libcot

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Generated by Doxygen 1.5.6

Fri Jun 12 16:32:32 2009

Contents

1 Main Page

The oBIX Client Library can be used by device drivers to post device data to oBIX server and monitor value updates. In order to register new device, server should support signUp feature which is not in the oBIX specification.

Usage:

The following string will compile application which uses oBIX Client Library:

```
gcc -I<cot_headers> -L<cot_lib> -lcot-client <sources>
```

where

- *<cot_headers>* - Path to header files of libcot (usually it is <installation_prefix>/include/cot/).
- *<cot_lib>* - Path to library binaries of libcot (usually it is <installation_prefix>/lib).
- *<sources>* - Your source files to be compiled.

The typical usage of library (see example at example_timer.c):

- Include obix_client.h header.
- Initialize library during driver startup. It can be done either by calling obix_loadConfigFile() which will load settings from configuration file, or by obix_loadConfig() with own generated XML settings structure.
- Open configured connection to oBIX server by calling obix_openConnection().
- Generate an oBIX object for each device and register them at the server by calling obix_registerDevice().
- If oBIX object, generated for the device, contains controlling values which can be changed outside, register listener for these values by calling obix_registerListener(). Library start automatically polling changes of subscribed values and calls corresponding obix_update_listener() when receives an updated value.
- When some update of device state is received by a driver, post new value to the oBIX server by calling obix_writeValue().
- Call obix_unregisterDevice() when driver detects that the device is not available any more (unplugged, turned off, etc.).
- Call obix_dispose() when device driver is going down in order to close all connections and release resources reserved for communication with oBIX server(s).

Author:

Andrey Litvinov

2 Todo List

Global ixmlElement_freeOwnerDocument implement also ixmlNode_freeOwnerDocument().

Global OBIX_ERR_LIMIT_REACHED Remove this error and enlarge arrays when needed.

Global obix_loadConfig Update description of obix_loadConfig() after adding log header to the library.

Global EXECUTE_INDEFINITE Create separate header for BOOL

3 File Index

3.1 File List

Here is a list of all documented files with brief descriptions:

4 File Documentation

4.1 ixml_ext.h File Reference

```
#include <upnp/ixml.h>
```

Functions

- IXML_Element * ixmlDocument_getElementByAttrValue (IXML_Document *doc, const char *attrName, const char *attrValue)
- int ixmlElement_setAttributeWithLog (IXML_Element *element, const char *attrName, const char *attrValue)
- int ixmlElement_removeAttributeWithLog (IXML_Element *element, const char *attrName)
- IXML_Element * ixmlElement_cloneWithLog (IXML_Element *source)
- void ixmlElement_freeOwnerDocument (IXML_Element *element)
- int **ixmlElement_copyAttributeWithLog** (IXML_Element *source, IXML_Element *target, const char *attrName, BOOL obligatory)
- IXML_Element * **ixmlAttr_getOwnerElement** (IXML_Attr *attr)

XML node types conversion @{

- IXML_Element * ixmlNode_convertToElement (IXML_Node *node)
- IXML_Attr * ixmlNode_convertToAttr (IXML_Node *node)
- IXML_Node * ixmlElement_getNode (IXML_Element *element)
- IXML_Node * ixmlDocument_getNode (IXML_Document *doc)
- IXML_Node * ixmlAttr_getNode (IXML_Attr *attr)

4.1.1 Detailed Description

Defines utility methods for work with XML DOM structure. Expands functionality of IXML library which provides DOM XML parser functionality. IXML is distributed as a part of libupnp (http://pupnp.sourceforge.net/).

Definition in file ixml_ext.h.

4.1.2 Function Documentation

4.1.2.1 IXML_Node* ixmlAttr_getNode (IXML_Attr * *attr*)

Returns node which represents provided attribute.

4.1.2.2 IXML_Element* ixmlDocument_getElementByAttrValue (IXML_Document * *doc*, const char * *attrName*, const char * *attrValue*)

Returns first element in the documents with provided attribute value.

Parameters:

doc Document where to search.

attrName Name of the attribute to check.

attrValue Attribute value which should be found

Returns:

a pointer to the element with matching attribute; NULL if no such element found.

4.1.2.3 IXML_Node* ixmlDocument_getNode (IXML_Document * *doc*)

Returns node which represents provided document.

4.1.2.4 IXML_Element* ixmlElement_cloneWithLog (IXML_Element * *source*)

Duplicates provided element.

Creates new instance of *IXML_Document* and copies entire element including all its children to that document.

Note:

Don't forget to free owner document of the clone after usage.

See also:

ixmlNode_getOwnerDocument()

Parameters:

source Element to be copied.

Returns:

NULL on error, otherwise a pointer to the new copy of the source element.

4.1.2.5 void ixmlElement_freeOwnerDocument (IXML_Element * *element*)

Frees the *IXML_Document* which the provided element belongs to.

Note:

As long as the whole document is freed, all other nodes which belongs to the same document are also freed.

Todo

implement also ixmlNode_freeOwnerDocument().

Parameters:

element Element which should be freed with it's owner document.

4.1.2.6 IXML_Node* ixmlElement_getNode (IXML_Element * *element*)

Returns node which represents provided element.

4.1.2.7 int ixmlElement_removeAttributeWithLog (IXML_Element * *element*, const char * *attrName*)

Removes attribute from the provided element. Unlike *ixmlElement_removeAttribute()* the attribute node is removed totally, not only value.

Parameters:

attrName Name of the attribute to be removed.

Returns:

0 on success or *1* on error.

4.1.2.8 int ixmlElement_setAttributeWithLog (IXML_Element * *element*, const char * *attrName*, const char * *attrValue*)

Adds new attribute to the element. If attribute with the same name already exists, it's value will be updated. Writes warning message to log on error.

Parameters:

attrName Name of the attribute to be added.

attrValue Value of the attribute.

Returns:

0 on success or *1* on error.

4.1.2.9 IXML_Attr* ixmlNode_convertToAttr (IXML_Node * *node*)

Converts node to the attribute.

Parameters:

node to be converted.

Returns:

NULL if node is not an attribute.

4.1.2.10 IXML_Element* ixmlNode_convertToElement (IXML_Node * *node*)

Converts node to the element.

Parameters:

node to be converted.

Returns:

NULL if node is not an element (i.e. tag).

4.2 lwl_ext.h File Reference

```
#include "ixml_ext.h"
```

Defines

Logging utilities@{

- #define **log_debug**(fmt,...)
- #define **log_warning**(fmt,...)
- #define **log_error**(fmt,...)

Typedefs

- typedef void(* **log_function**)(char *fmt,...)

Functions

- int **log_config** (IXML_Element *configTag)
- void **log_dispose** ()

Variables

- const char * **CT_LOG**
- const char * **CT_LOG_LEVEL**
- const char * **CTAV_LOG_LEVEL_DEBUG**
- const char * **CTAV_LOG_LEVEL_WARNING**
- const char * **CTAV_LOG_LEVEL_ERROR**
- const char * **CTAV_LOG_LEVEL_NO**
- const char * **CT_LOG_FILE**
- const char * **CT_LOG_FORMAT**
- const char * **CTA_LOG_PREFIX**
- const char * **CTA_LOG_DATE**
- const char * **CTA_LOG_TIME**
- const char * **CTA_LOG_LOCALE**
- const char * **CTA_LOG_PRIORITY**
- const char * **CT_LOG_NO_FLUSH**
- log_function **log_debugHandler**
- log_function **log_warningHandler**
- log_function **log_errorHandler**

4.2.1 Detailed Description

Contains definitions of logging tools.

Log system is based on *liblwl* library.

Author:

Andrey Litvinov

Version:

1.0

Definition in file lwl_ext.h.

4.2.2 Define Documentation

4.2.2.1 #define log_debug(fmt, ...)

Value:

```
(*log_debugHandler)("%s(%d): " fmt, __FILE__, \
                                                                    __LINE__,
```

Definition at line 39 of file lwl_ext.h.

4.2.2.2 #define log_error(fmt, ...)

Value:

```
(*log_errorHandler)("%s(%d): " fmt, __FILE__, \
                                                                    __LINE__,
```

Definition at line 45 of file lwl_ext.h.

4.2.2.3 #define log_warning(fmt, ...)

Value:

```
(*log_warningHandler)("%s(%d): " fmt, __FILE__, \
                                                                    __
```

Definition at line 42 of file lwl_ext.h.

4.3 obix_client.h File Reference

```
#include <ixml_ext.h>
```

Typedefs

- typedef int(* obix_update_listener)(int connectionId, int deviceId, int listenerId, const char *newValue)

Enumerations

- enum OBIX_ERRORCODE {
  OBIX_SUCCESS = 0, OBIX_ERR_INVALID_ARGUMENT = -1, OBIX_ERR_NO_MEMORY = -2, OBIX_ERR_INVALID_STATE = -3,
  OBIX_ERR_LIMIT_REACHED = -4, OBIX_ERR_BAD_CONNECTION = -5, OBIX_ERR_UNKNOWN_BUG = -100, OBIX_ERR_HTTP_LIB = -6 }
- enum **OBIX_DATA_TYPE** {
  OBIX_T_BOOL, **OBIX_T_INT**, **OBIX_T_REAL**, **OBIX_T_STR**,
  OBIX_T_ENUM, **OBIX_T_ABSTIME**, **OBIX_T_RELTIME**, **OBIX_T_URI** }

Functions

- int obix_loadConfigFile (const char *fileName)
- int obix_loadConfig (IXML_Element *config)
- int obix_dispose ()
- int obix_openConnection (int connectionId)
- int obix_closeConnection (int connectionId)
- int obix_registerDevice (int connectionId, const char *obixData)
- int obix_unregisterDevice (int connectionId, int deviceId)
- int obix_writeValue (int connectionId, int deviceId, const char *paramUri, const char *newValue, OBIX_DATA_TYPE dataType)
- int obix_registerListener (int connectionId, int deviceId, const char *paramUri, obix_update_listener listener)
- int obix_unregisterListener (int connectionId, int deviceId, int listenerId)

4.3.1 Detailed Description

Contains definitions for oBIX client library.

Author:

Andrey Litvinov

Version:

1.0.0

Definition in file obix_client.h.

4.3.2 Typedef Documentation

4.3.2.1 typedef int(* obix_update_listener)(int connectionId, int deviceId, int listenerId, const char *newValue)

Callback function, which is invoked when subscribed value is changed at the oBIX server.

ID arguments of the listener can be used to define which parameter was updated in case when one function is registered to handle updates of several parameters.

See also:

obix_registerListener()

Parameters:

connectionId ID of the connection from which the update is received.

deviceId ID of the device whose parameter was changed. If the parameter doesn't belong to any device which was registered by current client, than *0* will be passed.

listenerId ID of the listener which receives the event.

newValue New value of the parameter.

Returns:

The listener should return OBIX_SUCCESS if the event was handled properly. Any other returned value will be considered by library as an error.

Definition at line 121 of file obix_client.h.

4.3.3 Enumeration Type Documentation

4.3.3.1 enum OBIX_ERRORCODE

Error codes which are returned by library functions

Enumerator:

OBIX_SUCCESS Operation is completed successfully.

OBIX_ERR_INVALID_ARGUMENT Function received wrong input argument.

OBIX_ERR_NO_MEMORY Not enough memory to complete the operation.

OBIX_ERR_INVALID_STATE Library has invalid state.

OBIX_ERR_LIMIT_REACHED Allocated buffer for devices or listeners is full.

Todo

Remove this error and enlarge arrays when needed.

OBIX_ERR_BAD_CONNECTION Error in communication with server.

OBIX_ERR_UNKNOWN_BUG Reserved for uncaught errors. If such error occurs, this is a bug.

OBIX_ERR_HTTP_LIB Error inside HTTP communication module.

Definition at line 68 of file obix_client.h.

4.3.4 Function Documentation

4.3.4.1 int obix_closeConnection (int *connectionId*)

Closes specified connection releasing all used resources. Also unregisters all devices and listeners which were registered using this connection.

Parameters:

connectionId ID of the connection which should be closed.

Returns:

OBIX_SUCCESS on success, error code otherwise.

4.3.4.2 int obix_dispose ()

Releases all resources allocated by library. All registered listeners and devices are unregistered, all open connections are closed.

Returns:

OBIX_SUCCESS if operation is completed successfully, error code otherwise.

4.3.4.3 int obix_loadConfig (IXML_Element * *config*)

Initializes library and loads connection setting from provided DOM structure. Unlike obix_-loadConfigFile() it doesn't configure log system of the library. Unconfigured log writes all messages to *stdout*.

Todo

Update description of obix_loadConfig() after adding log header to the library.

Parameters:

config DOM structure representing a configuration XML.

Returns:

OBIX_SUCCESS if the library initialized successfully, error code otherwise.

4.3.4.4 int obix_loadConfigFile (const char * *fileName*)

Initializes library and loads connection setting from XML file. Also sets up the logging system of the library.

Parameters:

fileName Name of the configuration file.

Returns:

OBIX_SUCCESS if the library initialized successfully, error code otherwise.

4.3.4.5 int obix_openConnection (int *connectionId*)

Opens connection with oBIX server.

Parameters:

connectionId Connection ID which was specified in the loaded configuration file.

Returns:

OBIX_SUCCESS if connection is opened successfully, error code otherwise.

4.3.4.6 int obix_registerDevice (int *connectionId*, const char * *obixData*)

Posts the provided device information to the oBIX server.

Note:

Input data is not tested to conform with oBIX specification. Is is strongly recommended to provide *displayName* attribute to every object. Also attributes *href* and *writable* are obligatory for all device parameters which are going to be changed by the device driver or external oBIX server users. *writable* attribute should be set to *true*; *href* attribute should have a valid URI, relative to the parent object.

Example:

```
<obj name="light" href="/kitchen/light/" displayName="Kitchen lights">
    <bool name="switch"
        href="switch/"
        displayName="Switch"
        is="obix:bool"
        val="true"
        writable="true"/>
</obj>
```

Note:

Parent object can specify *href* attribute but the oBIX server can modify it (for instance, add prefix of the device storage), thus URI can't be used to refer to the device record. Use device ID instead.

Parameters:

connectionId ID of the connection which should be used.

obixData oBIX object representing the new device.

Returns:

- >0 ID of the created device record;
- <0 error code.

4.3.4.7 int obix_registerListener (int *connectionId*, int *deviceId*, const char * *paramUri*, obix_update_listener *listener*)

Registers listener for device parameter updates.

Overwrites existing listener if is called twice.

This method can be also used to subscribe for the updates of any other objects stored at the oBIX server. In that case *0* should be provided as *deviceId* and *paramUri* should be relative to the server root.

Parameters:

connectionId ID of the connection which should be used.

deviceId ID of the device whose parameter should be monitored or *0* if the parameter doesn't belong to devices registered by this client.

paramUri URI of the parameter which should be monitored. It should be either relative to the device record like it was provided during device registration, or relative to the server root if changing parameter doesn't belong to devices registered by this client.

listener Pointer to the listener function which would be invoked every time when the subscribed parameter is changed.

Note:

listener method should be quick. Slow listener (especially if it waits for some resource) will block subsequent calls to listeners.

Returns:

- >=0 ID of the created listener;
- <0 error code.

4.3.4.8 int obix_unregisterDevice (int *connectionId*, int *deviceId*)

Removes device record from the oBIX server. Also removes all listeners which were registered for this device.

Parameters:

connectionId ID of the connection which should be used.

deviceId ID of the device which should be removed.

Returns:

OBIX_SUCCESS if the device record is removed successfully, error code otherwise.

4.3.4.9 int obix_unregisterListener (int *connectionId*, int *deviceId*, int *listenerId*)

Unregisters listener of device parameter updates.

Parameters:

connectionId ID of the connection which should be used.

deviceId ID of the device whose parameter is now monitored or *0* if the parameter doesn't belong to devices registered by this client.

listenerId ID of listener to be removed.

Returns:

OBIX_SUCCESS if the listener is removed successfully, error code otherwise.

4.3.4.10 int obix_writeValue (int *connectionId*, int *deviceId*, const char * *paramUri*, const char * *newValue*, OBIX_DATA_TYPE *dataType*)

Overwrites value of the specified device parameter at the oBIX server.

This function can be also used to change a value of any *writable* object at the oBIX server. In that case *0* should be provided as *deviceId* and *paramUri* should be relative to the server root.

Parameters:

connectionId ID of the connection which should be used.

deviceId ID of the device whose parameter should be changed or *0* if the parameter doesn't belong to devices registered by this client.

paramUri URI of the parameter. It should be either relative to the device record like it was provided during device registration, or relative to the server root if changing parameter doesn't belong to devices registered by this client.

newValue Text representation of the new value to be written.

dataType Type of data which is written to the server.

Returns:

OBIX_SUCCESS on success, negative error code otherwise.

4.4 obix_utils.h File Reference

Enumerations

- enum **RELTIME_FORMAT** {
  RELTIME_MILLIS, **RELTIME_SEC**, **RELTIME_MIN**, **RELTIME_HOUR**,
  RELTIME_DAY, **RELTIME_MONTH**, **RELTIME_YEAR** }

Functions

- int **obix_reltime_parseToLong** (const char *str, long *period)
- char * **obix_reltime_fromLong** (long period, RELTIME_FORMAT)

Variables

- const char * **OBIX_HREF_ERR_BAD_URI**
- const char * **OBIX_HREF_ERR_UNSUPPORTED**
- const char * **OBIX_HREF_ERR_PERMISSION**
- const char * **OBIX_OBJ**
- const char * **OBIX_OBJ_REF**
- const char * **OBIX_OBJ_OP**
- const char * **OBIX_OBJ_LIST**
- const char * **OBIX_OBJ_ERR**
- const char * **OBIX_OBJ_BOOL**
- const char * **OBIX_OBJ_INT**
- const char * **OBIX_OBJ_REAL**
- const char * **OBIX_OBJ_STR**
- const char * **OBIX_OBJ_ENUM**
- const char * **OBIX_OBJ_ABSTIME**
- const char * **OBIX_OBJ_RELTIME**
- const char * **OBIX_OBJ_URI**
- const char * **OBIX_OBJ_FEED**
- const char * **OBIX_NAME_SIGN_UP**
- const char * **OBIX_NAME_WATCH_SERVICE**
- const char * **OBIX_NAME_WATCH_SERVICE_MAKE**
- const char * **OBIX_NAME_WATCH_ADD**
- const char * **OBIX_NAME_WATCH_REMOVE**
- const char * **OBIX_NAME_WATCH_POLLCHANGES**
- const char * **OBIX_NAME_WATCH_POLLREFRESH**

- const char * **OBIX_NAME_WATCH_DELETE**
- const char * **OBIX_NAME_WATCH_LEASE**
- const char * **OBIX_OBJ_ERR_TEMPLATE**
- const char * **OBIX_OBJ_NULL_TEMPLATE**
- const char * **OBIX_ATTR_IS**
- const char * **OBIX_ATTR_NAME**
- const char * **OBIX_ATTR_HREF**
- const char * **OBIX_ATTR_VAL**
- const char * **OBIX_ATTR_WRITABLE**
- const char * **OBIX_ATTR_DISPLAY**
- const char * **OBIX_ATTR_DISPLAY_NAME**
- const char * **XML_TRUE**
- const char * **XML_FALSE**

4.4.1 Detailed Description

Contains definitions of oBIX constants: names of objects, contracts, facets, etc. (http://obix.org/)

Definition in file obix_utils.h.

4.5 ptask.h File Reference

```
#include "ixml_ext.h"
```

Defines

- #define EXECUTE_INDEFINITE -1

Typedefs

- typedef void(* periodic_task)(void *arg)
- typedef struct _Task_Thread Task_Thread

Functions

- Task_Thread * ptask_init ()
- int ptask_dispose (Task_Thread *thread)
- int ptask_schedule (Task_Thread *thread, periodic_task task, void *arg, long period, int executeTimes)
- int ptask_reschedule (Task_Thread *thread, int taskId, long period, int executeTimes, BOOL add)
- BOOL ptask_isScheduled (Task_Thread *thread, int taskId)
- int **ptask_reset** (Task_Thread *thread, int taskId)
- int ptask_cancel (Task_Thread *thread, int taskId)

4.5.1 Detailed Description

Contains interface definition of the Periodic Task.

Periodic Task utility can be used to schedule some function to be invoked in a separate thread periodically after defined delay. A function can scheduled to be invoked either defined number of times (starting from 1) or until it is canceled.

Author:

Andrey Litvinov

Version:

1.0

Definition in file ptask.h.

4.5.2 Define Documentation

4.5.2.1 #define EXECUTE_INDEFINITE -1

Todo

Create separate header for BOOL

Specifies that the task should be executed indefinite number of times (until ptask_cancel() is called).

Definition at line 24 of file ptask.h.

4.5.3 Typedef Documentation

4.5.3.1 typedef void(* periodic_task)(void *arg)

Prototype of the function which can be scheduled.

Parameters:

arg Argument which is passed to the function when it is invoked.

Definition at line 31 of file ptask.h.

4.5.3.2 typedef struct _Task_Thread Task_Thread

Represents a separate thread which can be used to schedule tasks.

Definition at line 36 of file ptask.h.

4.5.4 Function Documentation

4.5.4.1 int ptask_cancel (Task_Thread * *thread*, int *taskId*)

Removes task from the scheduled list.

Parameters:

thread Thread in which task is scheduled.

id ID of the task to be removed.

Returns:

- 0 on success;
- -1 if task with provided ID is not found.

4.5.4.2 int ptask_dispose (Task_Thread * *thread*)

Releases resources allocated for the provided Task_Thread instance. All scheduled tasks are canceled.

Parameters:

thread Pointer to the Task_Thread to be freed.

Returns:

0 on success, negative error code otherwise.

4.5.4.3 Task_Thread* ptask_init ()

Creates new instance of Task_Thread.

Returns:

Pointer to the new instance of Task_Thread, or *NULL* if some error occurred.

4.5.4.4 BOOL ptask_isScheduled (Task_Thread * *thread*, int *taskId*)

Check whether task with provided id is scheduled for execution in the thread.

Parameters:

thread Thread where task should be searched for.

taskId Task id which is searched for.

Returns:

TRUE if the task with specified is scheduled, *FALSE* otherwise.

4.5.4.5 int ptask_reschedule (Task_Thread * *thread*, int *taskId*, long *period*, int *executeTimes*, BOOL *add*)

Sets new execution period for the specified task.

Parameters:

thread Thread in which the task is scheduled.

taskId Id of the scheduled task.

period New time interval in milliseconds (or time which will be added to the current task period).

executeTimes Defines how many times (min. 1) the task should be executed. If EXECUTE_INDEFINITE is provided than the task is executed until ptask_cancel() with corresponding task ID is called.

add Defines whether time provided in *period* argument will be used as new execution period, or will be added to the current one.

Note:

When *add* is set to *TRUE*, *period* will be also added to the next execution time, but when *add* is *FALSE* next execution will be (current time + *period*).

Returns:

0 on success, negative error code otherwise.

4.5.4.6 int ptask_schedule (Task_Thread * *thread*, periodic_task *task*, void * *arg*, long *period*, int *executeTimes*)

Schedules new task for execution.

Parameters:

thread Thread in which the task will be executed.

task Task which should be scheduled.

arg Argument which will be passed to the task function each time when it is invoked.

period Time interval in milliseconds, which defines how often the task will be executed.

executeTimes Defines how many times (min. 1) the task should be executed. If EXECUTE_INDEFINITE is provided than the task is executed until ptask_cancel() with corresponding task ID is called.

Returns:

- >0 - ID of the scheduled task. Can be used to cancel the task.
- <0 - Error code.

4.6 xml_config.h File Reference

Declares configuration constants and structs.

```
#include <ixml_ext.h>
```

Functions

- IXML_Element * config_loadFile (const char *filename)

  Tag attribute value 'true' (CTAV - Config Tag Attribute Value).

- IXML_Element * **config_getChildTag** (IXML_Element *conf, const char *tagName, BOOL obligatory)
- const char * **config_getChildTagValue** (IXML_Element *conf, const char *tagName, BOOL obligatory)
- const char * **config_getTagAttributeValue** (IXML_Element *tag, const char *attrName, BOOL obligatory)
- int config_getTagIntAttrValue (IXML_Element *tag, const char *attrName, BOOL obligatory, int defaultValue)

- long config_getTagLongAttrValue (IXML_Element *tag, const char *attrName, BOOL obligatory, long defaultValue)
- int config_getTagBoolAttrValue (IXML_Element *tag, const char *attrName, BOOL obligatory)
- void **config_finishInit** ()
- void **config_dispose** ()
- char * config_getResFullPath (const char *filename)
- void **config_setResourceDir** (char *path)

Variables

Config file parameter names

See more about parameters at the OBIX_CONFIG_FILE.

- const char * CT_CONFIG
  Main tag name (CT - Config Tag).
- const char * CTA_VALUE
  Tag attribute 'value' (CTA - Config Tag Attribute).

4.6.1 Detailed Description

Declares configuration constants and structs.

Defines the names of configuration parameters as well as their possible values. These parameters can be set by user in OBIX_CONFIG_FILE.

Definition in file xml_config.h.

4.6.2 Function Documentation

4.6.2.1 char* config_getResFullPath (const char * *filename*)

Returns the address of the resource file by adding required path to the filename. **Note:** Do not forget to release memory after using.

Returns:

address to the resource file.

4.6.2.2 int config_getTagBoolAttrValue (IXML_Element * *tag*, const char * *attrName*, BOOL *obligatory*)

Returns:

- *0* - False;
- *1* - True;
- *-1* - Error.

4.6.2.3 int config_getTagIntAttrValue (IXML_Element * *tag*, const char * *attrName*, BOOL *obligatory*, int *defaultValue*)

Returns:

- *>=0* - Parsed integer attribute value;
- *-1* - Error code.

4.6.2.4 long config_getTagLongAttrValue (IXML_Element * *tag*, const char * *attrName*, BOOL *obligatory*, long *defaultValue*)

Returns:

- *>=0* - Parsed long integer attribute value;
- *-1* - Error code.

4.6.2.5 IXML_Element* config_loadFile (const char * *filename*)

Tag attribute value 'true' (CTAV - Config Tag Attribute Value).

Opens config file and checks its structure

Returns:

pointer to the config xml node.

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