Orbix 3.3 Service Pack 7 Release Notes

May 2004

Contents

Introduction

Orbix 3.3 SP 7 is a Service Pack Release of Orbix 3.3. This document contains information about Orbix 3.3 SP 7, 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 7 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 7, 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 7 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 7 have also been tested with, and are interoperable with, the following Orbix products:

- Orbix 3.3 SP 6 C++ and Java Editions.
- Orbix 3.3 SP 5 C++ and Java Editions.
- Orbix 3.3.4 C++ and Java Editions.
- Orbix 3.3.3 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 SP3 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.

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 7 is built and certified.

Platform and O/S version	**Orbix 3.3 SP 7 is Built on**	**Orbix 3.3 SP 7 is Certified on**	**C++ Compiler version**	**JDK version**
Solaris 2.7	Yes	Yes	Sun C++ 5.1 (32 bit)	1.2.2_05a 1.3.1-b24 1.4.2
Solaris 2.8	No	Yes (using Solaris 2.7 build)	Sun C++ 5.1 (32 bit)	1.2.2_05a 1.3.1-b24 1.4.2
Solaris 2.8	Yes	Yes	Sun C++ 5.2 (32 bit)	1.2.2_05a 1.3.1-b24

				1.4.2
Solaris 2.8	No	Yes (using Solaris 2.8 build)	Sun C++ 5.3 (32 bit)	1.2.2_05a 1.3.1-b24 1.4.2
Solaris 2.9	No	Yes (using Solaris 2.8 build)	Forte Developer 7 Sun C++ 5.4 (32 bit)	1.3.1-b24 1.4.2
Solaris 2.9	No	Yes (using Solaris 2.8 build)	Forte developer 8 Sun C++ 5.5 (32 bit)	1.3.1 1.4.2
HP-UX 11.00	Yes	Yes	HP ANSI C++ (aCC) A.03.31	1.2.2_12 1.3.1_02 1.4.2
HP-UX 11i	No	Yes (using HP-UX11 build)	HP ANSI C++ B3910B A.03.31	1.2.2_12 1.3.1_02 1.4.2
HP-UX 11i (64 bit)	No	Yes (using HP-UX 11 build)	HP ANSI C++ B3910B A.03.45	1.2.2_12 1.3.1_02 1.4.2
HP-UX IA64	Yes	Yes	HP ANSI C++ B3910B A.05.55 (32 bit)	1.3.1.13 1.4.2
Tru64 5.1A	Yes	Yes	Compaq C++ v6.2-024 (64 bit)	1.2.2 1.3.1_1 1.4.2
AIX 4.3.3	Yes	Yes	IBM VisualAge C++ v5.0	1.2.2 1.3.1
AIX 5 L	No	Yes (using AIX4.3.3 build)	IBM VisualAge C++ v6.0 PTF 2	1.3.1 1.4.1
AIX 5.2	No	Yes (using AIX4.3.3 build)	IBM VisualAge C++ v6.0 PTF 2	1.3.1 1.4.1
AIX 5.3	No	Yes (using AIX4.3.3 build)	IBM VisualAge C++ v6.0 PTF 2	1.3.1 1.4.1
Windows NT 4.0 SP 6	Yes	Yes	Visual C++ 6.0 SP 3	1.2.2_007 1.3.1-b24 1.4.2
Windows 2000 SP 2	No	Yes (using NT4 SP6.0 build)	Visual C++ 6.0 SP 3	1.2.2_007 1.3.1-b24 1.4.2
Windows XP SP1	No	Yes (using NT4 SP6.0 build)	Visual C++ 6.0 SP 3	1.2.2_007 1.3.1-b24 1.4.2

Note: You can build and run an Orbix 3.3 SP 7 application on all of the above platforms.

NOTES to all elements/services that use Java

The following subsections contain information that is relevant for all elements/services that use Java.

JRE not included

The Orbix 3.3 SP 7 installer does not include a Java Runtime Environment (JRE).

New environment variable

A new environment variable, JAVA_P_FLAG, has been introduced in Orbix 3.3 SP 7. The purpose of this flag is to accommodate Orbix 3.3 Java's ORB classes implementation to take precedence over Sun's, while running Orbix 3.3 Java applications using JDK1.4.

The Orbix 3.3 SP 7 installer automatically sets the value of this variable based on the selected JDK version. It sets the variable to `/p` for JDK1.4 and leaves it blank for other JDK versions.

Once Orbix 3.3 SP 7 is installed, this variable is available in the environment script, `setenv.sh`, so that it is set in the Orbix environment.

For more details, read the following Knowledge Base articles:

- What is JAVA_P_FLAG for and how is it used in Orbix 3.
- Why my existing IDL does not compile while using JDK 1.4.x.
- Why am I getting org.omg.CORBA.NO_IMPLEMENT or org.omg.CORBA.NO_PERMISSION exception while using JDK1.4.x?

Orbix 3.3 SP 7 C++ Edition

This section describes changes made to the Orbix 3.3 SP 6 C++ Edition for the Orbix 3.3 SP 7 C++ Edition.

New Features

Orbix 3.3 SP 7 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 7 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 7 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 IIOP 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
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	No	Orbix 3.3 SP 5

	files directly.		
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 7 C++ Edition:

Incident ID	Synopsis
68305	HP Patch PHNE_28538 has changed the behavior of the read() for non-blockingconnects. With that patch, read() will return ECONNRESET instead of ECONNREFUSED.
68255/68289	Respose for Locate Request (_start_server) has changed in Orbix 3.3 C++ daemon, affecting communication with wonderwall.
68271	_non_existent() calls do not honour timeout specified in environment that is passed to it.
68221	Orbix 3.3.5 allows null strings defined as out parameters to be sent back to clients.
68166	Enhancement request to add configuration to specify to Orbix 3.3 what port number to use for ControlSocket.
68269	Orbix 3.3 does not stop listening once AtOrbixFDLowLimit has been reached.
68336	Orbix on HP-UX is compiled with _PSTAT64 enabled. This flag makes HP proc_*() system calls 64-bit compliant.
68028	Installing daemon as an NT service and trying to run from Control Panel results in "Microsoft Management Console" error.
68357	Orbix Daemon Core Dump when running with -a -t option.
68330	Orbix 2.3.4 performs better than Orbix 3.3.6. when dealing with Anys. If the any contains a sequence and the sequence embeds a union data type, Orbix 3.3.6 is 20 times slower than 2.3.4 and Orbix 3.0.1.
68463	Problem with the IDL compiler -no_underscore flag.

67862	Orbix 3.3.4 hanging when selecting a new leader.
68857	Loss of performance in Orbix 3.3.6 due to new locks on multi-CPU machines.

Orbix 3.3 SP 7 Java Edition

This section describes changes made to the Orbix 3.3 SP 6 Java Edition for the Orbix 3.3 SP 7 Java Edition.

New Features

Orbix 3.3 SP 7 Java Edition is binary compatible with Orbix 3.3 Java Edition. No new features were added or existing ones modified.

New and Modified APIs

Orbix 3.3 SP 7 Java Edition is binary compatible with Orbix 3.3 Java Edition therefore no new APIs were added nor existing ones modified.

New Configuration Variable

A new OrbixWeb scoped configuration variable, IT_CONNECT_ATTEMPTS, has been added to Orbix Java Edition. Users can modify it to set any value from 1. The default value for IT_CONNECT_ATTEMPTS is 5. However, the value set to this configuration variable will be ignored if your application is using maxConnectRetries() to set the maximum number of times the connection retries.

Functionality Removed

Orbix 3.3 SP 7 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 `-i` and `-f`		NO	OrbixWeb 3.2

Orbix Java Activator (`Orbixdj.bat`)	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 7 Java Edition:

Incident ID	Synopsis
68574	While marshalling strings, CDRcoder writeStringBuf() method is throwing ArrayIndexOutOfBoundsException when the number of bytes in the marshalling buffer is equal to the buffer size.
68237	Connection layer has been refactored.
68662	MAX_CONNECT_ATTEMPTS not picked up by OrbixWeb. OrbixWeb.IT_CONNECT_ATTEMPTS is now stored in the OrbConfig class where it is accessible to the ORB class. It can be set from configuration file or command line.
68823	One-way call fails from Orbix 3.3.5 Java client if no other call has been made before.

Note: A new switch -jNoDeprecated is introduced to idlj compiler.

When this is used, idlj compiler doesn't generate java deprecated API calls in the skeleton and stub code. By default the value of this switch is **false.**

Orbix Code Generation Toolkit 3.3 SP 7

This section describes changes made to the Orbix 3.3 SP 6 Code Generation Toolkit for the Orbix 3.3 SP 7 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 7 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 7 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 7 is binary compatible with Orbix Code Generation Toolkit 3.3, therefore no functionality has been removed.

Bugs Fixed

No bugs were fixed in Orbix Code Generation Toolkit 3.3 SP 7.

OrbixCOMet Desktop 3.3 SP 7

This section describes changes made to OrbixCOMet Desktop 3.3 SP 6 for OrbixCOMet Desktop 3.3 SP 7.

New Features

OrbixCOMet Desktop 3.3 SP 7 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 7 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 7 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.

The following bugs were fixed in OrbixCOMet Desktop 3.3 SP 7.

Incident ID	Synopsis
68729	COMet buffer over run problem with Japanese character string in Japanese Windows environment.
68322	COMet doesn't handle different char sets correctly.

OrbixNames 3.3 SP 7

This section describes changes made to OrbixNames 3.3 SP 6 for OrbixNames 3.3 SP 7.

New Features

OrbixNames 3.3 SP 7 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 7 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 7 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 `NamesBrowser.bat`	Allow you to monitor and manage the Naming Service externally to your applications.	NO	Orbix 3.3 SP 5

Bugs Fixed

No bugs were fixed in OrbixNames 3.3 SP 7.

Orbix Wonderwall 3.3 SP 7

This section describes changes made to Orbix Wonderwall 3.3 SP 6 for Orbix Wonderwall 3.3 SP 7.

New Features

Orbix Wonderwall 3.3 SP 7 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 7 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 7 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 7:

Feature	Description	Feature Removed	When Deprecated
IIOPProxyW (`iiopproxyw.exe`)	GUI Based iiopproxy	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 7.

OrbixEvents 3.3 SP 7

This section describes changes made to OrbixEvents 3.3 SP 6 for OrbixEvents 3.3 SP 7.

New Features

Orbix Events 3.3 SP 7 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 7 is binary compatible with OrbixEvents 3.3 therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixEvents 3.3 SP 7 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 7.

OrbixSSL C++ 3.3 SP 7

This section describes changes made to OrbixSSL C++ 3.3 SP 6 for OrbixSSL C++ 3.3 SP 7.

New Features

OrbixSSL C++ 3.3 SP 7 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 7 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 7 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-0.9.7d OpenSSL toolkit internally. The cryptographic libraries used by OrbixSSL C++ were written by Eric A. Young (eay@cryptsoft.com).

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 OrbixSSL C++ 3.3 SP 7.

Incident ID	Synopsis
68488	openssl 0.9.4 (which we currently ship with Orbix) bug, and openssl 0.9.6a or higher solves the problem.

OrbixSSL Java 3.3 SP 7

This section describes changes made to OrbixSSL Java 3.3 SP 6 for OrbixSSL Java 3.3 SP 7.

New Features

OrbixSSL Java 3.3 SP 7 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 7 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 7 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. keyenc utility stays there for converting OrbixSSL private keys.	NO	Orbix 3.3.1

Bugs Fixed

There are no bug fixes in OrbixSSL Java 3.3 SP 7.

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. OrbixSSL C++ uses the openssl-0.9.7d 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/Jcrytpto 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 7

This section describes changes made to OrbixOTS 3.3 SP 6 for OrbixOTS 3.3 SP 7.

New Features

OrbixOTS 3.3 SP 7 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 7 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 7 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 7.

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
- OrbixCOMet
- OrbixNames
- OrbixEvents
- Orbix SSL (C++ and Java)
- OrbixOTS

Orbix C++ Edition

This section describes changes made to Orbix generation 3 C++ Edition products between Orbix 3.3 and Orbix 3.3 SP 6, which are relevant to Orbix 3.3 SP 7 C++ Edition.

IFR Refactoring

Some refactoring of the IFR implementation was carried out in Orbix 3.3 SP 5 that affects repository storage. These changes affect 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 4) 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 any service pack after Orbix 3.3 SP 5.

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

This section summarizes known issues and suggested workarounds for earlier Orbix 3.3 releases.

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 "interface `Attribute{};`" 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 (<<) is provided for the unsigned long long CORBA type (`CORBA::ULongLong`) in Orbix 3.3.
55599	No overloaded output-streaming operator (<<) is provided for the signed long long CORBA type (`CORBA::LongLong`) 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.

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 un-marshaling 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 aguments (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 7 Daemon in Orbix 3.0.1 Environment

Orbix 3.3 SP 7 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 7 daemon. All you need to do is append the Library Path in the environment with the Orbix 3.3 SP 7 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 SP 6 that are relevant to Orbix 3.3 SP 7 Java Edition.

Implemented APIs

The following APIs have been implemented:

Class IE.Iona.OrbixWeb.CORBA.Any

Method public void insert_fixed (java.math.BigDecimal d, org.omg.CORBA.TypeCode type)

Description Takes one `java.math.BigDecimal` value along with TypeCode information, which includes scale and digits, information.

Class IE.Iona.OrbixWeb.CORBA.Any

Method Public void insert_fixed (java.math.BigDecimal d)

Description Takes one `java.math.BigDecimal` 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.

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

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).

Known Problems

This section summarizes known issues and suggested workarounds in earlier Orbix 3.3 Java Editions.

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 7 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.
```

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-itc zapfdingbats-
medium-r-normal--*-%d-*-*-p-*-sun-fontspecific]
Font specified in font.properties not found [-urw-itc zapfdingbats-
medium-r-normal--*-%d-*-*-p-*-sun-fontspecific]
Font specified in font.properties not found [-urw-itc 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 SP 6 that are relevant to Orbix 3.3 SP 7 Code Generation Toolkit.

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

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.

OrbixCOMet

This section describes changes made to Orbix generation three COMet products between Orbix 3.3 and Orbix 3.3 SP 6 that are relevant to Orbix 3.3 SP 7 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 typestore 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 `oleregit 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.)

OrbixNames

This section describes changes made to Orbix generation three Names products between Orbix 3.3 and Orbix 3.3 SP 6 that are relevant to Orbix 3.3 SP 7 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.

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

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-itc zapfdingbats-medium-
```

```
r-normal--*-%d-*-*-p-*-sun-fontspecific]

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

Font specified in font.properties not found [-urw-itc 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.

Workarounds

- 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: Copy the `.so` into `${JDKHOME}/jre/lib/sparc` (or set a symbolic name).

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

Windows 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.

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 WonderWall

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

Known Problems

This section summarizes known issues and suggested workarounds for earlier OrbixWonderwall releases.

Incident ID	Synopsis
12000109	The JRE used for the `IORexplorer` utility on an Orbix 3.3.4 installation is incompatible with Pentium4 processors. This applies to all other Wonder Wall GUI tools. Because all GUIs shipped with Orbix 3.3 are deprecated we will not be fixing this. We are closing this as restriction.

67886	Failures occur when the `idl_demo_sslcli` and `idl_demo_sslsrv` demos in `/Wonderwall/OrbixSSL/` are run in `semisecure` mode on all Windows platforms.
	For the `idl_demo_sslcli` demonstration, after launching iiopproxy and when the client is run it fails with the following exception:
	`Unexpected system exception 1`
	`org.omg.CORBA.COMM_FAILURE: Communication failure`
	`no server at host : 10.2.5.125 minor code: 12080 completed: No`
	This is because an incorrect certificate picked up by the client.
	For the `idl_demo_sslsrv` demonstration when the client tries to communicate with server the server throws the following exception:
	`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(SSLSocketConnection.java:363) at IE.Iona.OrbixWeb.CORBA.ClientConnection.run(ClientConnection.java:1196) at java.lang.Thread.run(Thread.java:484) This is because of incorrect certificate used by the server. Workarounds: For the idl_demo_sslcli demonstration simple replace the following line [32] public static String KEYFILE="server.pem"; public static String KEYFILE="server.jpk"; in the source of server (javaserver1.java) For the idl_demo_sslcli demonstration simply replace the following line [32] public static String KEYFILE="client.pem"; with public static String KEYFILE="client.jpk"; in the source of server (javaserver1.java)

OrbixEvents

This section describes changes made to Orbix generation three Events products between Orbix 3.3 and Orbix 3.3 SP 6 that are relevant to Orbix 3.3 SP 7 Events.

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

Known Problems

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

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.

OrbixSSL (C++ and Java)

This section describes changes made to Orbix generation three SSL (C++ and Java) products between Orbix 3.3 and Orbix 3.3 SP 6 that are relevant to Orbix 3.3 SP 7 SSL (C++ and Java).

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

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.

OrbixOTS

This section describes changes made to Orbix generation three OTS products between Orbix 3.3 and Orbix 3.3 SP 6 that are relevant to Orbix 3.3 SP 7 OTS.

Tips

Using the IDLJ compiler with JDK 1.4.x

The javac compiler, since JDK 1.4.0, is more strict than previous versions and rejects import statements that import a type from the unnamed namespace. The code generated by default by the IDLJ compiler contains import statements without a namespace or a package name if your IDL contains any data definition in global scope, and the generated code results in errors while compiling with javac. Therefore, when you are using JDK 1.4, you need to supply "-jP <packagename>" to the IDLJ compiler. By doing this, the generated code comes under the given package name and compiles without any problems.

For more details, read the following IONA Knowledge Base article:

Why my existing IDL does not compile while using JDK 1.4.x.

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"
OTS_ALWAYS_RETURN_CONTEXT="TRUE"
```

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

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.