Orbix 3.3.3

Release Notes

February 2002

Contents

Orbix 3.3.3

Release Notes

February 2002

Orbix 3.3.3

Release Notes

February 2002

Orbix 3.3.3

Release Notes

February 2002

Introduction

Orbix 3.3.3 is a Service Pack Release of Orbix 3.3. This document contains information about Orbix 3.3.3, including build information, details of bugs that have been fixed in this release, known problems and workarounds, new features, tips, and deprecated features.

New features have been added to Orbix 3.3.3 C++ Edition, Orbix 3.3.3 Java Edition and OrbixSSL C++ 3.3.3.

Orbix 3.3.3 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 www.iona.com/docs/relnotes/orbix/orbix33_relnotes.pdf.

There have there 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 3.3.3, see the Migration Guide at: www.iona.com/products/MigrationGuide.pdf

Interoperability with Other IONA Products

The Java and C++ Editions of Orbix 3.3.3 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 3.3.3 have also been tested with, and are interoperable with, the following Orbix products:

- Orbix 3.3.2 C++ and Java Editions
- Orbix 3.3.1 C++ and Java Editions.
- Orbix 3.3 C++ and Java Editions.
- OrbixWeb 3.2.
- Orbix 3.0.1. C++ Edition.
- Orbix E2A Application Server Platform 5.0 C++ and Java.
- Orbix 2000 SSL C++ and Java Editions.
- Orbix Trader 1.2.1 Java Edition (no C++ Edition available).
- Orbacus 4.0.5.

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 3.3 `es` utility is licensed.
- OrbixOTS 3.3 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.

Development Environments

This table details the operating system versions and compiler versions, on which Orbix 3.3.3 is built and tested.

Platform	Built on O/S version	Certified on O/S version	Compiler version	Built & Certified on JDK version	Certified on JDK version
Solaris	2.7	2.6/2.7	Sun C++ 5.1 (32 bit)	1.2.2_05a	1.3.1
Solaris	2.8	2.8	Sun C++ 5.2 (32 bit)	1.2.2_05a	1.3.1
HP-UX	11.00	11.00	HP ANSI C++ (aCC) version A03.31	1.2.2_03	1.3.1
Windows NT & Windows2000	SP6a	SP6a SP 2	Visual C++ 6.0 SP 3	1.2.2_007	1.3.1
Tru64	5.1	5.1	Compaq C++ v6.2-024 (64 bit)	1.2.2_8	1.3.1
AIX	4.3.3	4.3.3	IBM VisualAge C++ v5.0	1.2.2	1.3.1

Orbix 3.3.3 C++ Edition

This section describes changes made to Orbix 3.3.3 C++ Edition.

New Features

Orbix 3.3.3 C++ Edition is binary compatible with Orbix 3.3 C++ Edition, therefore no new APIs have been added nor existing ones modified.

The Active Connection Management Option for the Orbix Daemon

In the Orbix 3.3.3 release the Orbix Daemon (`orbixd`) has a new option, the `-a` option. This option enables connection management to the daemon to be controlled using predefined defaults. The Orbix daemon disconnects least recently used connections when the number of active file descriptors reaches the connection limit mark. To view diagnostic messages set IT_DIAGNOSTIC_LEVEL to 3.

Note that enabling this feature might result in a greater number of exceptions on the client side. It is important to ensure that your client code is catching all exceptions.

For more information on this new feature please see IONA KB articles under "Orbix 3.3 ACM"

IT_DAEMON_CONNECTION_LIMIT

Description: This configuration variable defines the maximum number of connections that the Orbix daemon accepts before it starts to reap the least recently used connections.

Default Value: 1008

Value Range: 2-1008

IT_DAEMON_CONNECTION_REAP_NUMBER

Description: This configuration variable indicates the number of least recently used connections that are to be closed. This occurs when the IT_DAEMON_CONNECTION_LIMIT value is reached. Its function is to enable users to reap many connections during one iteration.

Default Value: 1

Value Range: 1- IT_DAEMON_CONNECTION_LIMIT value.

IT_DAEMON_SERVER_CONNECTION_CLOSE

Description: This configuration variable allows users to close server connections. Servers are processes that can call the `registerPersistentServer()` operation of the IT_Daemon interface. Server connections are not closed by

default.

Default Value: OFF

Value Range: ON, OFF

IT_USE_CLOSE_CONNECTION_MESSAGE

Description: Sends GIOP CloseConnection messages to the application during connection closure. This variable is only valid for IIOP connections. Because POOP has no CloseConnection message type it is unaffected. This impacts all applications that use the `closeChannel()` API, its value can be configured by the user. It is turned ON automatically when daemon is started in acm mode, that is, when the `-a` option is used.

Default Value: OFF for all applications; ON when the `-a` option is passed to `orbixd`

Value Range: ON, OFF

New and Modified APIs

Orbix 3.3.3 C++ Edition is binary compatible with Orbix 3.3 C++ Edition, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix 3.3.3 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 flags –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

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 3.3.3 C++ Edition:

Incident ID	Synopsis
65856	IDL compiler successfully compiles some incorrect IDL. An extra flag, -strict, has been added to the IDL utility that causes the compiler to reject this IDL.
65711	OrbixWeb servers registered persistently with `orbixd` are not shown by the psit utility.
65695	Dumpconfig utilities are not binary compatible.
65466	Orbix 3.3.x installation on Pentium 4 machines and windows 2000 fails even with a supported JDK
65448	Dumpconfig does not display configuration values correctly if they are over ridden by environment values.
65427	Comm Failure exception is caught in a client application during transfer of a complex IIOP message over a new connection due to premature determination of the connection protocol on the server side. On accepting an incoming connection Orbix attempts to determine if the protocol is IIOP or POOP. If the first message is complex (this does not necessarily mean that it is a large message) it can take some time to transmit the first message over the connection and Orbix misconstrues the delay as a connection problem.
65378	A remote operation cannot be invoked from a thread, which isn't the event thread, with the current OrbixWinMode implementation.
65309	Thread unsafe handling of configuration for long and boolean types results in core dump in clients.
65247	A 10088 system exception is thrown when transmitting large complex data structure. An invocation write finds that the underlying channel (Orbix abstraction of a file descriptor) is closed.

65119 The `inReplyPostMarshal()` is called inappropriately if an exception is raised while the request is being initialized or sent.

65020 It takes two seconds to close a connection between Orbix 2000 itnotify and the Orbix 3.3.2 daemon when an Orbix 3.3.2 TP1 Notification consumer calls `disconnect_proxy_push_supplier()`.

65007 In Orbix 3.3.2, OrbixTalk tries (incorrectly) to communicate with `orbixd` when communicating with OrbixTalk servers.

64890 The Solaris Orbix3.3.2 P1 code core dumps if using the Orbix 2000 Notification v2.0 channel object that is resolved from the Orbix3.3.2 Naming Service.

64855 Memory leaks in Orbix 3.3 when concurrent client invocations are being made on a server.

64855 The Interface Repository inserts a null character into the IFR.dat file which contains the stringified IOR for the Interface Repository.

64790 Orbix 3.3 changes the stringified object reference to the locate-forwarding transient IOR after an IDL call.

64652 Under heavy load conditions an Orbix application can occasionally core dump on Solaris machines.

64542 Client core-dumps on `closeChannel()` on Orbix C++ 3.3.1-TP2.

64410 The `CORBA::ORB::Output()` message is always output regardless of the level specified in `setDiagnostics`.

64211 Orbix 3.3.1 SSL for HP11.00 core dumps on HP11.00 machines which are not of the PA_RISC2.0 architecture.

64181 Purify reports FMM when the method void `CORBA::any::clear()` is called on Orbix3.3.1(Soalris7).

64090 Orbix 3.3 changes the stringified object reference to the locate-forwarding transient IOR after an IDL call.

58498 When IIOP messages are sent through a POOP connection a communication failure results. In Orbix 3.3.*x* this can happen in the following scenario:

```
// Open a poop connection to daemon.

orb->bindUsingIIOP((CORBA::Boolean)0);

IT_daemon_ptr orbixd_ptr =
IT_daemon::_bind("0:IT_daemon", host_name);

// Release the proxy. Note the daemon channel is still
//cached.

CORBA::release(orbixd_ptr);

// Attempt an IIOP bind, will reuse the cached POOP
// connection.

 orb->bindUsingIIOP((CORBA::Boolean)1);orbixd_ptr =
IT_daemon::_bind("0:IT_daemon", host_name);
```

58480 Potential core dump if a socket value of -1 is passed to `GENSOCK_SET::FD_isset`.

58466 Cannot send large message (80MB) using Orbix 3.0.1.

58271 Multiple threads receiving an exception from a CORBA invocation can cause a segmentation fault when calling `_toString()` on the `SystemException` object.

58197 When the server runs for a long time (19 hours in test case) the Fred thread hangs with the following message: `Orbix::Exhausted available memory...`

58186 Orbix 3.3 daemon process growing in size on HP11.00 with the result that psit response times slow dramatically (up to 1 minute to complete).

58169 Server core dump due to mismatched Protocols. This is related to race conditions in the implementation of `closeChannel()` and the interaction between the application and reader threads during closure of a Channel (abstraction of a connection).

58044 Both C++ and Java IDL compilers do not raise an error when a sequence of module names is compiled. For example, given a module "ModuleName", using "sequence<ModuleName>" compiles successfully.

57999 Client application core dumps after approximately 24 hours due to internal threading issue.

57940 `killit` does not terminate a server process manually launched by a user other than the user that launched the daemon.

57293 The IDL compiler incorrectly reports the bug: 5:(semantic): Identifier `audit' is ambiguous for the following IDL. It treats Audit and audit as different identifiers.

```
enum rawType {Audit};
interface NormlNei
{
       oneway void audit();
};
```

57279 Server crashes because locking mechanism of typecodes is not correct.

57198 Broken pipe error in Orbix 3.0.1 P59.

57197 `CORBA::Boolean inReplyPostMarshal()` is called inappropriately when sending an any type.

56971 Multi-threaded server hangs when multiple clients connect and call `_closeChannel()`.

56775 Broken pipe - `CORBA::COMM_FAILURE` is caught when using `close_channel()` in a thread.

56390 Top level Makefile for building Orbix3.3 demonstrations does not contain `bankexceptions` demonstration name resulting in a situation in which compilation of all Orbix3.3 demonstrations do not compile `bankexceptions` demonstration.

56165 If the Orbix configuration files do not contain a definition for the IT_DAEMON_PORT environment variable, the error message produced by the daemon at startup refers to the file `iona.cfg` but the file `common.cfg`

	(included from `iona.cfg`) generally should contain this definition.
56080	Purify reports an SBR error when `addForeignFD()` is used.
55976	Unable to use the Interface Repository after binding to a server using a host address of 127.0.0.1.
55975	Unable to use the IFR after binding to a server using a host address of 127.0.0.1.
55949	An Orbix 3.0.1 client is able to bind to an Orbix 3.3 server object. However, the object is unusable when the host parameter for the bind is the loopback IP address 127.0.0.1.
55947	Polymorphic bind is always successful when an Orbix 3.0.1 client uses the loopback IP address (127.0.0.1) on an Orbix 3.3 server.
55939	Polymorphic bind is successful for certain forms of marker/server string when using the loopback IP address (127.0.0.1) for host.
55489	Trying to _bind() to the localhost loopback IP address (127.0.0.1) causes a missing proxy factory error.
55061	dlclose causes a core dump when Orbix libraries are contained in the opened library and not in the base code.
53753	Readifr utility is not displaying scoped exception names correctly for raises clause of operations entered in the IFR.
52450	The IT_CONFIG_PATH variable pointing to specific file the values are not found and the daemon does not run.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix 3.3.3 C++ Edition.

Incident ID	Synopsis
64993	There are certain uses of the loopback IP address (127.0.0.1) that cause problems in `_bind`. Alternatives are 'localhost', the explicit local IP address, the explicit local hostname, and the explicit local fully-qualified hostname.
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.

Orbix 3.3.3 Java Edition

This section describes changes made to Orbix 3.3.3 Java Edition.

New Features

Orbix 3.3.3 Java Edition is binary compatible with Orbix 3.3 Java Edition, therefore no new APIs have been added nor existing ones modified.

The following features have been added to the Orbix 3.3.3 Java Edition:

The Active Connection Management Option for the Orbix Daemon

Please refer to page 7 for full details of this new feature.

Orbix Java Configuration

The following configuration variable has been added to Orbix Java Edition 3.3.3:

Name	IT_USE_DAEMON_PORT
Type	Boolean
Default	false

This flag when set to true, publishes the daemon port in the IORs in the case of an Automatic or Persistent Launch. Also when this configuration variable is set to true the Orbix Java Servers listen ONLY on the Daemon assigned port.

Note when this configuration variable is set to true – the Orbix Java configuration variables, IT_IIOP_LISTEN_PORT and IT_SSL_IIOP_LISTEN_PORT, are be ignored.

New and Modified APIs

Orbix 3.3.3 Java Edition is binary compatible with Orbix 3.3 Java Edition, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix 3.3.3 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 flags –i and -f		NO	OrbixWeb 3.2

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 3.3.3 Java Edition:

Incident ID	Synopsis
Orb Runtime	
65545	OrbixWeb sends corrupt GIOP 1.1 Request. The field reserved in the Request header has noise.
65531	Orbix 3.3.2 for Java installed `killitj.bat` is missing an extra space between two arguments.
65393	The Orbix daemon doesn't respond correctly to IT_DAEMON_SERVER_RANGE when assigning a SSL port to a server.
65122	The Orbix Names (OrbixWeb) 3.3.2 server hangs when servicing a large number of concurrent connection attempts.
65121	Orbix 3.3.*x* Java servers hang when accessed directly with corbaloc and LocateRequest is turned off.
65106	A CORBA object that is disconnected from the ORB using `ORB.disconnect()` cannot be subsequently reconnected using `ORB.connect()`.

65038	When servermanager.sh executes and invokes a GUI of servermanager, an exception in thread "main" `java.lang.ExceptionInInitializerError: org.omg.CORBA.INITIALIZE` is thrown and the servermanager GUI doesn't appear.
64957	Fragmentation error occurs on the client side if more than a 54 sequence of data is sent in fragments.
64715	A Java server crashes with an `OutOfMemoryError` when it receives a GIOP message with no length field.
64711	OrbixNames 3.0.1 on HPUX10.20 creates naming contexts with the Naming Server transient port.
64237	`Request.send_deferred()` does not transparently handle a LOCATE_FORWARD message.
55714	The keepalive timeout specified in IT_CONNECTION_TIMEOUT does not work accurately.
55692	Loaders cannot throw a system exception.
54332	An OrbixWeb server cannot be restarted/reactivated (using `impl_is_ready`) after it is shutdown/deactivated (using `deactivate_impl`).
52618	The `killit` command does not work with manually started servers.
52486	The Daemon port is not used during an automatic launch unless a well known port is specified to the daemon.
23820	Pragma prefixes are omitted in the interface part of an Orbix object reference.
IDL Compiler	
65741	The IDL compiler (`idlj`) does not recognize UNIX slashses, (\), in Windows NT.
65231	The IDL compiler (`idlj`) behaves erroneously when given `-j0` flag and an absolute path.
58044	Both C++ and Java IDL compilers do not raise an error when a sequence of module names is compiled. For example, given a module "ModuleName", using "sequence<ModuleName>" compiles successfully.
57714	When IDL generated files are compiled by a Java compiler, errors are generated.
16241	The IDL compiler switch `idl -D x=y` doesn't work. It behaves as `idl -D x`.
Installation	
65466	Orbix 3.3.x installation on Pentium 4 machines and windows 2000 fails even with a supported JDK

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix 3.3.3 Java Edition.

Incident ID	Synopsis
65789	Secure OTS Java server denies invocation from secure OTS C++ client using Service Context.
65605	Server Manager GUI not updating when a server is started and then stopped (affects Orbix 3.3.2 and upwards).
65457	OrbixWeb 3.3 gridApplet demonstration does not work unless you access the HTML file through a web server. **Solution:** To run this applet demonstration, launch the web_server with document root as `ORBIX_HOME` (this can be set in the main httpd.cf file if you are using an apache web server). Copy all the .cfg files from `ORBIX_HOME\config` to `ORBIX_HOME\demos\classes` and then change the cfg value to "`./`" in the copied `iona.cfg`. There is no need to copy `OrbixWeb.jar` from `ORBIX_HOME\lib` to `ORBIX_HOME\demos\classes`, and no need to do any changes to index.html. Please refer to the Knowledge Base article at http://www2.iona.com/MinervaRoot/index.jsp?action=article&catId=_0&articleURL=/support/articles/2419.728.xml for further details.
65410	Running the `orb.shutdown` command followed by the `ORB.init()` command doesn't create a new and clean ORB independent of the other.
64471	Orbix 3.3 Java throws the wrong exception when marshalling a null string with IT_MARSHAL_NULLS_OK="false". Also the default value is true and not false as the documentation states.
55822	Using a typedef'd `CORBA::Typecode` type. Problem in the generated code.

Orbix Code Generation Toolkit 3.3.3

This section describes changes made in Orbix Code Generation Toolkit 3.3.3.

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 3.3.3 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 3.3.3 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 3.3.3 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 3.3.3.

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
66077	Orbix3.3\iona\idlgen\genies\java_print\Args.tcl contains an error.

OrbixCOMet Desktop 3.3.3

This section describes changes made in OrbixCOMet Desktop 3.3.3

New Features

OrbixCOMet Desktop 3.3.3 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 3.3.3 is binary compatible with OrbixCOMet Desktop 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixCOMet Desktop 3.3.3 is binary compatible with OrbixCOMet Desktop 3.3, therefore no functionality has been removed.

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 3.3.3.

Incident ID	Synopsis
64981	VB clients for the common demonstration fails with an Automation error or an Unspecified error.
64980	Callback CORBA clients (which communicate with COM servers) block on complex types.
64978	Callback PB demonstration client does not receive callbacks.
64886	The OrbixCOMet 3.3.2 demonstrations corbaclient/Excel and corbaclient/ExcelMon don't work.
58577	OrbixCOMet 3.3.2 COM clients for the common/BankSmartProxy demonstration fail because of the known bug in the ts2idl utility of OrbixCOMet.

OrbixNames 3.3.3

This section describes changes made in OrbixNames 3.3.3.

New Features

OrbixNames 3.3.3 is binary compatible with OrbixNames 3.3, therefore no new APIs have been added nor existing ones modified.

The following new feature has been added to OrbixNames 3.3.3

New and Modified APIs

OrbixNames 3.3.3 is binary compatible with OrbixNames 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixNames 3.3.3 is binary compatible with OrbixNames 3.3, therefore no functionality has been removed.

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 OrbixNames 3.3.3:

Incident ID	Synopsis
65141	The namesbrowser.sh script has an invalid path to java.
65061	The NamesBrowser GUI tool cannot connect to the Naming Service when the IT_NAMES_SERVER variable is re-named from its default vaule 'NS'.
64027	OrbixNames 3.0.1 patch 60 and onwards, utilities show the wrong compiler version when -v flag is used.

Orbix Wonderwall 3.3.3

This section describes changes made in Orbix Wonderwall 3.3.3.

New Features

Orbix Wonderwall 3.3.3 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 3.3.3 is binary compatible with Orbix Wonderwall 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix Wonderwall 3.3.3 is binary compatible with Orbix Wonderwall 3.3, therefore no functionality has been removed.

Bugs Fixed

There are no bugs fixes in OrbixWonderwall 3.3.3.

OrbixEvents 3.3.3

This section describes changes made to OrbixEvents 3.3.3.

New Features

Orbix Events 3.3.3 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 3.3.3 is binary compatible with OrbixEvents 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixEvents 3.3.3 is binary compatible with OrbixEvents 3.3, therefore no functionality has been removed.

Bugs Fixed

There are no bugs fixes in OrbixEvents 3.3.3.

OrbixSSL C++ 3.3.3

This section describes changes made in OrbixSSL C++ 3.3.3.

New Features

OrbixSSL C++ 3.3.3 is binary compatible with OrbixSSL C++ 3.3, therefore no new APIs have been added nor existing ones modified.

The following two features have been added to this release.

- The PKCS#12 certificate is supported in version 3.3.3 and onwards.
- SetX509CertFromFile(const char *FileName, IT_Format f) can accept IT_FMT_PKCS12 as IT_FORMAT.

New and Modified APIs

OrbixSSL C++ 3.3.3 is binary compatible with OrbixSSL C++ 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL C++ 3.3.3 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++ 3.3.3.

OrbixSSL Java 3.3.3

This section describes changes made in OrbixSSL Java 3.3.3.

New Features

OrbixSSL Java 3.3.3 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 3.3.3 is binary compatible with OrbixSSL Java 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL Java 3.3.3 is binary compatible with OrbixSSL Java 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. 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/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/.

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 not bug fixes in OrbixSSL Java 3.3.3.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixSSL Java 3.3.3.

Incident ID	Synopsis
66084	The Orbix 3.3.2 secure naming service cannot accept the user created certificate and jpk file. The OrbixSSL Java engine is replaced with the Baltimore toolkit In Orbix 3.3.2 onwards and subsequent versions. This means that the jpk file created by previous versions of OrbixSSL does not work with versions of Orbix from 3.3.2 onwards. In order to enable them to operate, the following workaround is suggested: 1. Decrypt SSLeay PEM private key using following `openssl rsa -in orbix_names -out orbix_names.decrypted` **Note:** NOTE : `orbix_name` file should contain SSLeay format private key. 2. Use the new `keyenc` utility encrypt this pk as follows: `keyenc orbix_names.decrypted orbix_names.jpk <password>` 3. Use encrypted private key in jpk format. For more information about `keyenc`, please refer *OrbixSSL Java Programmer's Guide*.

OrbixOTS 3.3.3

This section describes changes in OrbixOTS 3.3.3.

New Features

OrbixOTS 3.3.3 is binary compatible with OrbixOTS 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

OrbixOTS 3.3.3 is binary compatible with OrbixOTS 3.3, therefore no new APIs have been added nor existing ones modified in this release.

Functionality Removed

OrbixOTS 3.3.3 is binary compatible with OrbixOTS 3.3 therefore no functionality has been removed.

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 OrbixOTS 3.3.3:

Incident ID	Synopsis
66200	The update utility cannot update, using a password, the OTSTF executable in Orbix 3.3.2. It gives a message: `nothing to update in otstf`.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixOTS 3.3.3.

Incident ID	Synopsis

66214	OrbixOTS `TransBank` Java demonstration does not compile with JDK 1.3.1. It gives the following error message:
	
	`client/FlexiClient.java:618: reference to DataInputStream is ambiguous, both class org.omg.CORBA.DataInputStream in org.omg.CORBA and class java.io.DataInputStream in java.io match static DataInputStream myInput = null;`
	
	`cient/SimpleClient.java:40: reference to DataInputStream is ambiguous, both class org.omg.CORBA.DataInputStream in org.omg.CORBA and class java.io.DataInputStream in java.io match static DataInputStream myInput = null;`
	
	Solution: This problem will be fixed in the next release of OrbixOTS.

66201	The OTSTF core dumps on Tru64 machines located on a remote Network File System. It gives a message similar to the following: `++ Encina Diagnostic follows ++++++++++++++++++++++++++ 1 13675 02/02/21-16:21:38.163447 1c102036 F Encina Internal Error -- Call your Support Representative: vol: Could not lock disk OrbixOTS_TF.log region offset 0x0 numPages 2040. bde status ENC-bde-0036 (system error UNIX-077: No locks available)` **Solution:** Copy the OTSTF to a local disk.

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://internal.iona.com:90/MinervaRoot/index.jsp?action=browse_cat&catId=_100017.

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 3.3.2, which are relevant to Orbix 3.3.3 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 flag 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 unmarshalling 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 3.3.3 Daemon in Orbix 3.0.1

Environment

Orbix 3.3.3 daemon can launch Orbix 3.0.1 servers. For all Orbix 3.0.1 Daemon utilities, your clients and servers work with the Orbix 3.3.3 daemon. All you need to do is append the Library Path in the environment with the Orbix 3.3.3 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 3.3.2 which are relevant to Orbix 3.3.3 Java Edition.

Features

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 3.3.3 the Client ORB iterate 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.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.

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, lsns 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 3.3.2 which are relevant to Orbix 3.3.3 Code Generation Toolkit.

Known Problems

- The parser used by the IDLgen supports CORBA 2.3 specifications. You may therefore encounter problems when using identifiers which 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 3.3.2 which are relevant to Orbix 3.3.3 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.

- Marshalling 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 marshalling 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 3.3.2 which are relevant to Orbix 3.3.3 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-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.

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` switch.

Orbix Events

This section describes changes made to Orbix generation three Events products between Orbix 3.3 and Orbix 3.3.2 which are relevant to Orbix 3.3.3 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 and Orbix 3.3.2 which are relevant to Orbix 3.3.3 SSL (C++ and Java).

Known Problems

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

The methods on the IT_X509Cert class getIssuer() and getSubject() both return instances of the IT_AVAList class. The IT_AVAList class provides a method byte[] convert(IT_Format) that allows one 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 3.3.2 that are relevant to Orbix 3.3.3 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 which 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 take care to 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 be 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"

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.