
GT 4.2.1 Release Notes: C WS Core

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<titleabbrev>Release Notes</titleabbrev>

1. Component Overview

The C WS Core provides a basic toolset in C for creating WSRF-enabled web services and clients conforming to the WS-Resource and WS-Notification specifications.

2. Feature summary

New Features in the GT 4.2.1 release

- Implementation of the 2004/06 OASIS WS-ServiceGroup working draft specification as an API and a service operation provider. Added support for service-side WSN.
- Command-line tools for accessing WSRF operations (WSN, WSRP, WSRL).

Other Supported Features

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- Implementation of the 2004/06 OASIS WSRF and WSN (client) working draft specifications. Implementation of the March 2004 version of the WS-Addressing specification).
- SOAP transport over HTTP/1.1 for clients and services.
- Embeddable service engine with dynamic loading of service code.
- Automatic generation of ANSI-C stubs and service skeletons from Document/Literal WSDL schema and XML schema documents.

Deprecated Features

- None

3. Summary of Changes in C WS Core

Other than bugfixes, no changes have occurred for C WS Core since the last stable release, 4.0.x.

4. Bug Fixes

- [Bug 6170](#):¹ addressing handler generates bad wsa:From in certain error conditions
- [Bug 6174](#):² globus-wsrf-cgen -help misses options
- [Bug 6253](#):³ API documentation missing for globus_c_ws_messaging on www.globus.org
- [Bug 6258](#):⁴ C bindings SOAP message client error
- [Bug 6378](#):⁵ SOAP message handle reuse clears security attributes between calls

5. Known Problems

The following problems and limitations are known to exist for C WS Core at the time of the 4.2.1 release:

5.1. Limitations

- No implementation of WS-SecureConversation

5.2. Outstanding bugs

- [Bug 2209](#):⁶ changes to C bindings gen
- [Bug 2310](#):⁷ support for http get queries of WSDL schemas
- [Bug 2318](#):⁸ enhancement: data comparisons in type_info
- [Bug 2501](#):⁹ array_push should be array_insert
- [Bug 3197](#):¹⁰ GLOBUS_L_SERVICE_ENGINE_REQUEST_HEADER_FAILED lock missing
- [Bug 3405](#):¹¹ default serialization does not order correctly with respect to unqualified attributes
- [Bug 3615](#):¹² debugging improvements
- [Bug 3806](#):¹³ Generated services are not prefixed

¹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6170

² http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6174

³ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6253

⁴ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6258

⁵ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6378

⁶ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2209

⁷ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2310

⁸ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2318

⁹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2501

¹⁰ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3197

¹¹ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3405

¹² http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3615

¹³ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3806

- [Bug 4260](#).¹⁴ C Bindings for ws-mds
- [Bug 4694](#).¹⁵ many memory leak in web service calling
- [Bug 6246](#).¹⁶ Cannot process abstract xml schema types correctly
- [Bug 2195](#).¹⁷ globus_extension API changes
- [Bug 4714](#).¹⁸ OldValue is always null

6. Technology dependencies

C WS Core depends on the following GT components:

- C Common Libraries
- Non-WS Authentication and Authorization (GSI)
- [Globus XIO](#) (used by C WS core for efficient HTTP and TCP transport)

C WS Core depends on the following 3rd party software:

- [Libxml2](#)¹⁹ (used by C WS Core for SOAP XML parsing and WSDL parsing)
- [OpenSSL](#)²⁰ (used by C WS Core for Security)
- [JavaScript](#)²¹ (used by C WS Core as a template language to generate the C bindings from WSDL schemas)

7. Tested platforms

Tested Platforms for C WS Core:

- IA32/Linux/gcc32
- IA64/Linux/gcc64
- x86_64/Linux/gcc64
- SPARC/Solaris 9/vendorcc32
- PowerPC/AIX 5.2/vendorcc32
- Mac/OS X/gcc32

8. Backward compatibility summary

Protocol changes since GT version 4.0.x:

¹⁴ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4260

¹⁵ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4694

¹⁶ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6246

¹⁷ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=2195

¹⁸ http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4714

¹⁹ <http://www.xmlsoft.org/>

²⁰ <http://www.openssl.org>

²¹ <http://www.mozilla.org>

- SOAP messages conform to WSRF schemas instead of previous OGSF/OGSA schemas.
- WS-Addressing has been added to the list of supported standards, as defined by the WS-Resource Framework.
- HTTP/1.1 with 'chunked' transfer encoding is used by default.

API changes since GT version 4.0.x:

- The 3.2 cbindings API is obsolete, with no overlap to the new API. Bindings APIs are now generated directly from WSDL.
- The underlying XML/SOAP messaging framework is also new, based on the libxml2 pull parser API.

Schema changes since GT version 4.0.x:

- Schemas are completely new. The WS C Core implements the OASIS WSRF and WSN working drafts specifications (with minor fixes to the 1.2-draft-01 published schemas and with the March 2004 version of the WS-Addressing specification.)

9. Associated Standards

Associated standards for C WS Core:

- [HTTP 1.1](#)²²
- [SOAP 1.1](#)²³
- [XML Schema](#)²⁴
- [WSDL 1.1](#)²⁵
- [WS-Security](#)²⁶
- [WS-Addressing](#)²⁷
- [Web Services Resource Framework](#)²⁸
- [WS-Notification](#)²⁹

10. For More Information

See [C WS Core](#) for more information about this component.

²² <http://www.ietf.org/rfc/rfc2616.txt>

²³ <http://www.w3.org/TR/2000/NOTE-SOAP-20000508/>

²⁴ <http://www.w3.org/XML/Schema>

²⁵ <http://www.w3.org/TR/wsd1>

²⁶ http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wss

²⁷ <http://www.w3.org/TR/2006/REC-ws-addr-core-20060509/>

²⁸ http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrf

²⁹ http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsn