

GT 4.2.0 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 4.2.0 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

The following changes have occurred for C WS Core since the last stable release, 4.0.x:

- Implementation of WS-ServiceGroup as an API and a provider.
- Implementation of the Notification Producer operations, including support for Simple, Concrete, and Full Topic-Expressions. The default service stubs will use a provider for this.
- Implementation of the WSRF QueryResourceProperties operation, including client and server-side serialization of XPath expressions. Support for TargetedXPathQuery dialect as used by Java WS Core.
- Local service invocations within a process bypass XML serialization.
- Improved WSDL parsing and type generation (support nillable types, xsd:token, etc).
- New command-line option parsing support in WSRF Core tools for implementing WSRF client programs.
- New command-line tools for common WSRF operations.
- Improved Makefiles for bindings packages created by globus-wsrf-cgen. Source lists are created at compile time from the schema, instead of being hard-coded into the Makefiles. Better handling of service-only, client-only, and types-only packages.

4. Bug Fixes

- globus_wsrf_resource.h missing c++ guards¹
- serialization of QName list attributes doesn't set namespaces correctly²
- xsd schema parsing updates³
- use globus_test for credentials when running java interop tests⁴
- More friendly bindings generation for c++, external libraries⁵
- cgen can't make CVS-friendly packages⁶
- Bug 3208: C registryService bindings⁷

5. Known Problems

The following problems and limitations are known to exist for C WS Core at the time of the 4.2.0 release:

¹ http://bugzilla.globus.org/globus/show_bug.cgi?id=2834

² http://bugzilla.globus.org/globus/show_bug.cgi?id=3771

³ http://bugzilla.globus.org/globus/show_bug.cgi?id=3914

⁴ http://bugzilla.globus.org/globus/show_bug.cgi?id=4147

⁵ http://bugzilla.globus.org/globus/show_bug.cgi?id=4151

⁶ http://bugzilla.globus.org/globus/show_bug.cgi?id=4169

⁷ http://bugzilla.globus.org/globus/show_bug.cgi?id=3208

5.1. Limitations

- [list limitations]

5.2. Outstanding bugs

- [Bug 2310: support for http get queries of WSDL schemas](#)⁸
- [Bug 2460: utility funcs](#)⁹

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](#)¹⁰ (used by C WS Core for SOAP XML parsing and WSDL parsing)
- [OpenSSL](#)¹¹ (used by C WS Core for Security)
- [JavaScript](#)¹² (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:

⁸ http://bugzilla.globus.org/globus/show_bug.cgi?id=2310

⁹ http://bugzilla.globus.org/globus/show_bug.cgi?id=2460

¹⁰ <http://www.xmlsoft.org/>

¹¹ <http://www.openssl.org>

¹² <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
- SOAP
- XML Schema
- WSDL
- WS Security
- WS-Addressing
- WS-Resource Framework
- WS-Notification

10. For More Information

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