

# GT 4.2.0 Release Notes: Java WS Core

## Table of Contents

1. Component Overview .....	1
2. Feature summary .....	1
3. Summary of Changes in Java WS Core .....	2
4. Bug Fixes .....	5
5. Known Problems .....	7
6. Technology dependencies .....	8
7. Tested platforms .....	9
8. Backward compatibility summary .....	10
9. Associated Standards .....	10
10. For More Information .....	11
Glossary .....	11

<titleabbrev>Release Notes</titleabbrev>

## 1. Component Overview

The Java WS Core is an implementation of the *Web Services Resource Framework (WSRF)* and the *Web Service Notification (WSN)* family of standards. It provides APIs and tools for building stateful Web services. The Java WS Core provides a Java-based container (web services hosting environment) and is the default container in a default GT installation. Commands can be used with any WSRF-based service/resource. The following GT 4.2.0 components are based on the Java WS Core [fixme verify]:

- [Reliable File Transfer \(RFT\)](#)
- [WS Replica Locator Service \(WS RLS\)](#)
- [GRAM4](#)
- [WS Java Security](#)
- [Community Authorization Service \(CAS\)](#)
- [Monitoring and Discovery System \(WS MDS\)](#)
- [Delegation Service](#)

## 2. Feature summary

New Features in the GT 4.2 release

- Persistent HTTP/S connection support (client and server side)
- Support for SOAP with Attachments (DIME, MIME, and MTOM formats). See the [SOAP Attachments](#) section for details.
- Dynamic deployment support for the standalone container. See the [Java WS Core Container Dynamic Deploy Design Document](#) for more information.

- [WS-Enumeration](#)<sup>1</sup> support. See the [Java WS Core WS-Enumeration Design Document](#) for more information.
- JBOSS 4.0.x support.
- The [TargetedXPath](#) query dialect implementation that enables simpler and more efficient querying of resource property documents.

#### Other Supported Features

- A standalone and embeddable container
- Tomcat 4.1, 5.0, and 5.5 support
- Basic API for resource persistence and recovery
- Persistent subscriptions support
- Automatic service and [ResourceHome](#) activation on startup
- Operation providers

#### Deprecated Features

- None

## 3. Summary of Changes in Java WS Core

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

### 3.1. Specification upgrade

- Support for WS Addressing version 1.0
- Support for Web Services Resource Framework version 1.2
- Support for Web Services Notification version 1.3

A migration guide for porting services to the new specification is available [here](#)<sup>2</sup>.

### 3.2. New command line tools

- The [globus-validate-descriptors](#) command line tool is used to validate the Web Services Deployment Descriptor (`.wsdd`) files, JNDI configuration files (`jndi-config.xml`), and security descriptors for all services.
- The [globus-check-environment](#) command line tool is used to display component version information and to validate JVM version.
- The [globus-update-client-config](#) command line tool is used to merge `client-config.wsdd` files from deployed modules into the global `client-config.wsdd` configuration file.
- The [globus-reload-container](#), [globus-remote-deploy-gar](#), and [globus-remote-undeploy-gar](#) command line tools (see the dynamic deployment feature for details).

<sup>1</sup> <http://www.w3.org/Submission/WS-Enumeration/>

<sup>2</sup> [http://dev.globus.org/wiki/Java\\_WS\\_Core/Final\\_WSRF\\_Migration\\_Guide](http://dev.globus.org/wiki/Java_WS_Core/Final_WSRF_Migration_Guide)

- The `ws-enumerate-start`, `ws-enumerate`, and `ws-enumerate-end` command line tools (see the WS-Enumeration support feature for details).
- The `globus-xpath-query` command line tool for querying the resource property document of a resource using the new TargetedXPath query dialect.

### 3.3. New common command line options

- `-t`, `--timeout` option is used to configure the client-side timeout value.

### 3.4. Standalone container changes

- A new `-i` command line option was added to `globus-start-container` to force the container to bind to the specified network address.
- `globus-start-container` now performs a JVM version check to ensure that at least Java 1.4 JVM is used to start the container.
- The `OutOfMemoryError` error handling was improved in the standalone container. All `ResourceHome` caches will now be automatically cleared on `OutOfMemoryError` error.
- SOAP requests containing attachments will now be handled correctly by the container.
- The `globus-start-container-detached`, and `globus-stop-container-detached` tools now support options for specifying alternative log and pid file locations.
- Adjusted the number of threads used by the container in standalone and embedded mode. By default the container in standalone mode will now have a minimum of 2 threads and a maximum of 20. The container in embedded mode will now have a minimum of 1 thread and maximum of 3 threads.

### 3.5. GAR deployment/undeployment changes

- `globus-deploy-gar` will NOT overwrite the existing GAR deployment by default now. The existing deployment must be undeployed first or the GAR must be deployed with `-overwrite` option.
- During GAR deployment the service configuration files such as `.wsdd` files, `jndi-config.xml` file, and security deployment descriptors will now be automatically validated.
- Client-side type mapping will now be properly removed during GAR undeployment.
- Both GAR deployment and undeployment operations now explicitly check if the container is currently running. If so, the operation is aborted. The container must be off before deploying or undeploying GAR files.
- `globus-deploy-gar` and `globus-undeploy-gar` tools can now deploy or undeploy a GAR file directly from Apache Tomcat with the `-tomcat` option.
- The command line syntax of the `globus-deploy-gar` and `globus-undeploy-gar` tools has changed. The tools now expect the options first followed by the required arguments.

### 3.6. Simpler local invocation

- It is now easier to make local invocations. Axis' `MessageContext` does not need to be associated with the current thread anymore and the stub does not need to be configured in any way to make local invocations.

## 3.7. Other changes

- A new `MessageContextHelper`<sup>3</sup> API were added to help in associating an arbitrary `MessageContext` object with the current thread of execution.
- A new `EPRResourceContext`<sup>4</sup> API was added to help obtaining `ResourceKey`, `ResourceHome`, or the resource object associated with a given WS-Addressing endpoint.
- `GLOBUS_TCP_SOURCE_PORT_RANGE` environment property is now supported.
- The test framework was extended to allow for execution of a specific test suite or a specific set of test cases within a test suite ([Bug 3668](#)<sup>5</sup>).
- A new `Version`<sup>6</sup> API were added to obtain Java WS Core version information programmatically.
- A new `JNDIUtils.getInitialContext()`<sup>7</sup> method was added to obtain the right JNDI registry. This is now the preferred way of getting the `InitialContext` as it will work correctly on any application server with other JNDI implementations present.
- Added support for Sun Java SE 6 RC.
- Added `init.d` start/stop script for the standalone container. Please see the [Configuring Java WS Core](#) for details.
- A resource cache can now be configured with a size limit (in addition to a timeout).
- A persistent resource object (when used with `ResourceHomeImpl`) can now have a `private` or `protected` no-argument constructor.
- The `factory` parameter for simple Java Bean resources declared in the `jndi-config.xml` files is now optional. By default, the `org.globus.wsrftools.jndi.BeanFactory` factory class will be used if the `factory` resource parameter is not specified.
- A launch script for the `myproxy` Java command line tool will now be created on Windows.
- Added error codes to all error messages generated by Java WS Core.
- The `setTerminationTime()`<sup>8</sup> function can now throw a `TerminationTimeRejectedException`<sup>9</sup> if the new termination time cannot be accepted by the service.
- Changed the timestamp format of the container log file to ISO 8601 complaint format. The new format has the following syntax: `YYYY-MM-DDThh:mm:ss,sss[+-]hh:mm`. It uses local time with UTC time zone offset.

## 3.8. Updated 3rd party libraries

- CoG JGlobus (see the [CoG JGlobus Release Notes](#) for more details)
- Apache Xerces 2.7.1

---

<sup>3</sup> <http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/axis/utils/MessageContextHelper.html>

<sup>4</sup> <http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/impl/EPRResourceContext.html>

<sup>5</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=3668](http://bugzilla.globus.org/globus/show_bug.cgi?id=3668)

<sup>6</sup> <http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/Version.html>

<sup>7</sup> [http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/jndi/JNDIUtils.html#getInitialContext\(\)](http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/jndi/JNDIUtils.html#getInitialContext())

<sup>8</sup> [http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/ResourceLifetime.html#setTerminationTime\(java.util.Calendar\)](http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/ResourceLifetime.html#setTerminationTime(java.util.Calendar))

<sup>9</sup> <http://www-unix.mcs.anl.gov/~gawor/javawscore/HEAD/doc/javadocs/org/globus/wsrftools/TerminationTimeRejectedException.html>

- OpenSAML 1.1
- BouncyCastle 1.31
- Apache Log4j 1.2.15
- Apache Commons Logging 1.1
- Apache Commons CLI 2.0 (latest snapshot)
- Switched to JNDI Naming library from the [Apache Directory Project](#)<sup>10</sup>.
- Post 1.4 version of Apache Axis. Please see [Axis changes](#) for details.
- Apache Commons Collection 3.2
- Apache Addressing Library has been imported into Globus CVS and a modified version of the library that support only WS Addressing 1.0 namespace has been added to the toolkit. The package names have been modified to avoid any conflicts and the toolkit does not ship with Apache Addressing library.

## 3.9. Axis changes

GT 4.2.0 release contains a newer version of Apache Axis. The following changes have been noted in Axis:

- `xsd:group` handling has changed. A Java Bean will NOT be generated now for a `xsd:group` type. See [AXIS-1525](#)<sup>11</sup> for more details.
- The ordering of the parameters of the constructors of the generated Java Beans has changed once again. It is recommended to avoid the full constructors of the generated Java Beans. Use individual setter functions to set the values of the Bean instead.
- An error will now be raised by `BeanSerializer` when serializing a null value that is not optional or non-nullable. This behavior can be disabled by setting `BeanSerializer.errorOnNullWithNonNullableElement` system property to `false`. Example:

```
export
  GLOBUS_OPTIONS="-DBeanSerializer.errorOnNullWithNonNullableElement=false"
```

- `WSDL2Java` will not generate Java Beans for certain array objects. The `-w` option must be passed to `WSDL2Java` to force it to generate the Java Beans for such types. This change is transparent to the users of the build scripts provided by Java WS Core.
- [MTOM](#)<sup>12</sup> attachments are now supported.

## 4. Bug Fixes

- [Bug 3774](#):<sup>13</sup> Missing dep in wsmds target?
- [Bug 5591](#):<sup>14</sup> Improve Java WS Core metrics reporting

---

<sup>10</sup> <http://directory.apache.org/>

<sup>11</sup> <https://issues.apache.org/jira/browse/AXIS-1525>

<sup>12</sup> <http://www.w3.org/TR/soap12-mtom/>

<sup>13</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=3774](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3774)

<sup>14</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5591](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5591)

- [Bug 5656](#).<sup>15</sup> Destruction of subscription resources relies on alive producer resources
- [Bug 5826](#).<sup>16</sup> ClassNotFoundException in recovery of subscription resources
- [Bug 5539](#).<sup>17</sup> globus-start-container lies about startup problem
- [Bug 5322](#).<sup>18</sup> GRAM/Derby db.lck file not cleaned up after WS container stopped
- [Bug 5845](#).<sup>19</sup> FaultHelper issue
- [Bug 5991](#).<sup>20</sup> Fault type cause has incorrect xsi:type
- [Bug 5851](#).<sup>21</sup> Deletion of directories of persisted subscription resources
- [Bug 5789](#).<sup>22</sup> lifetime of subscription resources
- [Bug 5913](#).<sup>23</sup> Improve error handling when 4.0.x client are used
- [Bug 4859](#).<sup>24</sup> globusrun-ws staging error after gt4 deployed to tomcat
- [Bug 5505](#).<sup>25</sup> Incomplete dependencies for globus\_java\_ws\_core\_test\_unit
- [Bug 3736](#).<sup>26</sup> log4j timestamps are not ISO 8601 compatible
- [Bug 4227](#).<sup>27</sup> QueryResourceProperites xpath dialect doesn't handle namespaces
- [Bug 4574](#).<sup>28</sup> getting jars into lib/common
- [Bug 4720](#).<sup>29</sup> NotificationConsumerManager issues
- [Bug 4842](#).<sup>30</sup> Incorrect default ports used in ServiceURL
- [Bug 5819](#).<sup>31</sup> Removing subscription resources with SubscriptionRemovalHelper
- [Bug 4936](#).<sup>32</sup> WorkManager config broken
- [Bug 5006](#).<sup>33</sup> Configuration error does not print error message
- [Bug 5071](#).<sup>34</sup> Not able to build using Java 1.6

<sup>15</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5656](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5656)

<sup>16</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5826](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5826)

<sup>17</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5539](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5539)

<sup>18</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5322](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5322)

<sup>19</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5845](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5845)

<sup>20</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5991](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5991)

<sup>21</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5851](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5851)

<sup>22</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5789](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5789)

<sup>23</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5913](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5913)

<sup>24</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=4859](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4859)

<sup>25</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5505](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5505)

<sup>26</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=3736](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=3736)

<sup>27</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=4227](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4227)

<sup>28</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=4574](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4574)

<sup>29</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=4720](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4720)

<sup>30</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=4842](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4842)

<sup>31</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5819](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5819)

<sup>32</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=4936](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=4936)

<sup>33</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5006](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5006)

<sup>34</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5071](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5071)

- [Bug 5228](#).<sup>35</sup> Update logging to use Best practice guidelines
- [Bug 5352](#).<sup>36</sup> Stub generation error with notification consumer wsdl
- [Bug 5354](#).<sup>37</sup> WS Addressing final version not supported in Apache WS Addressing library
- [Bug 5358](#).<sup>38</sup> Stub generation issue with use of restriction base
- [Bug 5387](#).<sup>39</sup> Persistent notification fails expecting default credentials
- [Bug 5391](#).<sup>40</sup> service "ping" feature
- [Bug 5504](#).<sup>41</sup> Security descriptor doc bugs
- [Bug 5506](#).<sup>42</sup> Circular Dependency between core and registry
- [Bug 5560](#).<sup>43</sup> CEDPS BP Logging update (GID to ID)
- [Bug 5602](#).<sup>44</sup> Authorization error is not CEDPs logging compliant
- [Bug 5739](#).<sup>45</sup> specupgrade related problem in ReflectionResource
- [Bug 5941](#).<sup>46</sup> class loading problem
- [Bug 6093](#).<sup>47</sup> globus\_java\_container\_admin\_tools\_setup depends on JAVA\_HOME

## 5. Known Problems

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

### 5.1. Limitations

- WS-Notification support:
  - Only the Simple topic dialect is supported (others can be added)
  - Only flat topic spaces are supported (architecture does allow for more advanced structures)
  - Actions on the precondition, selector and policy fields in a subscription are not supported
  - When a resource is removed its subscriptions are not removed automatically
- Only XPath resource property queries are supported (others can be added)

---

<sup>35</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5228](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5228)

<sup>36</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5352](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5352)

<sup>37</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5354](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5354)

<sup>38</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5358](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5358)

<sup>39</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5387](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5387)

<sup>40</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5391](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5391)

<sup>41</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5504](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5504)

<sup>42</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5506](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5506)

<sup>43</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5560](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5560)

<sup>44</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5602](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5602)

<sup>45</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5739](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5739)

<sup>46</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=5941](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=5941)

<sup>47</sup> [http://bugzilla.globus.org/bugzilla/show\\_bug.cgi?id=6093](http://bugzilla.globus.org/bugzilla/show_bug.cgi?id=6093)

- A resource might not get destroyed at the exact time as indicated by the scheduled termination time. A sweeper thread that removes expired resources runs periodically (every 1 minute by default) so an expired resource might not get removed until the next time the sweeper thread runs.

## 5.2. Outstanding bugs

- [Bug 2471](#).<sup>48</sup> Message security signature verification issues
- [Bug 2445](#).<sup>49</sup> Same input and output messages in WSDL confuse Axis
- [Bug 3113](#).<sup>50</sup> Processing by the WSDLPreprocessor produces output different depending on the JVM
- [Bug 3482](#).<sup>51</sup> wsa:From is not set correctly when service calls another service
- [Bug 3483](#).<sup>52</sup> xsd:anyType not serialized correctly
- [Bug 4432](#).<sup>53</sup> SimpleTopic.notify(SOAPElement element) drop child elements

## 6. Technology dependencies

Java WS Core depends on the following GT components:

- [Java CoG Kit](#)<sup>54</sup>

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

- [Apache Xerces](#)<sup>55</sup>
- [Apache XML Security](#)<sup>56</sup>
- [Apache Axis](#)<sup>57</sup>
- [Apache Xalan](#)<sup>58</sup>
- [Apache Addressing](#)<sup>59</sup>
- [Apache Commons BeanUtils](#)<sup>60</sup>
- [Apache Commons CLI](#)<sup>61</sup>
- [Apache Commons Collections](#)<sup>62</sup>

---

<sup>48</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=2471](http://bugzilla.globus.org/globus/show_bug.cgi?id=2471)

<sup>49</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=2445](http://bugzilla.globus.org/globus/show_bug.cgi?id=2445)

<sup>50</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=3113](http://bugzilla.globus.org/globus/show_bug.cgi?id=3113)

<sup>51</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=3482](http://bugzilla.globus.org/globus/show_bug.cgi?id=3482)

<sup>52</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=3483](http://bugzilla.globus.org/globus/show_bug.cgi?id=3483)

<sup>53</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=4432](http://bugzilla.globus.org/globus/show_bug.cgi?id=4432)

<sup>54</sup> <http://www.globus.org/cog/java/>

<sup>55</sup> <http://xml.apache.org/xerces2-j/>

<sup>56</sup> <http://xml.apache.org/security/>

<sup>57</sup> <http://ws.apache.org/axis/>

<sup>58</sup> <http://xml.apache.org/xalan-j/>

<sup>59</sup> <http://ws.apache.org/ws-fx/addressing/>

<sup>60</sup> <http://jakarta.apache.org/commons/beanutils/>

<sup>61</sup> <http://jakarta.apache.org/commons/cli/>

<sup>62</sup> <http://jakarta.apache.org/commons/collections/>

- [Apache Commons Digester](#)<sup>63</sup>
- [Apache Commons HttpClient](#)<sup>64</sup>
- [Concurrent Library](#)<sup>65</sup>
- [Apache Directory \(Naming\)](#)<sup>66</sup>

Please see [Java WS Core Technical Dependencies Details](#) for details.

## 7. Tested platforms

Java WS Core should work on any platform that supports J2SE 1.4.1 or higher.

Tested platforms for Java WS Core:

- Linux (Debian 3.1)
- Windows XP
- Solaris 9

Tested JVMs for Java WS Core:

- [Sun JVM](#)<sup>67</sup> 1.4.2, 1.5.0, and 1.6.0 RC
- [IBM JVM](#)<sup>68</sup> 1.4.1, and 1.4.2
- [BEA JRockit JVM](#)<sup>69</sup> 1.5.0

JVM notes:

- [GCJ](#)<sup>70</sup> is not supported.
- If using IBM JVM 1.4.1 please see [bug 2828](#)<sup>71</sup> for more information.

Tested containers for Java WS Core:

- Java WS Core container
- Tomcat 4.1.34
- Tomcat 5.0.30
- Tomcat 5.5.20
- JBoss 4.0.2

---

<sup>63</sup> <http://jakarta.apache.org/commons/digester/>

<sup>64</sup> <http://jakarta.apache.org/commons/httpclient/>

<sup>65</sup> <http://gee.cs.oswego.edu/dl/classes/EDU/oswego/cs/dl/util/concurrent/intro.html>

<sup>66</sup> <http://directory.apache.org/subprojects/naming/>

<sup>67</sup> <http://java.sun.com/j2se/>

<sup>68</sup> <http://www-106.ibm.com/developerworks/java/jdk/>

<sup>69</sup> <http://www.bea.com/framework.jsp?CNT=index.htm&FP=/content/products/jrockit>

<sup>70</sup> <http://gcc.gnu.org/java/>

<sup>71</sup> [http://bugzilla.globus.org/globus/show\\_bug.cgi?id=2828#c4](http://bugzilla.globus.org/globus/show_bug.cgi?id=2828#c4)

## 8. Backward compatibility summary

Protocol changes since GT version4.0.x:

- Upgrade to WS-Addressing 1.0
- Upgrade to WSRF 1.2
- For an overview of the changes and links to the new specifications, please see this [document](#)<sup>72</sup>.
- For a migration guide for GT 4.0.x services, please see this [document](#)<sup>73</sup>.

API changes since GT version4.0.x:

- Java WS Core now requires Java 1.5 to compile and run. Java 5 provides new concurrency capabilities as well as Annotations and Generics (as well as some other features). For details on the new features, please see [this overview](#)<sup>74</sup>. While it is possible that Java WS Core could run under [Retroweaver](#)<sup>75</sup> or [Retrotranslator](#)<sup>76</sup>, this has not been tested. Java 5 is available for most platforms from Sun [http://java.sun.com/javase/downloads/index\\_jdk5.jsp](http://java.sun.com/javase/downloads/index_jdk5.jsp)
- The faultCause field in the [BaseFaultType](#)<sup>77</sup> class is no longer an Object. Instead it has been changed to a BaseFaultTypeFaultCause. This class, in turn, contains an object that represents the actual fault cause called causeElement. This change was made in order to support interoperability with other groups.

Schema changes since GT version4.0.x:

- Please see the Protocol Changes section

Other changes since GT version4.0.x:

- Java 1.5 is required to use Java WS Core 4.2.

## 9. Associated Standards

Associated standards for Java WS Core:

- [WS-ResourceProperties](#)<sup>78</sup>
- [WS-ResourceLifetime](#)<sup>79</sup>
- [WS-ServiceGroup](#)<sup>80</sup>
- [WS-BaseFaults](#)<sup>81</sup>
- [WS-BaseNotification](#)<sup>82</sup>

<sup>72</sup> <http://dev.globus.org/images/d/d6/CoreSpecificationUpgradeVer11.pdf>

<sup>73</sup> [http://dev.globus.org/wiki/Java\\_WS\\_Core/Final\\_WSRF\\_Migration\\_Guide](http://dev.globus.org/wiki/Java_WS_Core/Final_WSRF_Migration_Guide)

<sup>74</sup> <http://java.sun.com/j2se/1.5.0/docs/relnotes/features.html>

<sup>75</sup> <http://retroweaver.sourceforge.net/>

<sup>76</sup> <http://retrotranslator.sourceforge.net/>

<sup>77</sup> <http://docs>

<sup>78</sup> [http://docs.oasis-open.org/wsrf/wsrf-ws\\_resource\\_properties-1.2-spec-os.pdf](http://docs.oasis-open.org/wsrf/wsrf-ws_resource_properties-1.2-spec-os.pdf)

<sup>79</sup> [http://docs.oasis-open.org/wsrf/wsrf-ws\\_resource\\_lifetime-1.2-spec-os.pdf](http://docs.oasis-open.org/wsrf/wsrf-ws_resource_lifetime-1.2-spec-os.pdf)

<sup>80</sup> [http://docs.oasis-open.org/wsrf/wsrf-ws\\_service\\_group-1.2-spec-os.pdf](http://docs.oasis-open.org/wsrf/wsrf-ws_service_group-1.2-spec-os.pdf)

<sup>81</sup> [http://docs.oasis-open.org/wsrf/wsrf-ws\\_base\\_faults-1.2-spec-os.pdf](http://docs.oasis-open.org/wsrf/wsrf-ws_base_faults-1.2-spec-os.pdf)

<sup>82</sup> [http://docs.oasis-open.org/wsn/wsn-ws\\_base\\_notification-1.3-spec-os.pdf](http://docs.oasis-open.org/wsn/wsn-ws_base_notification-1.3-spec-os.pdf)

- [WS-Topics](#)<sup>83</sup>
- [WS-Addressing](#)<sup>84</sup>
- [WS-I Basic Profile](#)<sup>85</sup>

## 10. For More Information

Please see [Java WS Core](#) for more information.

# Glossary

## R

ResourceHome

In Java WS Core, resources are managed and discovered via *ResourceHome* implementations. The *ResourceHome* implementations can also be responsible for creating new resources, performing operations on a set of resources at a time, etc. *ResourceHomes* are configured in JNDI and are associated with a particular web service.

## W

Web Services Notification (WSN)

The WS-Notification family of specifications define a pattern-based approach to allowing Web services to disseminate information to one another. This framework comprises mechanisms for basic notification (WS-Notification), topic-based notification (WS-Topics), and brokered notification (WS-BrokeredNotification). See the [OASIS Web Services Notification \(WSN\) TC](#)<sup>18</sup> for details.

Web Services Resource Framework (WSRF)

Web Services Resource Framework (WSRF) is a specification that extends web services for grid applications by giving them the ability to retain state information while at the same time retaining statelessness (using resources). The combination of a web service and a resource is referred to as a WS-Resource. WSRF is a collection of different specifications that manage WS-Resources.

This framework comprises mechanisms to describe views on the state (WS-ResourceProperties), to support management of the state through properties associated with the Web service (WS-ResourceLifetime), to describe how these mechanisms are extensible to groups of Web services (WS-ServiceGroup), and to deal with faults (WS-BaseFaults).

For more information, go to: <http://www.globus.org/wsrf/> and [OASIS Web Services Notification \(WSRF\) TC](#)<sup>19</sup>.

<sup>83</sup> <http://docs.oasis-open.org/wsn/2004/06/wsn-WS-Topics-1.2-draft-01.pdf>

<sup>84</sup> <http://www.w3.org/TR/ws-addr-core>

<sup>85</sup> <http://www.ws-i.org/Profiles/BasicProfile-1.0-2004-04-16.html>

<sup>18</sup> [http://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=wsn](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsn)

<sup>19</sup> [http://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=wsrf](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrf)