

VOMS C API

1.5.0

Generated by Doxygen 1.7.4

Tue Aug 30 2011 16:20:01

Contents

1	Data Structure Index	1
1.1	Data Structures	1
2	File Index	3
2.1	File List	3
3	Data Structure Documentation	5
3.1	attribute Struct Reference	5
3.1.1	Detailed Description	5
3.1.2	Field Documentation	5
3.1.2.1	name	5
3.1.2.2	qualifier	5
3.1.2.3	value	5
3.2	contactdata Struct Reference	6
3.2.1	Detailed Description	6
3.2.2	Field Documentation	6
3.2.2.1	contact	6
3.2.2.2	host	6
3.2.2.3	nick	6
3.2.2.4	port	7
3.2.2.5	reserved	7
3.2.2.6	version	7
3.2.2.7	vo	7
3.3	data Struct Reference	7
3.3.1	Detailed Description	7
3.3.2	Field Documentation	8

3.3.2.1	cap	8
3.3.2.2	group	8
3.3.2.3	role	8
3.4	voms Struct Reference	8
3.4.1	Detailed Description	9
3.4.2	Field Documentation	9
3.4.2.1	ac	9
3.4.2.2	custom	9
3.4.2.3	datalen	9
3.4.2.4	date1	9
3.4.2.5	date2	9
3.4.2.6	fqn	9
3.4.2.7	holder	9
3.4.2.8	serial	10
3.4.2.9	server	10
3.4.2.10	serverca	10
3.4.2.11	siglen	10
3.4.2.12	signature	10
3.4.2.13	std	10
3.4.2.14	type	10
3.4.2.15	uri	10
3.4.2.16	user	11
3.4.2.17	userca	11
3.4.2.18	version	11
3.4.2.19	voname	11
3.5	vomsdata Struct Reference	11
3.5.1	Detailed Description	11
3.5.2	Field Documentation	12
3.5.2.1	cdir	12
3.5.2.2	data	12
3.5.2.3	extra_data	12
3.5.2.4	extralen	12
3.5.2.5	real	12
3.5.2.6	vdir	12

3.5.2.7	volen	12
3.5.2.8	workvo	12
4	File Documentation	15
4.1	voms_apic.h File Reference	15
4.1.1	Define Documentation	18
4.1.1.1	NOGLOBUS	18
4.1.1.2	RECURSE_CHAIN	18
4.1.1.3	RECURSE_NONE	18
4.1.1.4	TYPE_CUSTOM	18
4.1.1.5	TYPE_NODATA	18
4.1.1.6	TYPE_STD	18
4.1.1.7	VERIFY_CERTLIST	18
4.1.1.8	VERIFY_DATE	18
4.1.1.9	VERIFY_FULL	18
4.1.1.10	VERIFY_ID	19
4.1.1.11	VERIFY_KEY	19
4.1.1.12	VERIFY_NONE	19
4.1.1.13	VERIFY_NOTARGET	19
4.1.1.14	VERIFY_ORDER	19
4.1.1.15	VERIFY_SIGN	19
4.1.1.16	VERR_COMM	19
4.1.1.17	VERR_DIR	19
4.1.1.18	VERR_EXTRAINFO	19
4.1.1.19	VERR_FORMAT	20
4.1.1.20	VERR_IDCHECK	20
4.1.1.21	VERR_MEM	20
4.1.1.22	VERR_NODATA	20
4.1.1.23	VERR_NOEXT	20
4.1.1.24	VERR_NOIDENT	20
4.1.1.25	VERR_NOINIT	20
4.1.1.26	VERR_NONE	20
4.1.1.27	VERR_NOSOCKET	21
4.1.1.28	VERR_NOTAVAIL	21

4.1.1.29	VERR_ORDER	21
4.1.1.30	VERR_PARAM	21
4.1.1.31	VERR_PARSE	21
4.1.1.32	VERR_SERVER	21
4.1.1.33	VERR_SERVERCODE	21
4.1.1.34	VERR_SIGN	21
4.1.1.35	VERR_TIME	22
4.1.1.36	VERR_TYPE	22
4.1.1.37	VERR_VERIFY	22
4.1.2	Typedef Documentation	22
4.1.2.1	gss_cred_id_t	22
4.1.2.2	gss_ctx_id_t	22
4.1.3	Function Documentation	22
4.1.3.1	getMajorVersionNumber	22
4.1.3.2	getMinorVersionNumber	22
4.1.3.3	getPatchVersionNumber	22
4.1.3.4	VOMS_AddTarget	22
4.1.3.5	VOMS_Contact	23
4.1.3.6	VOMS_ContactRaw	23
4.1.3.7	VOMS_Copy	24
4.1.3.8	VOMS_CopyAll	24
4.1.3.9	VOMS_DefaultData	24
4.1.3.10	VOMS_Delete	24
4.1.3.11	VOMS_DeleteContacts	25
4.1.3.12	VOMS_Destroy	25
4.1.3.13	VOMS_Duplicate	25
4.1.3.14	VOMS_ErrorMessage	25
4.1.3.15	VOMS_Export	25
4.1.3.16	VOMS_FindByAlias	26
4.1.3.17	VOMS_FindByVO	26
4.1.3.18	VOMS_FreeTargets	26
4.1.3.19	VOMS_FreeTargetsList	27
4.1.3.20	VOMS_GetAC	27
4.1.3.21	VOMS_GetAttribute	27

4.1.3.22	VOMS_GetAttributeGrantor	27
4.1.3.23	VOMS_GetAttributesNumber	27
4.1.3.24	VOMS_GetAttributeSourceHandle	27
4.1.3.25	VOMS_GetAttributeSourcesNumber	27
4.1.3.26	VOMS_GetTargetsList	27
4.1.3.27	VOMS_Import	27
4.1.3.28	VOMS_Init	27
4.1.3.29	VOMS_ListTargets	28
4.1.3.30	VOMS_LoadCredentials	28
4.1.3.31	VOMS_Ordering	28
4.1.3.32	VOMS_ResetOrder	28
4.1.3.33	VOMS_Retrieve	29
4.1.3.34	VOMS_RetrieveEXT	29
4.1.3.35	VOMS_RetrieveFromAC	29
4.1.3.36	VOMS_RetrieveFromCred	30
4.1.3.37	VOMS_RetrieveFromCtx	30
4.1.3.38	VOMS_RetrieveFromFile	30
4.1.3.39	VOMS_RetrieveFromProxy	31
4.1.3.40	VOMS_SetLifetime	31
4.1.3.41	VOMS_SetTimeout	31
4.1.3.42	VOMS_SetVerificationTime	31
4.1.3.43	VOMS_SetVerificationType	31

Chapter 1

Data Structure Index

1.1 Data Structures

Here are the data structures with brief descriptions:

attribute	5
contactdata (The type of data returned)	6
data (User's characteristics: can be repeated)	7
voms	8
vomsdata	11

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

voms_apic.h	15
-----------------------------	----

Chapter 3

Data Structure Documentation

3.1 attribute Struct Reference

```
#include <voms_apic.h>
```

Data Fields

- const char * [name](#)
- const char * [value](#)
- const char * [qualifier](#)

3.1.1 Detailed Description

Definition at line 54 of file voms_apic.h.

3.1.2 Field Documentation

3.1.2.1 const char* attribute::name

Definition at line 55 of file voms_apic.h.

3.1.2.2 const char* attribute::qualifier

Definition at line 57 of file voms_apic.h.

3.1.2.3 const char* attribute::value

Definition at line 56 of file voms_apic.h.

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

- [voms_apic.h](#)

3.2 contactdata Struct Reference

The type of data returned.

```
#include <voms_apic.h>
```

Data Fields

- char * [nick](#)
- char * [host](#)
- char * [contact](#)
- char * [vo](#)
- int [port](#)
- char * [reserved](#)
- int [version](#)

3.2.1 Detailed Description

The type of data returned.

Definition at line 60 of file voms_apic.h.

3.2.2 Field Documentation

3.2.2.1 char* contactdata::contact

The subject of the server's certificate

Definition at line 65 of file voms_apic.h.

3.2.2.2 char* contactdata::host

The hostname of the server

Definition at line 64 of file voms_apic.h.

3.2.2.3 char* contactdata::nick

< You must never allocate directly this structure. Its sizeof() is subject to change without notice. The only supported way to obtain it is via the VOMS_FindBy* functions. The alias of the server

Definition at line 63 of file voms_apic.h.

3.2.2.4 int contactdata::port

The port on which the server is listening

Definition at line 67 of file voms_apic.h.

3.2.2.5 char* contactdata::reserved

HANDS OFF!

Definition at line 68 of file voms_apic.h.

3.2.2.6 int contactdata::version

The version of Globus on which this server runs.

Definition at line 69 of file voms_apic.h.

3.2.2.7 char* contactdata::vo

The VO served by this server

Definition at line 66 of file voms_apic.h.

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

- [voms_apic.h](#)

3.3 data Struct Reference

User's characteristics: can be repeated.

```
#include <voms_apic.h>
```

Data Fields

- char * [group](#)
- char * [role](#)
- char * [cap](#)

3.3.1 Detailed Description

User's characteristics: can be repeated.

<

Definition at line 48 of file voms_apic.h.

3.3.2 Field Documentation

3.3.2.1 `char* data::cap`

user's capability

Definition at line 51 of file voms_apic.h.

3.3.2.2 `char* data::group`

user's group

Definition at line 49 of file voms_apic.h.

3.3.2.3 `char* data::role`

user's role

Definition at line 50 of file voms_apic.h.

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

- [voms_apic.h](#)

3.4 voms Struct Reference

```
#include <voms_apic.h>
```

Data Fields

- int [siglen](#)
- char * [signature](#)
- char * [user](#)
- char * [userca](#)
- char * [server](#)
- char * [serverca](#)
- char * [voname](#)
- char * [uri](#)
- char * [date1](#)
- char * [date2](#)
- int [type](#)
- struct [data](#) ** [std](#)
- char * [custom](#)
- int [datalen](#)
- int [version](#)
- char ** [fqan](#)

- char * [serial](#)
- AC * [ac](#)
- X509 * [holder](#)

3.4.1 Detailed Description

Definition at line 80 of file voms_apic.h.

3.4.2 Field Documentation

3.4.2.1 AC* voms::ac

Definition at line 100 of file voms_apic.h.

3.4.2.2 char* voms::custom

The data returned by an S command

Definition at line 93 of file voms_apic.h.

3.4.2.3 int voms::datalen

Definition at line 94 of file voms_apic.h.

3.4.2.4 char* voms::date1

Beginning of validity of the user info

Definition at line 89 of file voms_apic.h.

3.4.2.5 char* voms::date2

End of validity of the user info

Definition at line 90 of file voms_apic.h.

3.4.2.6 char** voms::fqan

User's attributes in compact format

Definition at line 96 of file voms_apic.h.

3.4.2.7 X509* voms::holder

Definition at line 101 of file voms_apic.h.

3.4.2.8 char* voms::serial

Serial number. Only significant if coming from AC. Null otherwise

Definition at line 97 of file voms_apic.h.

3.4.2.9 char* voms::server

The VOMS server DN, as from its certificate

Definition at line 85 of file voms_apic.h.

3.4.2.10 char* voms::serverca

The CA which signed the VOMS certificate

Definition at line 86 of file voms_apic.h.

3.4.2.11 int voms::siglen

The length of the VOMS server signature

Definition at line 81 of file voms_apic.h.

3.4.2.12 char* voms::signature

The VOMS server signature

Definition at line 82 of file voms_apic.h.

3.4.2.13 struct data voms::std**

User's characteristics

Definition at line 92 of file voms_apic.h.

3.4.2.14 int voms::type

The type of data returned

Definition at line 91 of file voms_apic.h.

3.4.2.15 char* voms::uri

The URI of the VOMS server

Definition at line 88 of file voms_apic.h.

3.4.2.16 char* voms::user

The user's DN, as from his certificate

Definition at line 83 of file voms_apic.h.

3.4.2.17 char* voms::userca

The CA which signed the user's certificate

Definition at line 84 of file voms_apic.h.

3.4.2.18 int voms::version

Definition at line 95 of file voms_apic.h.

3.4.2.19 char* voms::voname

The name of the VO to which the VOMS belongs

Definition at line 87 of file voms_apic.h.

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

- [voms_apic.h](#)

3.5 vomsdata Struct Reference

```
#include <voms_apic.h>
```

Data Fields

- char * [cdir](#)
- char * [vdir](#)
- struct [voms](#) ** [data](#)
- char * [workvo](#)
- char * [extra_data](#)
- int [volen](#)
- int [extralen](#)
- struct [vomsdata](#) * [real](#)

3.5.1 Detailed Description

Definition at line 144 of file voms_apic.h.

3.5.2 Field Documentation

3.5.2.1 `char* vomsdata::cdir`

Definition at line 145 of file voms_apic.h.

3.5.2.2 `struct voms** vomsdata::data`

User's info, as in the certificate extension. It may contain data gathered from more than one VOMS server,

Definition at line 147 of file voms_apic.h.

3.5.2.3 `char* vomsdata::extra_data`

The data specified by the user with the --include switch. Note that this field doesn't contain the result of a request to the VOMS server, but instead data specified by the user. The reason for the introduction of this extension is to let a user include important data into his proxy certificate, like, for example, a kerberos ticket

Definition at line 152 of file voms_apic.h.

3.5.2.4 `int vomsdata::extralen`

Definition at line 162 of file voms_apic.h.

3.5.2.5 `struct vomsdata* vomsdata::real`

Definition at line 164 of file voms_apic.h.

3.5.2.6 `char* vomsdata::vdir`

Definition at line 146 of file voms_apic.h.

3.5.2.7 `int vomsdata::volen`

Definition at line 161 of file voms_apic.h.

3.5.2.8 `char* vomsdata::workvo`

The value of the -vo option of the voms-proxy-init command

Definition at line 150 of file voms_apic.h.

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

- [voms_apic.h](#)

Chapter 4

File Documentation

4.1 voms_apic.h File Reference

```
#include <openssl/x509.h>
#include <time.h>
#include "newformat.h"
```

Data Structures

- struct [data](#)
User's characteristics: can be repeated.
- struct [attribute](#)
- struct [contactdata](#)
The type of data returned.
- struct [voms](#)
- struct [vomsdata](#)

Defines

- #define [NOGLOBUS](#)
- #define [TYPE_NODATA](#) 0
- #define [TYPE_STD](#) 1
- #define [TYPE_CUSTOM](#) 2
- #define [RECURSE_CHAIN](#) 0
- #define [RECURSE_NONE](#) 1
- #define [VERIFY_FULL](#) 0xffffffff
- #define [VERIFY_NONE](#) 0x00000000
- #define [VERIFY_DATE](#) 0x00000001
- #define [VERIFY_NOTARGET](#) 0x00000002
- #define [VERIFY_KEY](#) 0x00000004

- #define [VERIFY_SIGN](#) 0x00000008
- #define [VERIFY_ORDER](#) 0x00000010
- #define [VERIFY_ID](#) 0x00000020
- #define [VERIFY_CERTLIST](#) 0x00000040
- #define [VERR_NONE](#) 0

Error codes.

- #define [VERR_NOSOCKET](#) 1
- #define [VERR_NOIDENT](#) 2
- #define [VERR_COMM](#) 3
- #define [VERR_PARAM](#) 4
- #define [VERR_NOEXT](#) 5
- #define [VERR_NOINIT](#) 6
- #define [VERR_TIME](#) 7
- #define [VERR_IDCHECK](#) 8
- #define [VERR_EXTRAINFO](#) 9
- #define [VERR_FORMAT](#) 10
- #define [VERR_NODATA](#) 11
- #define [VERR_PARSE](#) 12
- #define [VERR_DIR](#) 13
- #define [VERR_SIGN](#) 14
- #define [VERR_SERVER](#) 15
- #define [VERR_MEM](#) 16
- #define [VERR_VERIFY](#) 17
- #define [VERR_TYPE](#) 18
- #define [VERR_ORDER](#) 19
- #define [VERR_SERVERCODE](#) 20
- #define [VERR_NOTAVAIL](#) 21

Typedefs

- typedef void * [gss_cred_id_t](#)
- typedef void * [gss_ctx_id_t](#)

Functions

- struct [contactdata](#) ** [VOMS_FindByAlias](#) (struct [vomsdata](#) *vd, char *alias, char *system, char *user, int *error)
- struct [contactdata](#) ** [VOMS_FindByVO](#) (struct [vomsdata](#) *vd, char *vo, char *system, char *user, int *error)
- void [VOMS_DeleteContacts](#) (struct [contactdata](#) **list)
- struct [vomsdata](#) * [VOMS_Init](#) (char *voms, char *cert)
- struct [voms](#) * [VOMS_Copy](#) (struct [voms](#) *v, int *error)
- struct [vomsdata](#) * [VOMS_CopyAll](#) (struct [vomsdata](#) *vd, int *error)
- void [VOMS_Delete](#) (struct [voms](#) *v)
- int [VOMS_AddTarget](#) (struct [vomsdata](#) *vd, char *target, int *error)

- void [VOMS_FreeTargets](#) (struct [vomsdata](#) *vd, int *error)
- char * [VOMS_ListTargets](#) (struct [vomsdata](#) *vd, int *error)
- int [VOMS_SetVerificationType](#) (int type, struct [vomsdata](#) *vd, int *error)
- int [VOMS_SetLifetime](#) (int length, struct [vomsdata](#) *vd, int *error)
- void [VOMS_Destroy](#) (struct [vomsdata](#) *vd)
- int [VOMS_ResetOrder](#) (struct [vomsdata](#) *vd, int *error)
- int [VOMS_Ordering](#) (char *order, struct [vomsdata](#) *vd, int *error)
- int [VOMS_Contact](#) (char *hostname, int port, char *servsubject, char *command, struct [vomsdata](#) *vd, int *error)
- int [VOMS_ContactRaw](#) (char *hostname, int port, char *servsubject, char *command, void **data, int *datalen, int *version, struct [vomsdata](#) *vd, int *error)
- int [VOMS_Retrieve](#) (X509 *cert, STACK_OF(X509)*chain, int how, struct [vomsdata](#) *vd, int *error)
- int [VOMS_Import](#) (char *buffer, int buflen, struct [vomsdata](#) *vd, int *error)
- int [VOMS_Export](#) (char **buffer, int *buflen, struct [vomsdata](#) *vd, int *error)
- struct [voms](#) * [VOMS_DefaultData](#) (struct [vomsdata](#) *vd, int *error)
- char * [VOMS_ErrorMessage](#) (struct [vomsdata](#) *vd, int error, char *buffer, int len)
- int [VOMS_RetrieveEXT](#) (X509_EXTENSION *ext, struct [vomsdata](#) *vd, int *error)
- int [VOMS_RetrieveFromCred](#) (gss_cred_id_t cred, int how, struct [vomsdata](#) *vd, int *error)
- int [VOMS_RetrieveFromFile](#) (FILE *file, int how, struct [vomsdata](#) *vd, int *error)
- int [VOMS_RetrieveFromCtx](#) (gss_ctx_id_t ctx, int how, struct [vomsdata](#) *vd, int *error)
- int [VOMS_RetrieveFromProxy](#) (int how, struct [vomsdata](#) *vd, int *error)
- int [VOMS_RetrieveFromAC](#) (AC *ac, struct [vomsdata](#) *vd, int *error)
- int [VOMS_GetAttributeSourcesNumber](#) (struct [voms](#) *v, struct [vomsdata](#) *vd, int *error)
- int [VOMS_GetAttributeSourceHandle](#) (struct [voms](#) *v, int num, struct [vomsdata](#) *vd, int *error)
- const char * [VOMS_GetAttributeGrantor](#) (struct [voms](#) *v, int handle, struct [vomsdata](#) *vd, int *error)
- int [VOMS_GetAttributesNumber](#) (struct [voms](#) *v, int handle, struct [vomsdata](#) *vd, int *error)
- int [VOMS_GetAttribute](#) (struct [voms](#) *v, int handle, int num, struct [attribute](#) *at, struct [vomsdata](#) *vd, int *error)
- struct [vomsdata](#) * [VOMS_Duplicate](#) (struct [vomsdata](#) *vd)
- AC * [VOMS_GetAC](#) (struct [voms](#) *v)
- int [getMajorVersionNumber](#) (void)
- int [getMinorVersionNumber](#) (void)
- int [getPatchVersionNumber](#) (void)
- int [VOMS_SetVerificationTime](#) (time_t verificationtime, struct [vomsdata](#) *vd, int *error)
- char ** [VOMS_GetTargetsList](#) (struct [voms](#) *v, struct [vomsdata](#) *vd, int *error)
- void [VOMS_FreeTargetsList](#) (char **)
- int [VOMS_SetTimeout](#) (int t, struct [vomsdata](#) *vd, int *error)
- int [VOMS_LoadCredentials](#) (X509 *cert, EVP_PKEY *pkey, STACK_OF(X509)*chain, struct [vomsdata](#) *vd, int *error)

4.1.1 Define Documentation

4.1.1.1 `#define NOGLOBUS`

Definition at line 33 of file voms_apic.h.

4.1.1.2 `#define RECURSE_CHAIN 0`

Definition at line 105 of file voms_apic.h.

4.1.1.3 `#define RECURSE_NONE 1`

Definition at line 106 of file voms_apic.h.

4.1.1.4 `#define TYPE_CUSTOM 2`

result of an S command

Definition at line 77 of file voms_apic.h.

4.1.1.5 `#define TYPE_NODATA 0`

no data

Definition at line 75 of file voms_apic.h.

4.1.1.6 `#define TYPE_STD 1`

group, role, capability triplet

Definition at line 76 of file voms_apic.h.

4.1.1.7 `#define VERIFY_CERTLIST 0x00000040`

Definition at line 116 of file voms_apic.h.

4.1.1.8 `#define VERIFY_DATE 0x00000001`

Definition at line 110 of file voms_apic.h.

4.1.1.9 `#define VERIFY_FULL 0xffffffff`

Definition at line 108 of file voms_apic.h.

4.1.1.10 #define VERIFY_ID 0x00000020

Definition at line 115 of file voms_apic.h.

4.1.1.11 #define VERIFY_KEY 0x00000004

Definition at line 112 of file voms_apic.h.

4.1.1.12 #define VERIFY_NONE 0x00000000

Definition at line 109 of file voms_apic.h.

4.1.1.13 #define VERIFY_NOTARGET 0x00000002

Definition at line 111 of file voms_apic.h.

4.1.1.14 #define VERIFY_ORDER 0x00000010

Definition at line 114 of file voms_apic.h.

4.1.1.15 #define VERIFY_SIGN 0x00000008

Definition at line 113 of file voms_apic.h.

4.1.1.16 #define VERR_COMM 3

Server problem

Definition at line 123 of file voms_apic.h.

4.1.1.17 #define VERR_DIR 13

Directory error

Definition at line 134 of file voms_apic.h.

4.1.1.18 #define VERR_EXTRAINFO 9

VO name and URI missing

Definition at line 130 of file voms_apic.h.

4.1.1.19 #define VERR_FORMAT 10

Wrong data format

Definition at line 131 of file voms_apic.h.

4.1.1.20 #define VERR_IDCHECK 8

User data in extension different from the real ones

Definition at line 128 of file voms_apic.h.

4.1.1.21 #define VERR_MEM 16

Memory problems

Definition at line 137 of file voms_apic.h.

4.1.1.22 #define VERR_NODATA 11

Empty extension

Definition at line 132 of file voms_apic.h.

4.1.1.23 #define VERR_NOEXT 5

VOMS extension missing

Definition at line 125 of file voms_apic.h.

4.1.1.24 #define VERR_NOIDENT 2

Cannot identify itself (certificate problem)

Definition at line 122 of file voms_apic.h.

4.1.1.25 #define VERR_NOINIT 6

Initialization error

Definition at line 126 of file voms_apic.h.

4.1.1.26 #define VERR_NONE 0

Error codes.

Definition at line 120 of file voms_apic.h.

4.1.1.27 #define VERR.NOSOCKET 1

Socket problem

Definition at line 121 of file voms_apic.h.

4.1.1.28 #define VERR.NOTAVAIL 21

Method not available

Definition at line 142 of file voms_apic.h.

4.1.1.29 #define VERR.ORDER 19

Ordering different than required

Definition at line 140 of file voms_apic.h.

4.1.1.30 #define VERR.PARAM 4

Wrong parameters

Definition at line 124 of file voms_apic.h.

4.1.1.31 #define VERR.PARSE 12

Parse error

Definition at line 133 of file voms_apic.h.

4.1.1.32 #define VERR.SERVER 15

Unidentifiable VOMS server

Definition at line 136 of file voms_apic.h.

4.1.1.33 #define VERR.SERVERCODE 20

Error from the server

Definition at line 141 of file voms_apic.h.

4.1.1.34 #define VERR.SIGN 14

Signature error

Definition at line 135 of file voms_apic.h.

4.1.1.35 `#define VERR_TIME 7`

Error in time checking

Definition at line 127 of file voms_apic.h.

4.1.1.36 `#define VERR_TYPE 18`

Returned data of unknown type

Definition at line 139 of file voms_apic.h.

4.1.1.37 `#define VERR_VERIFY 17`

Generic verification error

Definition at line 138 of file voms_apic.h.

4.1.2 Typedef Documentation

4.1.2.1 `typedef void* gss_cred_id_t`

Definition at line 35 of file voms_apic.h.

4.1.2.2 `typedef void* gss_ctx_id_t`

Definition at line 36 of file voms_apic.h.

4.1.3 Function Documentation

4.1.3.1 `int getMajorVersionNumber (void)`

4.1.3.2 `int getMinorVersionNumber (void)`

4.1.3.3 `int getPatchVersionNumber (void)`

4.1.3.4 `int VOMS_AddTarget (struct vomsdata * vd, char * target, int * error)`

Adds a target to the AC.

Parameters

<i>vd</i>	The vomsdata structure.
<i>target</i>	The target to add. It should be a FQDN.
<i>error</i>	RETURN PARAMETER: qualifies the error message.

Returns

failure (0) or success (<>0)

4.1.3.5 `int VOMS.Contact (char * hostname, int port, char * servsubject, char * command, struct vomsdata * vd, int * error)`

Contacts a VOMS server to get a certificate

It is the equivalent of the voms_proxy_init command, but without the --include functionality.

Parameters

<i>hostname</i>	FQDN of the VOMS server
<i>port</i>	the port on which the VOMS server is listening
<i>servsubject</i>	the subject of the server's certificate
<i>command</i>	Command
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.6 `int VOMS.ContactRaw (char * hostname, int port, char * servsubject, char * command, void ** data, int * datalen, int * version, struct vomsdata * vd, int * error)`

The same as VOMS_Connect, except that instead of starting the verification process, the data is returned as is in the

Parameters

<i>data</i>	and
<i>datalen</i>	fields.
<i>hostname</i>	FQDN of the VOMS server
<i>port</i>	the port on which the VOMS server is listening
<i>servsubject</i>	the subject of the server's certificate
<i>command</i>	the command sent to the server
<i>version</i>	is the version number of the data.
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.7 `struct voms* VOMS_Copy (struct voms * v, int * error)` [read]

Copies a voms structure. N.B: This is the ONLY way to correctly initialize a voms structure as a copy of another voms structure.

Parameters

<i>v</i>	The structure to copy.
<i>error</i>	RETURN PARAMETER: qualifies the error message.

Returns

NULL (error) or the new voms structure.

4.1.3.8 `struct vomsdata* VOMS_CopyAll (struct vomsdata * vd, int * error)` [read]

Copies a vomsdata structure. N.B: This is the ONLY way to correctly initialize a vomsdata structure as a copy of another vomsdata structure.

Parameters

<i>vd</i>	The structure to copy.
<i>error</i>	RETURN PARAMETER: qualifies the error message.

Returns

NULL (error) or the new vomsdata structure.

4.1.3.9 `struct voms* VOMS_DefaultData (struct vomsdata * vd, int * error)` [read]

Gets the default attributes from a vomsdata structure.

Parameters

<i>vd</i>	the vomsdata structure to analyze
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

a pointer to the relevant voms structure. DO NOT modify the fields.

4.1.3.10 `void VOMS_Delete (struct voms * v)`

Deletes a voms structure

Parameters

<i>v</i>	Pointer to the structure to delete.
----------	-------------------------------------

4.1.3.11 void VOMS_DeleteContacts (struct contactdata ** *list*)

Frees a contactdata vector.

Parameters

<i>list</i>	The vector to free.
-------------	---------------------

Returns

NONE

4.1.3.12 void VOMS_Destroy (struct vomsdata * *vd*)

Destroys a proper vomsdata structure /param *vd* The structure to deallocate.

4.1.3.13 struct vomsdata* VOMS_Duplicate (struct vomsdata * *vd*) [read]**4.1.3.14 char* VOMS_ErrorMessage (struct vomsdata * *vd*, int *error*, char * *buffer*, int *len*)**

Gets a textual description of the error.

Parameters

<i>vd</i>	The vomsdata structure to analyze
<i>error</i>	The error returned by the last function
<i>buffer</i>	A pointer to a buffer where the error message will be written. If NULL, then memory is allocated by the function, and will have to be free()ed by the caller.
<i>len</i>	The length of the memory pointed to by the buffer parameter.

Returns

A pointer to the error message.

4.1.3.15 int VOMS_Export (char ** *buffer*, int * *buflen*, struct vomsdata * *vd*, int * *error*)

Converts data into a test format

Parameters

<i>buffer</i>	OUTPUT PARAMETER contains the converted data
<i>buflen</i>	OUTPUT PARAMETER contains the length of buffer
<i>vd</i>	contains the data to convert
<i>error</i>	RETURN PARAMETER Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.16 `struct contactdata** VOMS_FindByAlias (struct vomsdata * vd, char * alias,
char * system, char * user, int * error)` [read]

Gets a list of VOMS servers which share an alias.

Parameters

<i>vd</i>	The correctly initialized vomsdata structured.
<i>alias</i>	The alias to look for.
<i>system</i>	The directory in which to look for the system configuration files. If NULL, defaults to /opt/edc/etc/vomses
<i>user</i>	The directory in which to look for the user configuration files. Defaults to \$VOMS_USERCONF if NULL. Again defaults to \$HOME/.edg/vomses if the latter is NULL, or to ~/.edg/vomses as a last resort.
<i>error</i>	RETURN PARAMETER: qualifies the error message.

Returns

NULL, or a NULL-terminated vector of contactdata structures. The only supported way to free this array is via the VOMS_DeleteContacts function. Note also that the order in which the servers are returned is unspecified.

4.1.3.17 `struct contactdata** VOMS_FindByVO (struct vomsdata * vd, char * vo, char *
system, char * user, int * error)` [read]

Gets a list of VOMS servers which serve the same VO.

Parameters

<i>vd</i>	The correctly initialized vomsdata structured.
<i>vo</i>	The VO to look for.
<i>system</i>	The directory in which to look for the system configuration files. If NULL, defaults to /opt/edc/etc/vomses
<i>user</i>	The directory in which to look for the user configuration files. Defaults to \$VOMS_USERCONF if NULL. Again defaults to \$HOME/.edg/vomses if the latter is NULL, or to ~/.edg/vomses as a last resort.
<i>error</i>	RETURN PARAMETER: qualifies the error message.

Returns

NULL, or a NULL-terminated vector of contactdata structures. The only supported way to free this array is via the VOMS_DeleteContacts function. Note also that the order in which the servers are returned is unspecified.

4.1.3.18 `void VOMS_FreeTargets (struct vomsdata * vd, int * error)`

Delete the targets from the AC.

Parameters

<i>vd</i>	The vomsdata structure.
<i>error</i>	RETURN PARAMETER: qualifies the error message.

4.1.3.19 void VOMS_FreeTargetsList (char **)

4.1.3.20 AC* VOMS_GetAC (struct voms * v)

4.1.3.21 int VOMS_GetAttribute (struct voms * v, int *handle*, int *num*, struct attribute * *at*, struct vomsdata * *vd*, int * *error*)

4.1.3.22 const char* VOMS_GetAttributeGrantor (struct voms * v, int *handle*, struct vomsdata * *vd*, int * *error*)

4.1.3.23 int VOMS_GetAttributesNumber (struct voms * v, int *handle*, struct vomsdata * *vd*, int * *error*)

4.1.3.24 int VOMS_GetAttributeSourceHandle (struct voms * v, int *num*, struct vomsdata * *vd*, int * *error*)

4.1.3.25 int VOMS_GetAttributeSourcesNumber (struct voms * v, struct vomsdata * *vd*, int * *error*)

4.1.3.26 char** VOMS_GetTargetsList (struct voms * v, struct vomsdata * *vd*, int * *error*)

4.1.3.27 int VOMS_Import (char * *buffer*, int *buflen*, struct vomsdata * *vd*, int * *error*)

Converts data from the format used for inclusion into a certificate to the internal format
The function does verify the data.

Parameters

<i>buffer</i>	contains the data to be converted
<i>buflen</i>	contains the length of buffer
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.28 struct vomsdata* VOMS_Init (char * *voms*, char * *cert*) [read]

Initializes a vomsdata structure for use by the other functions. N.B: This is the ONLY way to correctly initialize a vomsdata structure. It is also forbidden to directly take the sizeof() of this structure.

Parameters

<i>voms</i>	The directory which contains the certificates of the VOMS servers
<i>cert</i>	The directory which contains the CA certificates

If *voms_dir* is empty, the value of the environment variable *X509_VOMS_DIR* is taken

If *cert_dir* is empty, the value of the environment variable *X509_CERT_DIR* is taken

Returns

NULL for failure, or a pointer to a properly initialized structure.

4.1.3.29 `char* VOMS_ListTargets (struct vomsdata * vd, int * error)`

4.1.3.30 `int VOMS_LoadCredentials (X509 * cert, EVP_PKEY * pkey, STACK_OF(X509)* chain, struct vomsdata * vd, int * error)`

4.1.3.31 `int VOMS_Ordering (char * order, struct vomsdata * vd, int * error)`

Further specified the order of the returned attributes. Please do note that calls are cumulative unless [VOMS_ResetOrder\(\)](#) is called.

Parameters

<i>order</i>	the group:role attribute.
<i>vd</i>	RETURN PARAMETER: contains the modified data.
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.32 `int VOMS_ResetOrder (struct vomsdata * vd, int * error)`

Unsets the return order of the attributes.

Parameters

<i>vd</i>	RETURN PARAMETER: contains the modified data.
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.33 int VOMS_Retrieve (X509 * *cert*, STACK_OF(X509)* *chain*, int *how*, struct vomsdata * *vd*, int * *error*)

Extracts the VOMS extension from an X.509 certificate.

The function doesn't check the validity of the certificates, but it does check the content of the user data.

Parameters

<i>cert</i>	The certificate with the VOMS extensions
<i>chain</i>	The chain of the validation certificates (only the intermediate ones)
<i>how</i>	Recursion type
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.34 int VOMS_RetrieveEXT (X509_EXTENSION * *ext*, struct vomsdata * *vd*, int * *error*)

Gets VOMS information from the given extension

Parameters

<i>ext</i>	The extension to parse.
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.35 int VOMS_RetrieveFromAC (AC * *ac*, struct vomsdata * *vd*, int * *error*)

Gets VOMS information from an existing globus proxy

Parameters

<i>ac</i>	AC from which to get the credentials
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.36 `int VOMS.RetrieveFromCred (gss_cred_id_t cred, int how, struct vomsdata * vd, int * error)`

Gets VOMS information from the given globus credential

Parameters

<i>cred</i>	The credential from which to retrieve the certificate.
<i>how</i>	Recursion type
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.37 `int VOMS.RetrieveFromCtx (gss_ctx_id_t ctx, int how, struct vomsdata * vd, int * error)`

Gets VOMS information from the given globus context

Parameters

<i>ctx</i>	The context from which to retrieve the certificate.
<i>how</i>	Recursion type
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.38 `int VOMS.RetrieveFromFile (FILE * file, int how, struct vomsdata * vd, int * error)`

Gets VOMS information from the given globus credential

Parameters

<i>file</i>	The file from which to retrieve the certificate.
<i>how</i>	Recursion type
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.39 int VOMS_RetrieveFromProxy (int *how*, struct vomsdata * *vd*, int * *error*)

Gets VOMS information from an existing globus proxy

Parameters

<i>how</i>	Recursion type
<i>vd</i>	RETURN PARAMETER: contains the data returned by the connection
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.40 int VOMS_SetLifetime (int *length*, struct vomsdata * *vd*, int * *error*)

Set requested lifetime for [VOMS_Contact\(\)](#) calls.

Parameters

<i>length</i>	Lifetime requested.
<i>vd</i>	RETURN PARAMETER: contains the modified data.
<i>error</i>	RETURN PARAMETER: Qualifies the error message

Returns

failure (0) or success (<>0)

4.1.3.41 int VOMS_SetTimeout (int *t*, struct vomsdata * *vd*, int * *error*)**4.1.3.42 int VOMS_SetVerificationTime (time_t *verificationtime*, struct vomsdata * *vd*, int * *error*)****4.1.3.43 int VOMS_SetVerificationType (int *type*, struct vomsdata * *vd*, int * *error*)**

Index

ac
 voms, [9](#)
attribute, [5](#)
 name, [5](#)
 qualifier, [5](#)
 value, [5](#)
cap
 data, [8](#)
cdir
 vomldata, [12](#)
contact
 contactdata, [6](#)
contactdata, [6](#)
 contact, [6](#)
 host, [6](#)
 nick, [6](#)
 port, [6](#)
 reserved, [7](#)
 version, [7](#)
 vo, [7](#)
custom
 voms, [9](#)
data, [7](#)
 cap, [8](#)
 group, [8](#)
 role, [8](#)
 vomldata, [12](#)
datalen
 voms, [9](#)
date1
 voms, [9](#)
date2
 voms, [9](#)
extra_data
 vomldata, [12](#)
extralen
 vomldata, [12](#)
fqan
 voms, [9](#)
getMajorVersionNumber
 voms_apic.h, [22](#)
getMinorVersionNumber
 voms_apic.h, [22](#)
getPatchVersionNumber
 voms_apic.h, [22](#)
group
 data, [8](#)
gss_cred_id_t
 voms_apic.h, [22](#)
gss_ctx_id_t
 voms_apic.h, [22](#)
holder
 voms, [9](#)
host
 contactdata, [6](#)
name
 attribute, [5](#)
nick
 contactdata, [6](#)
NOGLOBUS
 voms_apic.h, [18](#)
port
 contactdata, [6](#)
qualifier
 attribute, [5](#)
real
 vomldata, [12](#)
RECURSE_CHAIN
 voms_apic.h, [18](#)
RECURSE_NONE
 voms_apic.h, [18](#)
reserved
 contactdata, [7](#)
role

- data, [8](#)
- serial
 - voms, [9](#)
- server
 - voms, [10](#)
- serverca
 - voms, [10](#)
- siglen
 - voms, [10](#)
- signature
 - voms, [10](#)
- std
 - voms, [10](#)
- type
 - voms, [10](#)
- TYPE_CUSTOM
 - voms_apic.h, [18](#)
- TYPE_NODATA
 - voms_apic.h, [18](#)
- TYPE_STD
 - voms_apic.h, [18](#)
- uri
 - voms, [10](#)
- user
 - voms, [10](#)
- userca
 - voms, [11](#)
- value
 - attribute, [5](#)
- vdir
 - vomsdata, [12](#)
- VERIFY_CERTLIST
 - voms_apic.h, [18](#)
- VERIFY_DATE
 - voms_apic.h, [18](#)
- VERIFY_FULL
 - voms_apic.h, [18](#)
- VERIFY_ID
 - voms_apic.h, [18](#)
- VERIFY_KEY
 - voms_apic.h, [19](#)
- VERIFY_NONE
 - voms_apic.h, [19](#)
- VERIFY_NOTARGET
 - voms_apic.h, [19](#)
- VERIFY_ORDER
 - voms_apic.h, [19](#)
- VERIFY_SIGN
 - voms_apic.h, [19](#)
- VERR_COMM
 - voms_apic.h, [19](#)
- VERR_DIR
 - voms_apic.h, [19](#)
- VERR_EXTRINFO
 - voms_apic.h, [19](#)
- VERR_FORMAT
 - voms_apic.h, [19](#)
- VERR_IDCHECK
 - voms_apic.h, [20](#)
- VERR_MEM
 - voms_apic.h, [20](#)
- VERR_NODATA
 - voms_apic.h, [20](#)
- VERR_NOEXT
 - voms_apic.h, [20](#)
- VERR_NOIDENT
 - voms_apic.h, [20](#)
- VERR_NOINIT
 - voms_apic.h, [20](#)
- VERR_NONE
 - voms_apic.h, [20](#)
- VERR_NOCKET
 - voms_apic.h, [20](#)
- VERR_NOTAVAIL
 - voms_apic.h, [21](#)
- VERR_ORDER
 - voms_apic.h, [21](#)
- VERR_PARAM
 - voms_apic.h, [21](#)
- VERR_PARSE
 - voms_apic.h, [21](#)
- VERR_SERVER
 - voms_apic.h, [21](#)
- VERR_SERVERCODE
 - voms_apic.h, [21](#)
- VERR_SIGN
 - voms_apic.h, [21](#)
- VERR_TIME
 - voms_apic.h, [21](#)
- VERR_TYPE
 - voms_apic.h, [22](#)
- VERR_VERIFY
 - voms_apic.h, [22](#)
- version
 - contactdata, [7](#)
 - voms, [11](#)

- vo
 - contactdata, [7](#)
- volen
 - vomsdata, [12](#)
- voms, [8](#)
 - ac, [9](#)
 - custom, [9](#)
 - datalen, [9](#)
 - date1, [9](#)
 - date2, [9](#)
 - fqn, [9](#)
 - holder, [9](#)
 - serial, [9](#)
 - server, [10](#)
 - serverca, [10](#)
 - siglen, [10](#)
 - signature, [10](#)
 - std, [10](#)
 - type, [10](#)
 - uri, [10](#)
 - user, [10](#)
 - userca, [11](#)
 - version, [11](#)
 - voname, [11](#)
- VOMS_AddTarget
 - voms_apic.h, [22](#)
- voms_apic.h, [15](#)
 - getMajorVersionNumber, [22](#)
 - getMinorVersionNumber, [22](#)
 - getPatchVersionNumber, [22](#)
 - gss_cred_id_t, [22](#)
 - gss_ctx_id_t, [22](#)
 - NOGLOBUS, [18](#)
 - RECURSE_CHAIN, [18](#)
 - RECURSE_NONE, [18](#)
 - TYPE_CUSTOM, [18](#)
 - TYPE_NODATA, [18](#)
 - TYPE_STD, [18](#)
 - VERIFY_CERTLIST, [18](#)
 - VERIFY_DATE, [18](#)
 - VERIFY_FULL, [18](#)
 - VERIFY_ID, [18](#)
 - VERIFY_KEY, [19](#)
 - VERIFY_NONE, [19](#)
 - VERIFY_NOTARGET, [19](#)
 - VERIFY_ORDER, [19](#)
 - VERIFY_SIGN, [19](#)
 - VERR_COMM, [19](#)
 - VERR_DIR, [19](#)
 - VERR_EXTRAINFO, [19](#)
 - VERR_FORMAT, [19](#)
 - VERR_IDCHECK, [20](#)
 - VERR_MEM, [20](#)
 - VERR_NODATA, [20](#)
 - VERR_NOEXT, [20](#)
 - VERR_NOIDENT, [20](#)
 - VERR_NOINIT, [20](#)
 - VERR_NONE, [20](#)
 - VERR_NOSOCKET, [20](#)
 - VERR_NOTAVAIL, [21](#)
 - VERR_ORDER, [21](#)
 - VERR_PARAM, [21](#)
 - VERR_PARSE, [21](#)
 - VERR_SERVER, [21](#)
 - VERR_SERVERCODE, [21](#)
 - VERR_SIGN, [21](#)
 - VERR_TIME, [21](#)
 - VERR_TYPE, [22](#)
 - VERR_VERIFY, [22](#)
 - VOMS_AddTarget, [22](#)
 - VOMS_Contact, [23](#)
 - VOMS_ContactRaw, [23](#)
 - VOMS_Copy, [23](#)
 - VOMS_CopyAll, [24](#)
 - VOMS_DefaultData, [24](#)
 - VOMS_Delete, [24](#)
 - VOMS_DeleteContacts, [24](#)
 - VOMS_Destroy, [25](#)
 - VOMS_Duplicate, [25](#)
 - VOMS_ErrorMessage, [25](#)
 - VOMS_Export, [25](#)
 - VOMS_FindByAlias, [25](#)
 - VOMS_FindByVO, [26](#)
 - VOMS_FreeTargets, [26](#)
 - VOMS_FreeTargetsList, [27](#)
 - VOMS_GetAC, [27](#)
 - VOMS_GetAttribute, [27](#)
 - VOMS_GetAttributeGrantor, [27](#)
 - VOMS_GetAttributesNumber, [27](#)
 - VOMS_GetAttributeSourceHandle, [27](#)
 - VOMS_GetAttributeSourcesNumber, [27](#)
 - VOMS_GetTargetsList, [27](#)
 - VOMS_Import, [27](#)
 - VOMS_Init, [27](#)
 - VOMS_ListTargets, [28](#)
 - VOMS_LoadCredentials, [28](#)
 - VOMS_Ordering, [28](#)
 - VOMS_ResetOrder, [28](#)
 - VOMS_Retrieve, [28](#)
 - VOMS_RetrieveEXT, [29](#)

- VOMS_RetrieveFromAC, [29](#)
- VOMS_RetrieveFromCred, [29](#)
- VOMS_RetrieveFromCtx, [30](#)
- VOMS_RetrieveFromFile, [30](#)
- VOMS_RetrieveFromProxy, [30](#)
- VOMS_SetLifetime, [31](#)
- VOMS_SetTimeout, [31](#)
- VOMS_SetVerificationTime, [31](#)
- VOMS_SetVerificationType, [31](#)
- VOMS_Contact
 - voms_apic.h, [23](#)
- VOMS_ContactRaw
 - voms_apic.h, [23](#)
- VOMS_Copy
 - voms_apic.h, [23](#)
- VOMS_CopyAll
 - voms_apic.h, [24](#)
- VOMS_DefaultData
 - voms_apic.h, [24](#)
- VOMS_Delete
 - voms_apic.h, [24](#)
- VOMS_DeleteContacts
 - voms_apic.h, [24](#)
- VOMS_Destroy
 - voms_apic.h, [25](#)
- VOMS_Duplicate
 - voms_apic.h, [25](#)
- VOMS_ErrorMessage
 - voms_apic.h, [25](#)
- VOMS_Export
 - voms_apic.h, [25](#)
- VOMS_FindByAlias
 - voms_apic.h, [25](#)
- VOMS_FindByVO
 - voms_apic.h, [26](#)
- VOMS_FreeTargets
 - voms_apic.h, [26](#)
- VOMS_FreeTargetsList
 - voms_apic.h, [27](#)
- VOMS_GetAC
 - voms_apic.h, [27](#)
- VOMS_GetAttribute
 - voms_apic.h, [27](#)
- VOMS_GetAttributeGrantor
 - voms_apic.h, [27](#)
- VOMS_GetAttributesNumber
 - voms_apic.h, [27](#)
- VOMS_GetAttributeSourceHandle
 - voms_apic.h, [27](#)
- VOMS_GetAttributeSourcesNumber
 - voms_apic.h, [27](#)
- voms_apic.h, [27](#)
- VOMS_GetTargetsList
 - voms_apic.h, [27](#)
- VOMS_Import
 - voms_apic.h, [27](#)
- VOMS_Init
 - voms_apic.h, [27](#)
- VOMS_ListTargets
 - voms_apic.h, [28](#)
- VOMS_LoadCredentials
 - voms_apic.h, [28](#)
- VOMS_Ordering
 - voms_apic.h, [28](#)
- VOMS_ResetOrder
 - voms_apic.h, [28](#)
- VOMS_Retrieve
 - voms_apic.h, [28](#)
- VOMS_RetrieveEXT
 - voms_apic.h, [29](#)
- VOMS_RetrieveFromAC
 - voms_apic.h, [29](#)
- VOMS_RetrieveFromCred
 - voms_apic.h, [29](#)
- VOMS_RetrieveFromCtx
 - voms_apic.h, [30](#)
- VOMS_RetrieveFromFile
 - voms_apic.h, [30](#)
- VOMS_RetrieveFromProxy
 - voms_apic.h, [30](#)
- VOMS_SetLifetime
 - voms_apic.h, [31](#)
- VOMS_SetTimeout
 - voms_apic.h, [31](#)
- VOMS_SetVerificationTime
 - voms_apic.h, [31](#)
- VOMS_SetVerificationType
 - voms_apic.h, [31](#)
- vomsdata, [11](#)
 - cdir, [12](#)
 - data, [12](#)
 - extra_data, [12](#)
 - extralen, [12](#)
 - real, [12](#)
 - vdir, [12](#)
 - volen, [12](#)
 - workvo, [12](#)
- voname
 - voms, [11](#)
- workvo

vomsdata, [12](#)