
Orbix 3.3 Service Pack 5 Release Notes

March 2003

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Introduction

Orbix 3.3 SP 5 is a Service Pack Release of Orbix 3.3. This document contains information about Orbix 3.3 SP 5, including build information, details of bugs that have been fixed in this release, known problems and workarounds, new features, tips, and deprecated features.

Orbix 3.3 SP 5 and Orbix 3.0.1

For details of the changes that took place between Orbix 3.0.1 and Orbix 3.3, see the Orbix 3.3 Release Notes at <http://www.iona.com/docs> under the heading CORBA Products.

There have been no changes to the APIs since Orbix 3.3.

Migrating from an Earlier Version of Orbix

For information on migrating from an earlier version of Orbix to Orbix 3.3 SP 5, see the Migration Guide at: www.iona.com/products/MigrationGuide.pdf

Interoperability with Other IONA Products

The Java and C++ Editions of Orbix 3.3 SP 5 have been tested with, and are interoperable with each other, except for those areas that are documented under known problems.

The Java and C++ editions of Orbix 3.3 SP 5 have also been tested with, and are interoperable with, the following Orbix products:

- Orbix 3.3.4 C++ and Java Editions.
- Orbix 3.3.4 C++ and Java Editions.
- Orbix 3.3.2 C++ and Java Editions.
- Orbix 3.3.1 C++ and Java Editions.
- Orbix 3.3 C++ and Java Editions.
- Orbix E2A Application Server Platform 6.0 SP1 C++ and Java.
- Orbix Trader 1.2.1 Java Edition (no C++ Edition available).
- Orbacus 4.0.5.
- Orbix 3.0.1
- OrbixWeb 3.2

Licensing

- The IDL compilers, `idl.exe` and `idlj.exe`, are licensed.
- The Orbix daemon `orbixd` is licensed.
- The OrbixSSL `update` utility is licensed.
- The OrbixEvents `es` utility is licensed.
- OrbixOTS shared libraries: (DLLs on Windows NT), `libEncinaClientOrbix` and `libEncinaServerOrbix` are licensed.

Deprecated Features Policy

When a feature is deprecated it means that:

- No support for this feature is given for the current version and for subsequent versions (that is, we do not explain how to use it and we do not fix any bugs in this feature).
- If you have not used this feature before, DO NOT start using it with this release.
- If you are already using this feature then you should remove it if at all possible.
- The feature may not be present in future versions of the product.

IFR Refactoring

Some refactoring of the IFR implementation has been carried out in Orbix 3.3 SP 5 that effect repository storage. These changes effect the internal representation of the IFR repository. With new IFR it is possible to continue using the existing IFR repository, however, if you start using the new IFR and need to revert back to the older versions (that is pre 3.3 SP 5) the IFR repository needs to be depopulated up and repopulated using the original IDL files or a backup of the old repository. IONA recommended that you backup your IFR repository before installing Orbix 3.3 SP 5.

Documentation Errata

The following is a list of errors in the Orbix 3.3 documentation errors. If you find an error in the documentation please email doc-feedback@iona.com for prompt confirmation.

- The `CORBA::ORB::connectionTimeout()` is in milliseconds and not in seconds as stated in the *Orbix Programmer's Reference, C++ Edition*.

Development Environments

This table details the operating system versions and compiler versions, on which Orbix 3.3 SP 5 is built and certified.

Platform and O/S version	Orbix 3.3 SP 5 is Built on	Orbix 3.3 SP 5 is Certified on	C++ Compiler version	JDK version
Solaris 2.6	No	Yes	Sun C++ 5.1 (32 bit)	1.1.7_08a 1.2.2_05a 1.3.1-b24
Solaris 2.7	Yes	Yes	Sun C++ 5.1 (32 bit)	1.1.7_08a 1.2.2_05a 1.3.1-b24
Solaris 2.8	No	Yes	Sun C++ 5.1 (32 bit)	1.1.7_08a 1.2.2_05a 1.3.1-b24
Solaris 2.8	Yes	Yes	Sun C++ 5.2 (32 bit)	1.1.7_08a 1.2.2_05a 1.3.1-b24
Solaris 2.8	No	Yes	Sun C++ 5.3 (32 bit)	1.1.7_08a 1.2.2_05a 1.3.1-b24
Solaris 2.9	No	Yes	Forte Developer 7 Sun C++ 5.4 (32 bit)	1.3.1-b24
HP-UX 11.00	Yes	Yes	HP ANSI C++ (aCC) A.03.31	1.2.2_12 1.3.1_02
HP-UX 11 i	No	Yes	HP ANSI C++ B3910B A.03.31	1.2.2_12 1.3.1_02
Tru64 5.1A	Yes	Yes	Compaq C++ v6.2-024 (64 bit)	1.1.8 1.2.2 1.3.1_1
AIX 4.3.3	Yes	Yes	IBM VisualAge C++ v5.0	1.1.8 1.2.2 1.3.1
AIX 5 L	No	Yes	IBM VisualAge C++ v5.0.2	1.3.1
Windows NT 4.0 SP 6	Yes	Yes	Visual C++ 6.0 SP 3	1.1.7B_005 1.2.2_007 1.3.1-b24
Windows 2000 SP 2	No	Yes	Visual C++ 6.0 SP 3	1.1.7B_005 1.2.2_007 1.3.1-b24
Windows XP SP1	No	Yes	Visual C++ 6.0 SP 3	1.1.7B_005 1.2.2_007 1.3.1-b24

Note: You can build and run an Orbix 3.3 SP 5 application on all of the above platforms.

Orbix 3.3 SP 5 C++ Edition

This section describes changes made to the Orbix 3.3.4 C++ Edition for the Orbix 3.3 SP 5 C++ Edition.

New Features

Orbix 3.3 SP 5 C++ Edition is binary compatible with Orbix 3.3 C++ Edition. No new features were added nor existing ones modified.

New and Modified APIs

Orbix 3.3 SP 5 C++ Edition is binary compatible with Orbix 3.3 C++ Edition therefore no new APIs were added nor existing ones modified.

Functionality Removed

Orbix 3.3 SP 5 C++ Edition is binary compatible with Orbix 3.3 C++ Edition therefore no functionality has been removed.

Deprecated Features

The following is a list of deprecated features in Orbix C++ Editions:

Feature	Description	Feature Removed	When Deprecated
_bind()	Should use other means.	NO	Orbix 3.0
Transformers	Can use SSL for security.	NO	Orbix 3.0
Piggy Backing Data with Filters	Should use Service Contexts.	NO	Orbix 3.0
Opaque Data Type		NO	Orbix 3.0
Orbix Network Protocol (POOP)	Must use IOP instead.	NO	Orbix 3.0
IDL Compiler options -i and -f		NO	Orbix 3.0
IR	Replaced with the IFR.	YES	Orbix 3.0
Locator	Can implement own load balancing solution.	YES	Orbix 3.3
Non Native Exceptions	Must use Native Exceptions	YES	Orbix 3.3

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TIE macro DEF_TIE(I,X)	Use other form	Yes.	Orbix 3.3
Configuration Explorer ConfigurationExplorer.bat	Allows you to configure Orbix components without modifying the configuration files directly.	No	Orbix 3.3 SP 5
Server Manager ServerManager.bat	Allows you to manage the Implementation Repository.	No	Orbix 3.3 SP 5

Note: Orbix 3.0 was released February 1999 and Orbix 3.3 was released September 2000.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. All bugs are described in terms of the following:

- **Incident ID**

This is the reference number used by the development teams to track bugs, which may in turn relate to one or more problem reports (PR) as reported by customers.

- **Synopsis**

This is a short description of the reported problem. A description of the fix is included where necessary.

The following bugs were fixed in Orbix 3.3 SP 5 C++ Edition:

Incident ID	Synopsis
12000721	Clients cannot invoke methods on interface names with underscore in a DSI server.
12000675	Callbacks not working with POOP.
12000657	Typecode comparison in case of Unions having multiple case label for same member was failing due to the difference between the stringified representation of typecodes for same union.
12000610	Orbix server fails to extract data when enum discriminated unions are used in legacy typeCode mode.
12000577	Library conflict with Informix caused by ITString on HP-UX 11.00.
12000368	orbixd core dumps when server path for command Line argument for putit is more than 1000 chars.
67400	ZeroFault' memory checker tool reports bad memory management on Orbix 3.3.4 TP5 on AIX
67611	IDL compiler error messages are garbled in Orbix 3.3.4.

- 65641 and 56462 65641: Orbix2.2 client coredumps if an empty sequence was sent by Orbix3.x server over POOP.
- Fix will modify the generated code produced by IDL compiler. Added an IDL compiler flag: `-telefonica_orbix22_interop_POOP` to preserve default behavior.
- 56462: Passing an Any holding a sequence of octets from C++ server to OrbixWeb client using POOP will deliver a modified octet sequence to the client. Added a configuration variable, called `IT_MARSHAL_POOP_SEQLEN` for this fix.
- 56703 IOR with an invalid type id causes `string_to_object()` to core dump. We validate the type id to ensure that is of the form `IDL:<name>:<version>`

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix 3.3 SP 5 C++ Edition.

Incident ID	Synopsis
64992	There is a known problem with foreign FDs (File Descriptors) on HPUX 11. When Orbix is asked to manage foreign FDs, there are some situations where the process hangs. It is not typical to ask Orbix to manage foreign FDs, and this problem can be avoided by not asking Orbix to manage foreign FDs.
64991	There is a known problem using C++ keywords in various situations in the IDL file. Using C++ keywords for attribute names, operations names and field names (of structures and exceptions) works. However, using C++ keywords as the type name of a module, interface, exception, or struct does not work. Customers should avoid using C++ keywords in the IDL as the type names of modules, interfaces, exceptions, and structs.
56121	The IDL compiler issues warnings if the IDL contains identifiers that are reserved keywords but not all lower case. For example, the IDL <code>"interface Attribute{};"</code> causes the warning "Warning : identifier Attribute clashes with keyword" even though its a valid interface name and is case-different from the reserved keyword "attribute".
55600	No overloaded output-streaming operator (<code><<</code>) is provided for the unsigned long long CORBA type (<code>CORBA::ULongLong</code>) in Orbix 3.3.
55599	No overloaded output-streaming operator (<code><<</code>) is provided for the signed long long CORBA type (<code>CORBA::LongLong</code>) in Orbix 3.3.
55547	Orbix 3.3 generated IDL stub code on Windows NT for multi-dimensional arrays as in parameters should work around known VC6 multidimensional array const bug.
56334	When service context handlers in Orbix runtime encounter an abnormal condition, the diagnostic messages are not very informative.

Orbix 3.3 SP 5 Java Edition

This section describes changes made to the Orbix 3.3 SP 5 Java Edition for the Orbix 3.3 SP 5 Java Edition.

New Features

Orbix 3.3 SP 5 Java Edition is binary compatible with Orbix 3.3 Java Edition. No new features were added nor existing ones modified.

New and Modified APIs

Orbix 3.3 SP 5 Java Edition is binary compatible with Orbix 3.3 Java Edition therefore no new APIs were added nor existing ones modified.

Functionality Removed

Orbix 3.3 SP 5 Java Edition is binary compatible with Orbix 3.3 Java Edition therefore no functionality has been removed.

Deprecated Features

The following is a list of features deprecated in Orbix Java Editions:

Feature	Description	Feature Removed	When Deprecated
_bind()	Should use other means.	NO	OrbixWeb 3.2
Transformers	Can use SSL for security.	NO	OrbixWeb 3.2
Piggy Backing Data with Filters	Should use Service Contexts.	NO	OrbixWeb 3.2
Opaque Data Type		NO	OrbixWeb 3.2
Orbix Network Protocol (POOP)	Must use IIOP instead.	NO	OrbixWeb 3.2
IDL Compiler options <code>-i</code> and <code>-f</code>		NO	OrbixWeb 3.2
Orbix Java Activator (<code>Orbixdj.bat</code>)	Java Activator in Graphical mode	NO	Orbix 3.3 SP 5

Note: OrbixWeb 3.2 was released February 1999.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. All bugs are described in terms of the following:

- **Incident ID**

This is the reference number used by the development teams to track bugs, which may in turn relate to one or more problem reports (PR) as reported by customers.

- **Synopsis**

This is a short description of the reported problem. A description of the fix is included where necessary.

The following bugs were fixed in Orbix 3.3 SP 5 Java Edition:

Incident ID	Synopsis
12000689	Set_principal does not work in n-tier environment
12000608	Orbix 3.3.4 throws Error "Not enough data is available to extract the requested type. minor code: 12242" when parsing an IOR from Inprise
67402	Orbix idlj compiler generates incorrect stub code on the client side when typedefs of objects are used.
67383	Orbix 3.3.4 Java clients cannot connect to a server using <code>connect()</code> and <code>disconnect()</code> with multiple objects, if no daemon is running.
67328	Orbix 3.x for Java cannot support any codesets other than ISO-8859-1 (for example. UTF-8, ISO-8859-4 for string types).
55822	Using a typedef'd CORBA:Typecode type or CORBA:Principal type causes problems in the generated code.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix 3.3 SP 5 Java Edition.

Incident ID	Synopsis
65605	The Server Manager GUI doesn't update when a server is started and then stopped (affects Orbix 3.3.2 and upwards). This GUI is deprecated.
64957	Fragmentation error occurs on the client side if large chunk of data is sent in fragments from an ASP 5.x and higher server. The Fragments received from the ASP server are malformed. This is interoperability issue between ASP and Orbix Java 3.3 SP 5.

JVM 1.2.2-8/1.2.2_12 segmentation violations on Tru64 5.1A

There is a known problem on the Compaq Tru64 5.1A platform when running an Orbix 3.3 SP 5 Java application and using the 1.2.2-8 or 1.2.2-12 JDK. By default Just-in-Time (JIT) compilation is enabled and in some circumstances, this may cause a segmentation violation error to occur in the 1.2.2 Java interpreter. This results in the following output:

```
SIGSEGV 11* segmentation violation
si_signo [11]: SIGSEGV 11* segmentation violation
```

This behavior on Tru64 5.1A with JDK 1.2.2_8/12 has been confirmed by Compaq (Ref. No. "Java PTR #80-6-619") and is currently being investigated.

Workaround: Compaq recommend disabling of the JVM JIT compilation on the Tru64 5.1A platform. This can be done by setting the environment variable "JAVA_COMPILER" to "NONE" before running your application. You can verify that JIT compilation is not being used by checking the output of `java -version`:

```
$ export JAVA_COMPILER=NONE
$ java -version
java version "1.2.2-12"
Classic VM (build J2SDK.v.1.2.2:08/14/2001-17:00, native threads, nojit)
```

<mailto:support@iona.com> if you require any further information.

Orbix Code Generation Toolkit 3.3 SP 5

This section describes changes made to the Orbix 3.3.4 Code Generation Toolkit for the Orbix 3.3 SP 5 Code Generation Toolkit.

Note: The Orbix 3.0.1 and Orbix 3.3 Code Generation Toolkit Programmer's Guides state that there is IDLgen support for opaque data types. These are incorrect statements IDLgen does NOT support opaque data types.

New Features

Orbix 3.3 SP 5 Code Generation Toolkit is binary compatible with Orbix 3.3 Code Generation Toolkit therefore no new APIs have been added nor existing ones modified.

No new features have been added in this release.

New and Modified APIs

Orbix Code Generation Toolkit 3.3 SP 5 is binary compatible with Orbix Code Generation Toolkit 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix Code Generation Toolkit 3.3 SP 5 is binary compatible with Orbix Code Generation Toolkit 3.3, therefore no functionality has been removed.

Bugs Fixed

The following bugs were fixed in Orbix Code Generation Toolkit 3.3 SP 5.

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. All bugs are described in terms of the following:

- **Incident ID**

This is the reference number used by the development teams to track bugs, which may in turn relate to one or more problem reports (PR) as reported by customers.

- **Synopsis**

This is a short description of the reported problem. A description of the fix is included where necessary.

Incident ID	Synopsis
66699	The Orbix 3.3.4 idlgen binary on HP-UX11 does not run on PA-RISC 1.1 architecture.

OrbixCOMet Desktop 3.3 SP 5

This section describes changes made to OrbixCOMet Desktop 3.3.4 for OrbixCOMet Desktop 3.3 SP 5.

New Features

OrbixCOMet Desktop 3.3 SP 5 is binary compatible with OrbixCOMet Desktop 3.3 therefore no new APIs have been added nor existing ones modified.

New and Modified APIs

OrbixCOMet Desktop 3.3 SP 5 is binary compatible with OrbixCOMet Desktop 3.3, therefore no new APIs have been added. No existing APIs have been modified for this release.

Functionality Removed

OrbixCOMet Desktop 3.3 SP 5 is binary compatible with OrbixCOMet Desktop 3.3, therefore no functionality has been removed.

Deprecated Features

The following is a list of features deprecated in Orbix Java Editions:

Feature	Description	Feature Removed	When Deprecated
COMet Tools COMetCfg.exe	COMet GUI Tools	NO	Orbix 3.3 SP 5

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. All bugs are described in terms of the following:

- **Incident ID**

This is the reference number used by the development teams to track bugs, which may in turn relate to one or more problem reports (PR) as reported by customers.

- **Synopsis**

This is a short description of the reported problem. A description of the fix is included where necessary.

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The following bugs were fixed in OrbixCOMet Desktop 3.3 SP 5.

Incident ID	Synopsis
55550	<p>OrbixCOMet utility ts2idl skips module in generated idl file.</p> <p>The problem happens when a simple OMG IDL file containing an interface is added to tpestore and then regenerated using ts2idl skips the module and puts the interface name as <module>::<interface-Name>.</p>
53895	<p>The ts2idl MIDL generation of a union type is not correct and cannot be compiled using the MIDL compiler.</p>
55247	<p>MIDL Compiler fails to compile MIDL generated by ts2idl for a self-referential structure.</p>

OrbixNames 3.3 SP 5

This section describes changes made to OrbixNames 3.3.4 for OrbixNames 3.3 SP 5.

New Features

OrbixNames 3.3 SP 5 is binary compatible with OrbixNames 3.3. No new features have been added nor existing ones modified.

New and Modified APIs

OrbixNames 3.3 SP 5 is binary compatible with OrbixNames 3.3 and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixNames 3.3 SP 5 is binary compatible with OrbixNames 3.3, therefore no functionality has been removed.

Deprecated Features

The following is a list of features deprecated in Orbix Java Editions:

Feature	Description	Feature Removed	When Deprecated
Names Service browser <code>NamesBrowser.bat</code>	Allow you to monitor and manage the Naming Service externally to your applications.	NO	Orbix 3.3 SP 5

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. All bugs are described in terms of the following:

- **Incident ID**

This is the reference number used by the development teams to track bugs, which may in turn relate to one or more problem reports (PR) as reported by customers.

- **Synopsis**

This is a short description of the reported problem. A description of the fix is included where necessary.

Orbix 3.3 SP 5 Release Notes

The following bugs were fixed in OrbixNames 3.3 SP 5:

Incident ID	Synopsis
67393 and 67608	OrbixOTS filesystem demo run fails with "unexpected exception" message on AIX platforms. Problem due to libTnsmt pulling in liborbix (ST). Changed the make system to link libTnsmt with liborbixmt
67576	OrbixNames 3.3.4 – <code>removeMember</code> method throws <code>UnknownError</code> Code:12000 in the NS and can't <code>removeMember</code> from the group

Note for JDK 1.1.x Users

If you are using JDK 1.1.x, instead of using the `registerns12` script to register the Naming Service, use the following command:

```
putit -j NS IE.Iona.OrbixWeb.CosNaming.NS
```

Orbix Wonderwall 3.3 SP 5

This section describes changes made to Orbix Wonderwall 3.3.4 for Orbix Wonderwall 3.3 SP 5.

New Features

Orbix Wonderwall 3.3 SP 5 is binary compatible with Orbix Wonderwall 3.3 therefore no new APIs have been added nor existing ones modified.

No new features have been added in this release.

New and Modified APIs

Orbix Wonderwall 3.3 SP 5 is binary compatible with Orbix Wonderwall 3.3 therefore no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix Wonderwall 3.3 SP 5 is binary compatible with Orbix Wonderwall 3.3 therefore no functionality has been removed.

Deprecated Features

The following is a list of deprecated features in Orbix Wonderwall 3.3 SP 5:

Feature	Description	Feature Removed	When Deprecated
IIOPProxyW (iioproxyw.exe)	GUI Based iioproxy	NO	Orbix 3.3 SP 5
IORExplorer (iorexplorer.bat)	Load, view, change and save IORs using this graphical explorer	NO	Orbix 3.3 SP 5
Wonderwall Configuration (wwConfig.bat)	Allow you to change the default security configuration settings for Wonderwall using a GUI.	NO	Orbix 3.3 SP 5
Wonderwall Log Analyzer (wwLogViewer.bat)	Allows you to view log files using a GUI	NO	Orbix 3.3 SP 5

Bugs Fixed

There are no bug fixes in OrbixWonderwall 3.3 SP 5.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixWonderwall 3.3 SP 5.

Incident ID	Synopsis
12000109	<p>The JRE used for the <code>IOExplorer</code> utility on an Orbix 3.3.4 installation is incompatible with Pentium4 processors. This applies to all other Wonder Wall GUI tools.</p> <p>Because all GUIs shipped with Orbix 3.3 are deprecated we will not be fixing this. We are closing this as restriction.</p>
67886	<p>Failures occur when the <code>idl_demo_sslcli</code> and <code>idl_demo_sslsrv</code> demos in <code>/Wonderwall/OrbixSSL/</code> are run in <code>semisecure</code> mode on all Windows platforms.</p> <p>For the <code>idl_demo_sslcli</code> demonstration, after launching <code>iioproxy</code> and when the client is run it fails with the following exception:</p> <pre>Unexpected system exception 1 org.omg.CORBA.COMM_FAILURE: Communication failure no server at host : 10.2.5.125 minor code: 12080 completed: No</pre> <p>This is because an incorrect certificate picked up by the client.</p> <p>For the <code>idl_demo_sslsrv</code> demonstration when the client tries to communicate with server the server throws the following exception:</p> <pre>org.omg.CORBA.NO_PERMISSION: No permission for attempted op. SSL handshake failure. : MAC failed. [alertLevel=FATAL, alertDescription=BAD _RECORD_MAC] minor code: 10139 completed: No at IE.Iona.OrbixWeb.SSL.SSLSocketConnection.completeHandshake(SSLSocketC onnection.java:363) at IE.Iona.OrbixWeb.CORBA.ClientConnection.run(ClientConnection.java:119 6) at java.lang.Thread.run(Thread.java:484)</pre> <p>This is because of incorrect certificate used by the server.</p> <p>Workarounds:</p> <p>For the <code>idl_demo_sslcli</code> demonstration simple replace the following line [32]</p> <pre>public static String KEYFILE="server.pem"; public static String KEYFILE="server.jpk";</pre> <p>in the source of server (<code>javaserver1.java</code>)</p> <p>For the <code>idl_demo_sslcli</code> demonstration simply replace the following line [32]</p> <pre>public static String KEYFILE="client.pem"; with public static String KEYFILE="client.jpk";</pre> <p>in the source of server (<code>javaserver1.java</code>)</p>

OrbixEvents 3.3 SP 5

This section describes changes made to OrbixEvents 3.3.4 for OrbixEvents 3.3 SP 5.

New Features

Orbix Events 3.3 SP 5 is binary compatible with OrbixEvents 3.3 therefore no new APIs have been added nor existing ones modified.

No new features have been added in this release.

New and Modified APIs

OrbixEvents 3.3 SP 5 is binary compatible with OrbixEvents 3.3 therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixEvents 3.3 SP 5 is binary compatible with OrbixEvents 3.3 therefore no functionality has been removed.

Bugs Fixed

There are no bug fixes for OrbixEvents 3.3 SP 5.

OrbixSSL C++ 3.3 SP 5

This section describes changes made to OrbixSSL C++ 3.3.4 for OrbixSSL C++ 3.3 SP 5.

New Features

OrbixSSL C++ 3.3 SP 5 is binary compatible with OrbixSSL C++ 3.3 therefore no new APIs have been added nor existing ones modified.

New and Modified APIs

OrbixSSL C++ 3.3 SP 5 is binary compatible with OrbixSSL C++ 3.3 therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL C++ 3.3 SP 5 is binary compatible with OrbixSSL C++ 3.3, therefore no functionality has been removed.

Credit Attribution

1. The bundled OpenSSL command line utility includes software written by Eric A. Young (eay@cryptsoft.com) . For more details on OpenSSL please see the OpenSSL website at www.openssl.org.
2. On Solaris, NT and HP-UX OrbixSSL C++ uses the SSLeay SSL toolkit internally. The cryptographic libraries used by OrbixSSL C++ were written by Eric A. Young (eay@cryptsoft.com) .
3. On Tru 64 OrbixSSL C++ uses the openssl-0.9.4 OpenSSL toolkit internally. The cryptographic libraries used by OrbixSSL C++ were written by Eric A. Young (eay@cryptsoft.com) .

Bugs Fixed

There are not bug fixes in OrbixSSL C++ 3.3 SP 5.

Known Problems and Workarounds

There are no known problems with OrbixSSL C++ 3.3 SP 5.

OrbixSSL Java 3.3 SP 5

This section describes changes made to OrbixSSL Java 3.3.4 for OrbixSSL Java 3.3 SP 5.

New Features

OrbixSSL Java 3.3 SP 5 is binary compatible with OrbixSSL Java 3.3 therefore no new APIs have been added nor existing ones modified.

No new features have been added in this release.

New and Modified APIs

OrbixSSL Java 3.3 SP 5 is binary compatible with OrbixSSL Java 3.3 therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL Java 3.3 SP 5 is binary compatible with OrbixSSL Java 3.3, therefore no functionality has been removed.

Deprecated Features

Feature	Description	Feature Removed	When Deprecated
RC2 Cipher Suite	JCP toolkit	YES	Orbix 3.3
JPK File Support	JPK file support for loading private keys in OrbixSSL Java. <code>keyenc</code> utility stays there for converting OrbixSSL private keys.	NO	Orbix 3.3.1

Bugs Fixed

67689 OrbixSSL Java API `loadCertChain()` requires two or more certificates in a PKCS12 file.

Known Problems and Workarounds

There are no known problems with OrbixSSL Java 3.3 SP 5.

Credit Attribution

I. The bundled OpenSSL command line utility includes software written by Eric A.

Orbix 3.3 SP 5 Release Notes

Young (eay@cryptsoft.com) . For more details on OpenSSL please see the OpenSSL website at www.openssl.org.

2. OrbixSSL C++ uses the openssl-0.9.4 OpenSSL toolkit internally. These Cryptographic libraries used by OrbixSSL C++ were written by Eric A. Young (eay@cryptsoft.com) .
3. OrbixSSL Java uses the JSSL/Jcrypto 2.0 toolkit as its backend SSL engine. The cryptographic libraries used by OrbixSSL Java were written by Baltimore Technologies. For more details on the cryptographic libraries used by OrbixSSL Java see the Baltimore Technologies website at <http://www.baltimore.com/>.

OrbixOTS 3.3 SP 5

This section describes changes made to OrbixOTS 3.3.4 for OrbixOTS 3.3 SP 5.

New Features

OrbixOTS 3.3 SP 5 is binary compatible with OrbixOTS 3.3 therefore no new APIs have been added nor existing ones modified.

New and Modified APIs

OrbixOTS 3.3 SP 5 is binary compatible with OrbixOTS 3.3 therefore no new APIs have been added nor existing ones modified in this release.

Functionality Removed

OrbixOTS 3.3 SP 5 is binary compatible with OrbixOTS 3.3 therefore no functionality has been removed.

Bugs Fixed

There are no bug fixes for OrbixOTS 3.3 SP 5

Known Problems and Workarounds

There are no known problems with OrbixOTS 3.3 SP 5.

Reference Material

For a complete list of databases supported with this release and other technical information on this product, refer to the OrbixOTS section of the IONA knowledge base at http://www2.iona.com/MinervaRoot/index.jsp?action=browse_cat&catId=148000.

For information about Encina, refer to the IBM/Transarc website at <http://www.transarc.ibm.com/>.

Appendix

This appendix contains information that is relevant to all versions of Orbix 3.3. It does not contain information that is relevant to only one version of Orbix 3.3. It contains information about performance tips, known problems and workarounds, enhancements and new features to Orbix 3.3, but not introduced in this version. It does not contain any information about bug fixes (please refer to previous release notes for these).

This appendix contains the following sections:

- Orbix C++ Edition
- Orbix Java Edition
- Orbix Code Generation Toolkit
- Orbix COMet
- Orbix Names
- Orbix Events
- Orbix SSL (C++ and Java)
- Orbix OTS

Orbix C++ Edition

This section describes changes made to Orbix generation three C++ Edition products between Orbix 3.3 and Orbix 3.3.4, which are relevant to Orbix 3.3 SP 5 C++ Edition.

Tips

Use of `IT_MASK_SIGTERM`, `IT_MASK_SIGQUIT` and `IT_MASK_SIGINT`

In regard to the use of configuration variables `IT_MASK_SIGTERM`, `IT_MASK_SIGQUIT`, `IT_MASK_SIGINT` to mask the asynchronous signals (`SIGTERM`, `SIGQUIT`, `SIGINT`) and `IT_MASK_SIGUSR1`, `IT_MASK_SIGUSR2` to mask the user signals (`SIGUSR1`, `SIGUSR2`) in Orbix internal threads, do not use the method `setConfigValue()` to set these variables.

You need to export these variables as follows before you start your application:

```
export IT_MASK_SIGTERM=YES
export IT_MASK_SIGQUIT=YES
export IT_MASK_SIGINT=YES
export IT_MASK_SIGUSR1=YES
export IT_MASK_SIGUSR2=YES
```

Known Problems

Compilation problems on Windows NT result in the following error message:

```
"Warning: Orbix wants an fd_set of size 1024 or greater.
Please include CORBA.h before winsock2.h"
```

This may be resolved by defining WIN32_LEAN_AND_MEAN when compiling.

For example: `CL /c ... -DWIN32_LEAN_AND_MEAN ... myFile.cpp`

If you do not wish to use this option when compiling you may also resolve the problem by editing `CORBA.h` by moving line 22, `#include <corba/PreCORBA.h>`, to the position immediately after line 15, `#define CORBA_INCLUDES`.

Stopping double deletion of `CORBA::Any` when unmarshaling `CORBA::Anys` during DSI invocation processing.

Some applications use the following pattern for memory management of `CORBA::Anys` required for DSI request processing. This is incorrect and causes a memory corruption errors with this version of Orbix:

```
CORBA::NVList_ptr pArgList;
if (CORBA::Orbix.create_list(1, pArgList))
{
    CORBA::Short value_of_n = 0;
    // create an any on heap. This is the representative
    // of the in argument. All of the arguments (anys)
    // will be stored in an NV list
    //
    CORBA::Any* pAny = new CORBA::Any(CORBA::_tc_short,
        &value_of_n, 0);
    // populate the NV list with the heap allocated any
    // and name of "n"
    //
    pArgList->add_value("n", *pAny, CORBA::DSI_ARG_IN);
    // read all the arguments (values) from the request
    // into the NV list
    //
    rSrvReq.params(pArgList);
    // do invocation processing
    // ***** NOTE *****
    // Deleting the CORBA::Any is an error as the Orbix
    // runtime will do so.
    //
    delete pAny; // Error! Don't do this.
}
```

This code would not have caused problems prior to Orbix 3.3.1 as Orbix 3.3 and earlier versions did not properly delete the `Any`. Since Orbix 3.3.1 Orbix deletes the `Anys`, so it is no longer necessary to do it.

Deploying an Orbix 3.3 SP 5 Daemon in Orbix 3.0.1 Environment

Orbix 3.3 SP 5 daemon can launch Orbix 3.0.1 servers. For all Orbix 3.0.1

Daemon utilities, your clients and servers work with the Orbix 3.3 SP 5 daemon. All you need to do is append the Library Path in the environment with the Orbix 3.3 SP 5 library path.

Note: This is not the case if you are using version 4.3.3 and 4.3.2 of AIX because none of the Orbix binaries built on version 4.3.3 operate on version 4.3.2 daemon utilities.

Orbix Java Edition

This section describes changes made to Orbix generation three Java Edition products between Orbix 3.3 and Orbix 3.3.4 that are relevant to Orbix 3.3 SP 5 Java Edition.

Tips

CORBA Fixed-Point Data Type Support

The CORBA fixed-point data type is fully supported in this edition. It is possible, in this edition, to use fixed type variables in arrays, structures, sequences, unions, and other user-defined data types.

Support for Multiple Profiled IORs

In Orbix 3.3.4 the Client ORB iterates over a multi-profiled IOR until it is able to establish a connection to a server. It always starts at the first profile when connecting or reconnecting to a server.

This new feature enables interoperability with Orbix 2000 servers that utilize high availability features (these features are detailed in the Orbix 2000 2.0 install guide).

Implemented APIs

The following APIs have been implemented:

Class	IE.lona.OrbixWeb.CORBA.Any
Method	public void insert_fixed (java.math.BigDecimal d, org.omg.CORBA.TypeCode type)
Description	Takes one <code>java.math.BigDecimal</code> value along with <code>TypeCode</code> information, which includes scale and digits, information.
Class	IE.lona.OrbixWeb.CORBA.Any
Method	public void insert_fixed (java.math.BigDecimal d)
Description	Takes one <code>java.math.BigDecimal</code> value without any typecode information

Class	IE.Iona.OrbixWeb.CORBA.Any
Method	public java.math.BigDecimal extract_fixed() throws BAD_OPERATION
Description	Extracts fixed type data from Any and return a java.math.BigDecimal value.

Known Problems

OrbixNames Fails to Launch Automatically on Windows NT

If you register the Naming Service with spaces in its `bootclasspath` variable in one of the following files, the OrbixNames server fails to be automatically launched by the daemon.

```
<IONA installation directory>\bin\registerns12.bat
```

(Automatic launch should occur when you run one of the utilities for OrbixNames, `ls ns` for example, or when you run a client or server that tries to use the Naming Service.)

An error like this appears in the window for the Orbix Java daemon (`orbixdj`):

```
Can't find class java.lang.NoClassDefFoundError.
```

Solution

If you find the directory name "Program Files" in these files, replace every occurrence with `progra~1`:

```
<IONA installation directory>\bin\registerns12.bat
```

The above batch files are for registering the OrbixNames server with the daemon. If you have already registered the OrbixNames server, you can undo this and register it again as follows. (Ensure that the daemon is running first of all.)

To undo the registration:

```
rmit NS  
registerns12
```

Multiple font not found messages starting JDK 1.2.2 (and 1.3.1)

When Server Manager and Configuration Explorer are launched, you get multiple `font not found` messages. The fonts specified in `font.properties` need to be found on the host system. Otherwise these messages are displayed:

```
Font specified in font.properties not found [-urw-its zapfdingbats-medium-r-normal---%d---p---sun-fontspecific]  
Font specified in font.properties not found [-urw-its zapfdingbats-medium-r-normal---%d---p---sun-fontspecific]  
Font specified in font.properties not found [-urw-its zapfdingbats-medium-r-normal---%d---p---sun-fontspecific]
```

Workaround

1. Customize the `font.properties` file for each machine.
2. Install the `SUNIWof` font packages.

Orbix Code Generation Toolkit

This section describes changes made to Orbix generation three Code Generation Toolkit products between Orbix 3.3 and Orbix 3.3.4 that are relevant to Orbix 3.3 SP 5 Code Generation Toolkit.

Known Problems

- The parser used by the IDLgen supports CORBA 2.3 specifications. You may therefore encounter problems when using identifiers that are recognized as keywords by the CORBA 2.3 specification. For example, `factory`.
- The file which produces the list of genies has been renamed from `list` to `list.tcl`. However, the command line argument which produces the list of genies is still the same, that is `IDLgen -list`
- The environment variable used by the IDLgen engine has changed to use `IT_IDLGEN_CONFIG_FILE` instead of `IDLGEN_CONFIG_FILE`.
- The Orbix Code Generation Toolkit 3.3 genies supplied do not work with previous released versions (3.0.2 or earlier) of the IDLgen product. The paths to any custom genies need to be placed into the `idlgen.cfg` file present in the configuration directory.

Orbix COMet

This section describes changes made to Orbix generation three COMet products between Orbix 3.3 and Orbix 3.3.4 that are relevant to Orbix 3.3 SP 5 COMet

Tips on Upgrading from Orbix 3.0.1

For the benefit of users upgrading directly from version 3.0.1 baseline, some minor changes in operation are detailed below:

- When registering `custsur.exe` as a CORBA server, the minimum recommended timeout value that should be used is 500 msecs.
- In `CORBA->DCOM` mode, when `Anys` containing complex types are passed as parameters from the client to the server, ensure that any relevant types are registered in the tpestore by using:

```
typeman -u -er <typename>
```
- In `CORBA->DCOM` mode, anonymous binds to CORBA wrappers have been deprecated. Instead, `ts2idl` generates a constant string of the form:

```
#ifndef _IT_COMET_ANON_
```

```
#define _IT_COMET_ANON_  
const string IT_ANON = "IT_COMET_ANON";  
#endif
```

- Markers used in calls to `_bind()` should begin with this string. For example, valid markers would be:

```
IT_COMET_ANON  
IT_COMET_ANON1  
IT_COMET_ANON_excelObj
```

and so on. As a result of this change, the default value for the `COMet.Mapping.EXTRA_REF_CORBAVIEW` configuration value is now *no*, in contrast to the previous 3.x releases.

- Anonymous binds are allowed for backwards compatibility if the configuration value is set to *yes* (either programmatically or within the configuration file) as shown below. However, this is not recommended in most cases (the use of `(D)IOrbixServerAPI` being a possible exception).

```
COMet.Mapping.ALLOW_ANON_MARKERS = "yes";
```

A callback demonstration between a CORBA client and a VB server has been added. See `demo\corbaclient\callback`. This includes the use of both simple types and complex types from CORBA client to the VB server and vice-versa. It also includes an example of how to programmatically set configuration values when using OrbixCOMet's `custsur.exe` as a CORBA server.

Note:The remaining issues cannot be treated as OrbixCOMet bugs, but are reported here for convenience.

- Marshaling interface pointers across apartment boundaries when using the bridge in-process is not supported. Out-of-process is supported.

This is only relevant if the Bridge objects are instantiated in a COM Single Threaded Apartment. Using OrbixCOMet objects in a Free Threaded Apartment is okay.

It is recommended that you create a Multithreaded Apartment when using OrbixCOMet in C++:

```
CoInitializeEx (0, COINIT_MULTITHREADED);
```

- There is a problem with Visual Basic keeping DLLs loaded in memory even after the application has terminated. This causes OrbixCOMet to prematurely execute its shutdown procedures in response to a positive result to `CoFreeUnusedLibraries()`.

This results in an application crash the next time the application is executed in the VB environment.

The workaround to this problem is to programmatically set the OrbixCOMet configuration setting `COMET_SHUTDOWN_POLICY` to `atexit`.

- Certain versions of `regserv32` have been known to crash when registering a handler DLL. If this behavior is seen, use the OrbixCOMet `oleregit.exe` tool instead, located in the `<COMET_ROOT>\bin` directory.

For example:

```
To register foo.dll use oleregit foo.dll /REGSERVER.
```

To unregister `foo.dll` use `olereginit foo.dll /UNREGSERVER`.

- When uninstalling OrbixCOMet, you might need to unregister OrbixCOMet DLLs from the OLE registry by running the `unregCOMet.bat` batch file located in the `COMet\bin` directory.
- When using bounded sequence from a COM client that has OrbixCOMet loaded in-process, it is recommended that any unused elements in the sequence be memset to zero '0'. OrbixCOMet attempts to skip these unused elements, but you may get a marshaling error if the element types are complex.

`Anys` are not supported in COM, that is, the use of `ICORBA_Any`.

Building and Running Demonstrations

Runtime libraries for PowerBuilder are not included with OrbixCOMet. You need this runtime installed if you wish to run these demonstrations.

You also need a valid installation of Orbix 3.3 in order to build the C++ CORBA servers in `<COMet Install>\demo\corbasrv`. You may use existing CORBA servers for some of these. For example, `grid` or `idl_demo`, which are standard Orbix demonstrations shipped on all platforms.

To build the C++ COM client demos you need Microsoft Visual C++ 6.0, or another compatible C++ compiler.

The makefiles for the CORBA servers call `putidl` to insert the IDL into the IFR. They also call `putit` to register the server in the Orbix implementation repository.

Note: C++ COM applications should not be compiled with the `/Og` or the `/Ox` switch (which implies the `/Og` switch). Instead, use `/Oityb1/Gs` for release builds. Refer to the COM demonstration makefiles in `<COMet Install>\demos\com` for more details. (This is due to a bug in the code optimizer in the Visual C++ compiler.)

Orbix Names

This section describes changes made to Orbix generation three Names products between Orbix 3.3 and Orbix 3.3.4 that are relevant to Orbix 3.3 SP 5 Names.

Features

IT_NAMES_REP_CLEAN_CNT Configuration Variable added to orbixnames3.cfg

The configuration variable, `IT_NAMES_REP_CLEAN_CNT`, has been added to `orbixnames3.cfg`. This variable is used to remove deleted contexts from the configuration repository.

The default value for the new variable is set to 100, which means that after deleting 100 contexts the naming repository is cleared.

In previous versions of Orbix 3.3 the naming repository was cleared every time a context was deleted which slowed down the performance of the Naming Service.

Known Problems

Note: The bug IDs 4276129, and 4285197 refer to JDK bugs, and are not assigned by IONA.

Bug ID: 4276129 in JDK1.2.2 - Multiple font not found messages starting jdk1.2.2

When the Naming Service is persistently launched, the Password dialog box is displayed at the same time as the missing font messages below:

```
Font specified in font.properties not found [-urw-itsc
zapfdingbats-medium-r-normal--*-%d-*-*p-*--sun-fontspecific]
```

```
Font specified in font.properties not found [-urw-itsc
zapfdingbats-medium-r-normal--*-%d-*-*p-*--sun-fontspecific]
```

```
Font specified in font.properties not found [-urw-itsc
zapfdingbats-medium-r-normal--*-%d-*-*p-*--sun-fontspecific]
```

The fonts specified in `font.properties` need to be found on the host system. Otherwise these messages are displayed.

The workarounds are:

- Customize the `font.properties` file for each machine.
- Install the `SUNIWof` font packages.

Bug ID: 4285197 in JDK 1.2.2 - Xbootclasspath prevents loading custom JNI libs (from user dirs):

When the Naming Service is launched by semi-secure `orbixd`, `libkdmjj.so/libkdmjj.sl/kdmjj.dll` of SSL is used to supply `orbixd` with the Naming service password. The marker used to launch the Naming Service involves `-Xbootclasspath` argument to the Java interpreter.

As a result of this bug, `orbixd` cannot supply the password to the KDM as the `kdmjj` library cannot be loaded. This results in the Naming Service asking for user input for password when it is automatically launched.

Workarounds

Solaris: On Solaris, copy the `.so` into `${JDKHOME}/jre/lib/sparc` (or set a symbolic name).

HPUX: On HPUX, copy the `.sl` into `${JDKHOME}/jre/lib/PA_RISC` (or set a symbolic name).

Windows NT: On NT, Copy the `.dll` into `${JDKHOME}\jre\bin`.

`{JDKHOME}` points to the JRE directory used in `IT_JAVA_INTERPRETER` used in `common.cfg`. That is the intended behavior.

Note:The remaining steps are relevant for Solaris, HPUX and NT

All system classes only lookup shared libraries in `$JAVA_HOME/bin`. If you do need to load custom libraries for the system classes, there are two choices:

1. Install custom libraries into `$JAVA_HOME/bin`;
2. Set the property `sun.boot.library.path` to include the user library path. The syntax is:

```
java -Dsun.boot.library.path=$JAVA_HOME/bin:$CUSTOM/bin ...
```

When SSL-enabled Names Server NS is run persistently or automatically launched by the Orbix Daemon, it listens on the port given by configuration variable `IT_SSL_IIOP_LISTEN_PORT` in `orbixnames3.cfg`.

Follow the steps below to automatically launch SSL-enabled Names server by the Orbix daemon and use the KDM utility to supply password to `orbixd`:

1. `orbixssl.cfg` should have the following entries and values for Naming Service:

```
IT_AUTHENTICATE_CLIENTS = "TRUE";
IT_SECURITY_POLICY = "SECURE";
IT_DAEMON_POLICY = "SEMI_SECURE_DAEMON";
IT_KDM_ENABLED = "TRUE";
```

2. `orbixnames.cfg` should have `IT_SSL_IIOP_LISTEN_PORT` defined.

3. Start `orbixd`.

4. `putit NS -j -jdk2 -- -Xbootclasspath:[... set of jars ...] IE.Iona.OrbixWeb.CosNaming.NS -secure`

5. Start `kdm`

6. `Putkdm NS kdm-password`

NS is the Implementation repository entry required for automatically launching the Naming Service.

7. Use the C++ utilities with `-s` option.

Orbix Events

This section describes changes made to Orbix generation three Events products between Orbix 3.3 and Orbix 3.3 SP 5 that are relevant to

Orbix 3.3 SP 5 Events.

Tips on Designing and Configuring your System

There are some steps you can take when designing and configuring your system for optimal throughput. These include:

Implementing Efficient Consumers

The quicker the consumer returns control to the event channel the higher the rate of events the channel can supply.

Not Overloading any Individual OrbixEvents Server

The optimal number of consumers depends on different issues including the event size, speed of the server host, speed of the consumer etc. and is best calculated by trial and error.

Increasing the Event Buffer Sizes

Each event channel maintains internal buffers of events and stores events until the consumer can process them. If the consumers are consistently slower than the suppliers then internal buffers can eventually fill and the suppliers block trying to supply events to the event channel. The suppliers block because the `push()` operation attempts to add an event to an event buffer and cannot complete until an event is removed from the buffer. An event is removed from the buffer after it has been supplied to all registered consumers. In order to avoid such blocking situations increase the event buffer sizes via changing configuration variables:

`IT_MAX_RECV_KB` - This is the queue of events to be pushed to consumers. This can NEVER be set to 0.

`IT_MAX_PEND_KB` - The queue size for events received by incoming push from a push supplier. This can be set to 0.

`IT_MAX_SEND_KB` - A thread takes the pending messages and moves them to this queue prior to sending. In the loop back case sending is simply the transfer to the receive queue. This can be set to 0.

Known Problems

Multiple event channels, when joined, slow down the performance of Events Consumer significantly.

Orbix SSL (C++ and Java)

This section describes changes made to Orbix generation three SSL (C++ and Java) products between Orbix 3.3.4 and Orbix 3.3 SP 5 that are relevant to Orbix 3.3 SP 5 SSL (C++ and Java).

Known Problems

Baltimore J/SSL Toolkit Does Not Support PKCS12 Certificate Generated by SSLEAY.

The methods `getIssuer()` and `getSubject()` on the `IT_X509Cert` class both return instances of the `IT_AVAList` class. The `IT_AVAList` class provides a method, `byte[] convert(IT_Format)`, that allows you to convert an `AVAList` to DER format. This `convert` method returns null in this release. All other methods on `IT_AVAList` work as before.

The *OrbixSSL Java Programmer's Guide* incorrectly states that you can set `IT_SSL_TRACEFILE` and `IT_SSL_TRACE_LEVEL` in the configuration file. They can only be set in the environment.

Orbix OTS

This section describes changes made to Orbix generation three OTS products between Orbix 3.3 and Orbix 3.3.4 that are relevant to Orbix 3.3 SP 5 OTS.

Known Problems

OTS 3.3.1 Certification

OTS 3.3.1 is not certified for Solaris 2.6 with Oracle 8.1.6 the Oracle ProC compiler utility core dumps during compilation.

Apparent Purify Errors Indicate Leakage

OrbixOTS 3.3 has been comprehensively tested for memory leakage. An apparent leak is reported in thread-specific storage. This is not a true leak, but rather memory allocated per thread that is reused during the lifetime of the thread and is freed when the process exits. No memory growth occurs during the life of the program. This issue is evident on operations of the "`ThreadLocal<sometype>`" template class.

Transient Ports Break Recovery

Recoverable servers participating in a transaction should ensure that their object references include the daemon port rather than their transient port. This is important in the event that the recoverable server goes down and the coordinating server must attempt transaction recovery. The recoverable server can only be restarted by the coordinating server if the recoverable server's IOR contains the daemon port. Therefore, avoid calling `CORBA::ORB::useTransientPort` in recoverable servers.

TransactionFactory::recreate() Not Supported

`TransactionFactory::recreate()` is not supported in the current

release of the Java server. There is currently no way to create an implicit association with an explicitly propagated transaction.

C++ Client and Java Server Interoperability

Pure C++ clients do not interoperate with Java servers in this release. For example, the C++ `simpleclient` program in the `gridcache` demonstration does not work with the Java `filesys` server. This is because a pure C++ client uses an optimized transaction factory to create its transactions in the understanding that it does not have to co-ordinate the transaction. Because the Java server also cannot co-ordinate, the transaction is rolled back. A simple workaround is to implement the client as an OrbixOTS server.

Server Hangs on NT when Many Clients Run Sequentially

An OrbixOTS client supports a callback object whose object key includes the client's PID that is used in the absence of a server name. In the unusual scenario where a large number of clients are run sequentially against an OrbixOTS server on the same NT machine, the PID used in one client process may be reallocated by the OS to a second client process very soon after the first has completed. This may cause the OrbixOTS server to hang. It maintains a cache of client callback objects, and this cache may not be updated quickly enough to reflect the PID's reallocation. A simple workaround is to implement the client as an OrbixOTS server.

OrbixOTS and OrbixSSL

OrbixOTS clients implement callback objects to help manage transactions, and hence may require an OrbixSSL invocation policy to be configured. See the OrbixSSL documentation for more information on configuring policies for clients that implement callback objects.

Java OrbixOTS and OrbixSSL

Due to a problem in Orbix with callbacks to SSL-enabled Java servers, recovery is not possible of JavaOTS SSL servers.

Simple Java clients continue to work with SSL if they do not register resources with the transaction. Bi-directional IIOp provides a runtime workaround because it is not necessary to open a new connection for the callback. This does not work for recovery, as there isn't an existing connection.

Tips

Synchronization Objects in Java

When using Synchronization objects in Java a user must set the following two environment variables in `orbixots.cfg`:

```
OTS_INTEROP="TRUE"
```

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`OTS_ALWAYS_RETURN_CONTEXT="TRUE"`

The first environment variable sets the IOP/Service Context interoperable mode. The second setting always returns a propagation context to a foreign context.