1.8 #define DFL_DEBUG_LEVEL 0

Definition at line 53 of file ssl_test.c.

Referenced by main().

16.150.1.9 #define DFL_FORCE_CIPHER 0

Definition at line 58 of file ssl_test.c.

Referenced by main(), and ssl_test().

16.150.1.10 #define DFL_IOMODE IOMODE_BLOCK

Definition at line 47 of file ssl_test.c.

Referenced by main().

16.150.1.11 #define DFL_MAX_BYTES 0

Definition at line 52 of file ssl_test.c.

Referenced by main().

16.150.1.12 #define DFL_MAX_CONNECTIONS 0

Definition at line 55 of file ssl_test.c.

Referenced by main().

16.150.1.13 #define DFL_OPMODE OPMODE_NONE

Definition at line 46 of file ssl_test.c.

Referenced by main().

16.150.1.14 #define DFL_SERVER_NAME "localhost"

Definition at line 48 of file ssl_test.c.

Referenced by main().

16.150.1.15 #define DFL_SERVER_PORT 4433

Definition at line 49 of file ssl_test.c.

Referenced by main().

16.150.1.16 #define DFL_SESSION_LIFETIME 86400

Definition at line 57 of file ssl_test.c.

Referenced by main().

16.150.1.17 #define DFL_SESSION_REUSE 1

Definition at line 56 of file ssl_test.c.

Referenced by main().

16.150.1.18 #define IOMODE_BLOCK 0

Definition at line 39 of file ssl_test.c.

Referenced by main().

16.150.1.19 #define IOMODE_NONBLOCK 1

Definition at line 40 of file ssl_test.c.

Referenced by main(), and ssl_test().

16.150.1.20 #define OPMODE_CLIENT 1

Definition at line 36 of file ssl_test.c.

Referenced by main(), and ssl_test().

16.150.1.21 #define OPMODE_NONE 0

Definition at line 35 of file ssl_test.c.

16.150.1.22 #define OPMODE_SERVER 2

Definition at line 37 of file ssl_test.c.

Referenced by main(), and ssl_test().

16.150.1.23 #define USAGE

Value:

```
"\n usage: ssl_test opmode=<> command=<>...\n"
"\n acceptable parameters:\n"
"   opmode=client/server          default: <none>\n"
"   iomode=block/nonblock        default: block\n"
"   server_name=%%s              default: localhost\n"
"   server_port=%%d              default: 4433\n"
"   command=read/write/both      default: read\n"
"   buffer_size=%%d (bytes)      default: 1024\n"
"   max_bytes=%%d (bytes)        default: 0 (no limit)\n"
```

```

" debug_level=%d          default: 0 (disabled)\n" \
" conn_timeout=%d (ms)   default: 0 (no timeout)\n" \
" max_connections=%d     default: 0 (no limit)\n" \
" session_reuse=on/off   default: on (enabled)\n" \
" session_lifetime=%d (s) default: 86400\n" \
" force_cipher=<name>    default: all enabled\n" \
" acceptable cipher names:\n" \
"  SSL_RSA_RC4_128_MD5   SSL_RSA_RC4_128_SHA\n" \
"  SSL_RSA_DES_168_SHA   SSL_EDH_RSA_DES_168_SHA\n" \
"  SSL_RSA_AES_128_SHA   SSL_EDH_RSA_AES_256_SHA\n" \
"  SSL_RSA_AES_256_SHA\n"

```

Definition at line 372 of file `ssl_test.c`.

16.150.2 Function Documentation

16.150.2.1 unsigned long int `lcppm5` (unsigned long int * *state*)

Definition at line 96 of file `ssl_test.c`.

Referenced by `ssl_test()`.

16.150.2.2 int `main` (int *argc*, char * *argv*[])

Definition at line 394 of file `ssl_test.c`.

References `options::buffer_size`, `options::command`, `COMMAND_BOTH`, `COMMAND_READ`, `COMMAND_WRITE`, `options::conn_timeout`, `options::debug_level`, `DFL_BUFFER_SIZE`, `DFL_COMMAND`, `DFL_CONN_TIMEOUT`, `DFL_DEBUG_LEVEL`, `DFL_FORCE_CIPHER`, `DFL_IOMODE`, `DFL_MAX_BYTES`, `DFL_MAX_CONNECTIONS`, `DFL_OPMODE`, `DFL_SERVER_NAME`, `DFL_SERVER_PORT`, `DFL_SESSION_LIFETIME`, `DFL_SESSION_REUSE`, `options::force_cipher`, `options::iomode`, `IOMODE_BLOCK`, `IOMODE_NONBLOCK`, `options::max_bytes`, `options::max_connections`, `options::opmode`, `OPMODE_CLIENT`, `OPMODE_SERVER`, `options::server_name`, `options::server_port`, `options::session_lifetime`, `options::session_reuse`, `SSL_EDH_RSA_AES_256_SHA`, `SSL_EDH_RSA_DES_168_SHA`, `SSL_RSA_AES_128_SHA`, `SSL_RSA_AES_256_SHA`, `SSL_RSA_DES_168_SHA`, `SSL_RSA_RC4_128_MD5`, `SSL_RSA_RC4_128_SHA`, `ssl_test()`, and `USAGE`.

16.150.2.3 void `my_debug` (void * *ctx*, int *level*, char * *str*)

Definition at line 113 of file `ssl_test.c`.

16.150.2.4 static int `ssl_test` (struct `options` * *opt*) [`static`]

Definition at line 122 of file `ssl_test.c`.

References `options::buffer_size`, `client_fd`, `options::command`, `COMMAND_READ`, `COMMAND_WRITE`, `options::conn_timeout`, `DFL_FORCE_CIPHER`, `dhm_G`, `dhm_P`, `options::force_cipher`, `get_timer()`, `havege_init()`, `havege_rand()`, `options::iomode`, `IOMODE_NONBLOCK`, `lcppm5()`, `options::max_bytes`, `my_debug()`, `net_accept()`, `net_bind()`, `net_close()`, `net_connect()`, `net_recv()`, `net_send()`, `net_set_nonblock()`, `_x509_cert::next`, `options::opmode`, `OPMODE_CLIENT`, `OPMODE_SERVER`, `rsa_free()`, `server_fd`, `options::server_name`, `options::server_port`, `options::session_lifetime`, `options::session_reuse`, `ssl_close_notify()`, `ssl_default_ciphers`, `ssl_free()`, `ssl_init()`, `SSL_IS_CLIENT`, `SSL_IS_SERVER`, `ssl_read()`, `ssl_set_authmode()`, `ssl_set_bio()`, `ssl_set_ca_chain()`, `ssl_set_ciphers()`,

ssl_set_dbg(), ssl_set_dh_param(), ssl_set_endpoint(), ssl_set_own_cert(), ssl_set_rng(), ssl_set_session(), SSL_VERIFY_NONE, ssl_write(), test_ca_cert, test_srv_cert, test_srv_key, x509_free(), x509parse_cert(), x509parse_key(), XYSSL_ERR_NET_CONN_RESET, XYSSL_ERR_NET_TRY_AGAIN, and XYSSL_ERR_SSL_PEER_CLOSE_NOTIFY.

Referenced by main().

16.150.3 Variable Documentation

16.150.3.1 char* dhm_G = "4"

Definition at line 63 of file ssl_test.c.

Referenced by ssl_test().

16.150.3.2 char* dhm_P

Initial value:

```
"E4004C1F94182000103D883A448B3F802CE4B44A83301270002C20D0321CFD00"  
"11CCEF784C26A400F43DFB901BCA7538F2C6B176001CF5A0FD16D2C48B1D0C1C"  
"F6AC8E1DA6BCC3B4E1F96B0564965300FFA1D0B601EB2800F489AA512C4B248C"  
"01F76949A60BB7F00A40B1EAB64BDD48E8A700D60B7F1200FA8E77B0A979DABF"
```

Definition at line 64 of file ssl_test.c.

Referenced by ssl_test().

16.150.3.3 int server_fd = -1

Definition at line 70 of file ssl_test.c.

16.151 /home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAclM File Reference

Namespaces

- namespace [LibMC](#)

Data Structures

- class [LibMC::MCAclMessage](#)
Encapsulates ACL messages in the Mobile-C library.

16.151.1 Detailed Description

Defines the MCAclMessage object and its member functions.

Definition in file [MCAclMessage.cs](#).

16.152 /home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAgency.cs File Reference

Namespaces

- namespace [LibMC](#)

Data Structures

- class [LibMC::MCAgency](#)
Wrapper class for [MCAgency_t](#) structure.
- class [LibMC::InvalidAgencyException](#)
Exception class for use with null agency pointers.

16.152.1 Detailed Description

Defines the MCAgency object and its member functions.

Definition in file [MCAgency.cs](#).

16.153 /home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCAgent File Reference

Namespaces

- namespace [LibMC](#)

Data Structures

- class [LibMC::MCAgent](#)
Wrapper class for MCAgent_t structure.
- class [LibMC::InvalidAgentException](#)
Exception class for use with null agent pointers.

16.153.1 Detailed Description

Defines the MCAgent object and its member functions.

Definition in file [MCAgent.cs](#).

16.154 /home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/MCExports.cs File Reference

Namespaces

- namespace [LibMC](#)

Data Structures

- class [LibMC::MCAgency](#)
Wrapper class for [MCAgency_t](#) structure.
- struct [LibMC::MCAgency::MCAgency_t](#)
- struct [LibMC::MCAgency::MCAgencyOptions_t](#)
- struct [LibMC::MCAgency::ChOptions_t](#)
ChOptions structures.

16.154.1 Detailed Description

Imports functions, structs, and enums from the Mobile-C library.

Definition in file [MCExports.cs](#).

16.155 `/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/Properties`
File Reference

16.156

/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/Properties/Settings.Designer.cs

File Reference

16.156 ⁷¹⁷ /home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/Properties

File Reference

Namespaces

- namespace [LibMC::Properties](#)

Data Structures

- class [LibMC::Properties::Settings](#)

16.157 `/home/dko/projects/mobilec/trunk/src/win32/LibMC.net/LibMC/Settings.c` File Reference

Namespaces

- namespace [LibMC::Properties](#)

Data Structures

- class [LibMC::Properties::Settings](#)

16.158 /home/dko/projects/mobilec/trunk/src/winconfig.h File Reference

Defines

- #define `PACKAGE_STRING` "MobileC V1.10.0"
- #define `PACKAGE_VERSION` "1.10.0"
- #define `strtok_r(buf, delim, save_ptr)` `strtok(buf, delim)`

16.158.1 Define Documentation

16.158.1.1 #define `PACKAGE_STRING` "MobileC V1.10.0"

Definition at line 4 of file winconfig.h.

16.158.1.2 #define `PACKAGE_VERSION` "1.10.0"

Definition at line 5 of file winconfig.h.

Referenced by `mtp_http_ComposeMessage()`, and `mtp_http_CreateMessage()`.

16.158.1.3 #define `strtok_r(buf, delim, save_ptr)` `strtok(buf, delim)`

Definition at line 6 of file winconfig.h.

Referenced by `agent_xml_parse__fill_row_data()`, `message_InitializeFromAgent()`, `message_Send()`, and `message_xml_parse__message()`.

16.159 /home/dko/projects/mobilec/trunk/src/xml_compose.c File Reference

```
#include <mxml.h>
#include "include/agent.h"
#include "include/xml_compose.h"
#include "include/xml_helper.h"
```

Functions

- [mxml_node_t * agent_xml_compose \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__gaf_message \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__message \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__mobile_agent \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__agent_data \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__name \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__owner \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__home \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__tasks \(agent_p agent\)](#)
- [mxml_node_t * agent_xml_compose__task \(agent_p agent, int index\)](#)
- [mxml_node_t * agent_xml_compose__data \(agent_p agent, int index, interpreter_variable_data_t *interp_variable\)](#)
- [mxml_node_t * agent_xml_compose__agent_code \(agent_p agent, int index\)](#)
- [mxml_node_t * agent_xml_compose__row \(interpreter_variable_data_t *interp_variable, int index\)](#)
- [mxml_node_t * agent_xml_compose__create_row_nodes \(void *data, int index, int *extent, CType_t type, int dim, int extent_index\)](#)

16.159.1 Function Documentation

16.159.1.1 [mxml_node_t * agent_xml_compose \(agent_p agent\)](#)

Definition at line 41 of file `xml_compose.c`.

References `agent_xml_compose__gaf_message()`, `MXML_ADD_AFTER`, `MXML_ADD_TO_PARENT`, `MXML_NO_CALLBACK`, `mxmlAdd()`, `mxmlLoadString()`, and `node`.

Referenced by `message_InitializeFromAgent()`.

16.159.1.2 [mxml_node_t * agent_xml_compose__agent_code \(agent_p agent, int index\)](#)

Definition at line 501 of file `xml_compose.c`.

References `agent_datastate_s::agent_code_ids`, `agent_datastate_s::agent_codes`, `agent_s::datastate`, `MXML_NO_PARENT`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `node`, and `xml_new_cdata()`.

Referenced by `agent_xml_compose__tasks()`.

16.159.1.3 mxml_node_t* agent_xml_compose__agent_data (agent_p agent)

Definition at line 145 of file xml_compose.c.

References agent_xml_compose__home(), agent_xml_compose__name(), agent_xml_compose__owner(), agent_xml_compose__tasks(), MXML_ADD_AFTER, mxmlAdd(), mxmlNewElement(), and node.

Referenced by agent_xml_compose__mobile_agent().

16.159.1.4 mxml_node_t* agent_xml_compose__create_row_nodes (void * data, int index, int * extent, CType_t type, int dim, int extent_index)

Definition at line 552 of file xml_compose.c.

References agent_xml_compose__create_row_nodes(), buf, CH_DATATYPE_SIZE, CH_DATATYPE_VALUE_STRING, MXML_ADD_AFTER, MXML_ADD_TO_PARENT, MXML_NO_PARENT, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), mxmlNewText(), node, and size.

Referenced by agent_xml_compose__create_row_nodes(), and agent_xml_compose__row().

16.159.1.5 mxml_node_t* agent_xml_compose__data (agent_p agent, int index, interpreter_variable_data_t * interp_variable)

Definition at line 427 of file xml_compose.c.

References agent_xml_compose__row(), interpreter_variable_data_s::array_dim, buf, CH_DATATYPE_STRING, CH_DATATYPE_VALUE_STRING, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, MXML_ADD_AFTER, mxmlAdd(), mxmlElementSetAttr(), mxmlNewElement(), interpreter_variable_data_s::name, and node.

Referenced by agent_xml_compose__task().

16.159.1.6 mxml_node_t* agent_xml_compose__gaf_message (agent_p agent)

Definition at line 61 of file xml_compose.c.

References agent_xml_compose__message(), MXML_ADD_AFTER, mxmlAdd(), mxmlNewElement(), and node.

Referenced by agent_xml_compose().

16.159.1.7 mxml_node_t* agent_xml_compose__home (agent_p agent)

Definition at line 237 of file xml_compose.c.

References agent_s::home, mxmlNewElement(), mxmlNewText(), and node.

Referenced by agent_xml_compose__agent_data().

16.159.1.8 mxml_node_t* agent_xml_compose__message (agent_p agent)

Definition at line 80 of file xml_compose.c.

References `agent_s::agent_type`, `agent_xml_compose__mobile_agent()`, `MC_LOCAL_AGENT`, `MC_REMOTE_AGENT`, `MC_RETURN_AGENT`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlElementSetAttr()`, `mxmlNewElement()`, and `node`.

Referenced by `agent_xml_compose__gaf_message()`.

16.159.1.9 `mxml_node_t*` `agent_xml_compose__mobile_agent (agent_p agent)`

Definition at line 124 of file `xml_compose.c`.

References `agent_xml_compose__agent_data()`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlNewElement()`, and `node`.

Referenced by `agent_xml_compose__message()`.

16.159.1.10 `mxml_node_t*` `agent_xml_compose__name (agent_p agent)`

Definition at line 205 of file `xml_compose.c`.

References `mxmlNewElement()`, `mxmlNewText()`, `agent_s::name`, and `node`.

Referenced by `agent_xml_compose__agent_data()`.

16.159.1.11 `mxml_node_t*` `agent_xml_compose__owner (agent_p agent)`

Definition at line 221 of file `xml_compose.c`.

References `mxmlNewElement()`, `mxmlNewText()`, `node`, and `agent_s::owner`.

Referenced by `agent_xml_compose__agent_data()`.

16.159.1.12 `mxml_node_t*` `agent_xml_compose__row (interpreter_variable_data_t * interp_variable, int index)`

Definition at line 529 of file `xml_compose.c`.

References `agent_xml_compose__create_row_nodes()`, `interpreter_variable_data_s::array_dim`, `interpreter_variable_data_s::array_extent`, `interpreter_variable_data_s::data`, `interpreter_variable_data_s::data_type`, and `node`.

Referenced by `agent_xml_compose__data()`.

16.159.1.13 `mxml_node_t*` `agent_xml_compose__task (agent_p agent, int index)`

Definition at line 310 of file `xml_compose.c`.

References `agent_task_s::agent_return_data`, `agent_task_s::agent_variable_list`, `agent_xml_compose__data()`, `buf`, `agent_task_s::code_id`, `agent_s::datastate`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `node`, `agent_task_s::persistent`, `agent_datastate_s::persistent`, `agent_task_s::server_name`, `agent_task_s::task_completed`, `agent_datastate_s::tasks`, and `agent_task_s::var_name`.

Referenced by `agent_xml_compose__tasks()`.

16.159.1.14 `mxml_node_t*` `agent_xml_compose__tasks` (*agent_p agent*)

Definition at line 253 of file `xml_compose.c`.

References `agent_xml_compose__agent_code()`, `agent_xml_compose__task()`, `buf`, `agent_s::datastate`, `MXML_ADD_AFTER`, `mxmlAdd()`, `mxmlElementSetAttr()`, `mxmlNewElement()`, `node`, `agent_datastate_s::number_of_tasks`, and `agent_datastate_s::task_progress`.

Referenced by `agent_xml_compose__agent_data()`.

16.160 /home/dko/projects/mobilec/trunk/src/xml_helper.c File Reference

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#include <mxml.h>
#include "include/xml_helper.h"
#include "include/macros.h"
```

Functions

- [mxml_node_t * xml_find_sibling](#) (const [mxml_node_t](#) *node, const char *sibling_name)
- [char * xml_get_cdata](#) (const [mxml_node_t](#) *node)
- [mxml_node_t * xml_get_child](#) (const [mxml_node_t](#) *node, const char *child_name, [int](#) descend)
- [mxml_node_t * xml_get_deep_child](#) (const [mxml_node_t](#) *parent, const char **child_path)
- [mxml_node_t * xml_get_next_element](#) (const [mxml_node_t](#) *node)
- [char * xml_get_text](#) (const [mxml_node_t](#) *node)
- [const char * xml_get_element_name](#) (const [mxml_node_t](#) *node)
- [mxml_node_t * xml_new_cdata](#) ([mxml_node_t](#) *parent, const char *text)
- [const char * whitespace_cb](#) ([mxml_node_t](#) *node, [int](#) where)

16.160.1 Function Documentation

16.160.1.1 const char* whitespace_cb (mxml_node_t * node, int where)

Definition at line 249 of file xml_helper.c.

References [mxml_node_s::child](#), [mxml_value_u::element](#), [MXML_WS_AFTER_CLOSE](#), [MXML_WS_AFTER_OPEN](#), [MXML_WS_BEFORE_CLOSE](#), [MXML_WS_BEFORE_OPEN](#), [mxml_value_s::name](#), [mxml_node_s::parent](#), and [mxml_node_s::value](#).

Referenced by [main\(\)](#).

16.160.1.2 mxml_node_t* xml_find_sibling (const mxml_node_t * node, const char * sibling_name)

Definition at line 49 of file xml_helper.c.

References [MXML_NO_DESCEND](#), [mxmlFindElement\(\)](#), [mxml_node_s::parent](#), and [xml_get_element_name\(\)](#).

16.160.1.3 char* xml_get_cdata (const mxml_node_t * node)

Definition at line 71 of file xml_helper.c.

References [buf](#), [CHECK_NULL](#), [MXML_ELEMENT](#), [mxml_node_s::type](#), and [xml_get_element_name\(\)](#).

Referenced by [xml_get_text\(\)](#).

16.160.1.4 `mxml_node_t* xml_get_child (const mxml_node_t * node, const char * child_name, int descend)`

Definition at line 104 of file xml_helper.c.

References `mxmlFindElement()`.

Referenced by `agent_return_xml_parse()`, `agent_xml_parse__agent_data()`, `agent_xml_parse__data()`, `agent_xml_parse__mobile_agent()`, `message_xml_parse()`, `message_xml_parse__message()`, and `xml_get_deep_child()`.

16.160.1.5 `mxml_node_t* xml_get_deep_child (const mxml_node_t * parent, const char ** child_path)`

Definition at line 123 of file xml_helper.c.

References `MXML_NO_DESCEND`, `node`, and `xml_get_child()`.

16.160.1.6 `const char* xml_get_element_name (const mxml_node_t * node)`

Definition at line 217 of file xml_helper.c.

References `mxml_value_u::element`, `MXML_ELEMENT`, `mxml_value_s::name`, `mxml_node_s::type`, and `mxml_node_s::value`.

Referenced by `agent_xml_parse__data()`, `agent_xml_parse__mobile_agent()`, `agent_xml_parse__row()`, `message_xml_parse()`, `xml_find_sibling()`, and `xml_get_cdata()`.

16.160.1.7 `mxml_node_t* xml_get_next_element (const mxml_node_t * node)`

Definition at line 137 of file xml_helper.c.

References `MXML_ELEMENT`, `mxml_node_s::next`, and `mxml_node_s::type`.

16.160.1.8 `char* xml_get_text (const mxml_node_t * node)`

Definition at line 155 of file xml_helper.c.

References `CHECK_NULL`, `mxml_node_s::child`, `mxml_value_u::element`, `MXML_ELEMENT`, `MXML_TEXT`, `mxml_value_s::name`, `mxml_node_s::next`, `mxml_text_s::string`, `mxml_value_u::text`, `mxml_node_s::type`, `mxml_node_s::value`, and `xml_get_cdata()`.

Referenced by `agent_xml_parse__agent_code()`, `agent_xml_parse__home()`, `agent_xml_parse__name()`, and `agent_xml_parse__owner()`.

16.160.1.9 `mxml_node_t* xml_new_cdata (mxml_node_t * parent, const char * text)`

Definition at line 230 of file xml_helper.c.

References `CHECK_NULL`, `mxmlNewElement()`, and `node`.

Referenced by `agent_xml_compose__agent_code()`.

16.161 /home/dko/projects/mobilec/trunk/src/xml_parser.c File Reference

```
#include <mxml.h>
#include <string.h>
#include <stdlib.h>
#include "config.h"
#include "include/interpreter_variable_data.h"
#include "include/message.h"
#include "include/xml_parser.h"
#include "include/xml_helper.h"
```

Defines

- `#define _XOPEN_SOURCE 600`

Functions

- `error_code_t agent_xml_parse (agent_p agent)`
- `error_code_t agent_xml_parse__mobile_agent (agent_p agent, xml_parser_p xml_parser)`
- `error_code_t agent_xml_parse__agent_data (agent_p agent, xml_parser_p xml_parser)`
- `error_code_t agent_xml_parse__name (agent_p agent, xml_parser_p xml_parser)`
- `error_code_t agent_xml_parse__owner (agent_p agent, xml_parser_p xml_parser)`
- `error_code_t agent_xml_parse__home (agent_p agent, xml_parser_p xml_parser)`
- `error_code_t agent_xml_parse__tasks (agent_p agent, xml_parser_p xml_parser)`
- `error_code_t agent_xml_parse__task (agent_p agent, xml_parser_p xml_parser, int index)`
- `error_code_t agent_xml_parse__data (agent_p agent, xml_parser_p xml_parser, int index)`
- `error_code_t agent_xml_parse__row (interpreter_variable_data_t *interp_variable, xml_parser_p xml_parser, int index)`
- `void agent_xml_parse__fill_row_data (void *data, ChType_t type, int *extent, const mxml_node_t *node, int *index)`
- `error_code_t agent_xml_parse__agent_code (agent_p agent, int index, xml_parser_p xml_parser)`
- `error_code_t agent_return_xml_parse (agent_p agent)`
- `error_code_t message_xml_parse (message_p message)`
- `error_code_t message_xml_parse__message (message_p message, xml_parser_p xml_parser)`

16.161.1 Define Documentation

16.161.1.1 `#define _XOPEN_SOURCE 600`

Definition at line 38 of file `xml_parser.c`.

16.161.2 Function Documentation

16.161.2.1 `error_code_t agent_return_xml_parse (agent_p agent)`

Definition at line 826 of file `xml_parser.c`.

References `agent_xml_parse__home()`, `agent_xml_parse__name()`, `agent_xml_parse__owner()`, `agent_xml_parse__tasks()`, `agent_s::datastate`, `MC_SUCCESS`, `xml_get_child()`, and `agent_datastate_s::xml_root`.

16.161.2.2 `error_code_t agent_xml_parse (agent_p agent)`

Definition at line 52 of file `xml_parser.c`.

References `agent_xml_parse__mobile_agent()`, `agent_s::datastate`, `MC_SUCCESS`, and `agent_datastate_s::xml_agent_root`.

Referenced by `agent_initialize()`.

16.161.2.3 `error_code_t agent_xml_parse__agent_code (agent_p agent, int index, xml_parser_p xml_parser)`

Definition at line 785 of file `xml_parser.c`.

References `agent_datastate_s::agent_code`, `agent_datastate_s::agent_code_ids`, `agent_datastate_s::agent_codes`, `agent_task_s::code_id`, `agent_s::datastate`, `MC_SUCCESS`, `mxmlElementGetAttr()`, `agent_datastate_s::number_of_tasks`, `agent_datastate_s::task_progress`, `agent_datastate_s::tasks`, and `xml_get_text()`.

Referenced by `agent_xml_parse__tasks()`.

16.161.2.4 `error_code_t agent_xml_parse__agent_data (agent_p agent, xml_parser_p xml_parser)`

Definition at line 93 of file `xml_parser.c`.

References `agent_xml_parse__home()`, `agent_xml_parse__name()`, `agent_xml_parse__owner()`, `agent_xml_parse__tasks()`, `MC_ERR_PARSE`, `MC_SUCCESS`, and `xml_get_child()`.

Referenced by `agent_xml_parse__mobile_agent()`.

16.161.2.5 `error_code_t agent_xml_parse__data (agent_p agent, xml_parser_p xml_parser, int index)`

Definition at line 457 of file `xml_parser.c`.

References `agent_task_s::agent_return_data`, `agent_task_s::agent_variable_list`, `agent_xml_parse__row()`, `interpreter_variable_data_s::array_dim`, `CH_DATATYPE_SIZE`, `CH_DATATYPE_STR_TO_VAL`, `CH_STRING_DATATYPE`, `interpreter_variable_data_s::data`, `interpreter_variable_data_s::data_type`, `agent_s::datastate`, `interpreter_variable_data_New()`, `MC_ERR_PARSE`, `MC_SUCCESS`, `mxmlElementGetAttr()`, `interpreter_variable_data_s::name`, `mxml_node_s::parent`, `agent_task_s::persistent`, `agent_datastate_s::tasks`, `xml_get_child()`, and `xml_get_element_name()`.

Referenced by `agent_xml_parse__task()`.

16.161.2.6 void agent_xml_parse__fill_row_data (void * data, ChType_t type, int * extent, const mxml_node_t * node, int * index)

Definition at line 666 of file xml_parser.c.

References agent_xml_parse__fill_row_data(), buf, CH_DATATYPE_SIZE, mxml_node_s::child, MXML_DESCEND_FIRST, MXML_ELEMENT, MXML_TEXT, mxmlFindElement(), mxml_text_s::string, strtok_r, mxml_value_u::text, mxml_node_s::type, and mxml_node_s::value.

Referenced by agent_xml_parse__fill_row_data(), and agent_xml_parse__row().

16.161.2.7 error_code_t agent_xml_parse__home (agent_p agent, xml_parser_p xml_parser)

Definition at line 201 of file xml_parser.c.

References CHECK_NULL, agent_s::home, MC_SUCCESS, and xml_get_text().

Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.161.2.8 error_code_t agent_xml_parse__mobile_agent (agent_p agent, xml_parser_p xml_parser)

Definition at line 65 of file xml_parser.c.

References agent_xml_parse__agent_data(), MC_ERR_PARSE, xml_get_child(), and xml_get_element_name().

Referenced by agent_xml_parse().

16.161.2.9 error_code_t agent_xml_parse__name (agent_p agent, xml_parser_p xml_parser)

Definition at line 148 of file xml_parser.c.

References CHECK_NULL, MC_ERR_PARSE, MC_SUCCESS, agent_s::name, and xml_get_text().

Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.161.2.10 error_code_t agent_xml_parse__owner (agent_p agent, xml_parser_p xml_parser)

Definition at line 174 of file xml_parser.c.

References CHECK_NULL, MC_SUCCESS, agent_s::owner, and xml_get_text().

Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.161.2.11 error_code_t agent_xml_parse__row (interpreter_variable_data_t * interp_variable, xml_parser_p xml_parser, int index)

Definition at line 602 of file xml_parser.c.

References agent_xml_parse__fill_row_data(), interpreter_variable_data_s::array_dim, interpreter_variable_data_s::array_extent, CH_DATATYPE_SIZE, interpreter_variable_data_s::data, interpreter_variable_data_s::data_type, MC_SUCCESS, and xml_get_element_name().

Referenced by agent_xml_parse__data().

16.161.2.12 error_code_t agent_xml_parse__task (agent_p agent, xml_parser_p xml_parser, int index)

Definition at line 365 of file xml_parser.c.

References agent_xml_parse__data(), CHECK_NULL, agent_task_s::code_id, agent_s::datastate, MC_ERR_PARSE, MC_SUCCESS, MXML_DESCEND_FIRST, MXML_NO_DESCEND, mxmlElementGetAttr(), mxmlFindElement(), agent_task_s::server_name, agent_task_s::task_completed, agent_datastate_s::tasks, and agent_task_s::var_name.

Referenced by agent_xml_parse__tasks().

16.161.2.13 error_code_t agent_xml_parse__tasks (agent_p agent, xml_parser_p xml_parser)

Definition at line 227 of file xml_parser.c.

References agent_datastate_s::agent_code, agent_datastate_s::agent_code_ids, agent_datastate_s::agent_codes, agent_task_New(), agent_xml_parse__agent_code(), agent_xml_parse__task(), buf, agent_s::datastate, MC_ERR_PARSE, MXML_DESCEND, MXML_DESCEND_FIRST, MXML_NO_DESCEND, mxmlElementGetAttr(), mxmlFindElement(), agent_datastate_s::number_of_tasks, agent_datastate_s::task_progress, and agent_datastate_s::tasks.

Referenced by agent_return_xml_parse(), and agent_xml_parse__agent_data().

16.161.2.14 error_code_t message_xml_parse (message_p message)

Definition at line 861 of file xml_parser.c.

References MC_ERR_PARSE, message_xml_parse__message(), MXML_DESCEND, MXML_NO_DESCEND, mxmlFindElement(), xml_get_child(), xml_get_element_name(), and message_s::xml_root.

Referenced by acc_Thread(), and message_InitializeFromConnection().

16.161.2.15 error_code_t message_xml_parse__message (message_p message, xml_parser_p xml_parser)

Definition at line 916 of file xml_parser.c.

References message_s::addr, buf, CHECK_NULL, ENCRYPTED_DATA, ENCRYPTION_INITIALIZE, FIPA_ACL, message_s::from_address, MC_ERR_PARSE, MC_SUCCESS, message_s::message_type, MOBILE_AGENT, mxmlElementGetAttr(), port, REQUEST_ENCRYPTION_INITIALIZE, RETURN_MSG, strtok_r, xml_get_child(), and message_s::xml_payload.

Referenced by message_xml_parse().

Chapter 17

Example Documentation

17.1 cs2ch/cs2chfunc.c

C library example that allows agents to call CLI functions.

17.2 LibMCConsole/Program.cs

Basic Mobile-C console demo program

17.3 LibMCCppEx/LibMCCppEx.cpp

Demonstrates using LibMC.NET from a VC++ program.

17.4 LibMCFipaTest/Program.cs

Mobile-C FIPA ACL message demo program.

17.5 LibMCGui/Form1.cs

Basic Mobile-C Windows Forms demo program

17.6 LibMCInterop/Program.cs

Demonstrates interfacing with a .dl file and calling agent functions.

17.7 LibMCMiscTest/Program.cs

Demonstrates miscellaneous Mobile-C functions.

17.8 LibMCVbEx/Form1.vb

Demonstrates using LibMC.NET from a VB program.

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