Orbix 3.3.2

Release Notes

October 2001 (updated 02/01/2002)

Contents

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Introduction

Orbix 3.3.2 is a Service Pack Release of Orbix 3.3. This document contains information about Orbix 3.3.2, 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 3.3.2 C++ Edition, Orbix 3.3.2 Java Edition, and OrbixNames 3.3.2.

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

For information on migrating from an earlier version of Orbix to Orbix 3.3.2, see the Migration Page at: www.iona.com/products/MigrationGuide.pdf

Interoperability with Other IONA Products

The Java and C++ Editions of Orbix 3.3.2 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 3.3.2 have also been tested with, and are interoperable with, the following Orbix products:

- 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 2000 2.0 C++ and Java Editions.
- Orbix 2000 SSL C++ and Java Editions.
- Orbix Trader 1.2.1 Java Edition (no C++ Edition available).
- Orbacus 4.0.5.

Development Environments

This table details the operating system versions and compiler versions, on which Orbix 3.3.2 is built and tested.

Platform	Built on O/S version	Certified on O/S version	Compiler version	JDK version
Solaris	2.7	2.6/2.7/2.8	Sun C++ 5.1 (32 bit)	JDK 1.2.2
HP-UX	11.00	11.00	HP ANSI C++ (aCC) version A.03.13	JDK 1.2.2
Windows NT Windows2000	4.0 SP 6a	4.0 SP 6a SP 2	Visual C++ 6.0 SP 3	JDK 1.2.2
Tru64	5.1	5.1	Compaq C++ v6.2-024 (64 bit)	JDK 1.2.2
AIX	4.3.3	4.3.3	IBM VisualAge C++ v5.0	JDK 1.2.2

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 3.3 `es` utility is licensed.
- OrbixOTS 3.3 shared libraries (DLLs on Windows NT), `libEncinaClientOrbix` and `libEncinaServerOrbix` are licensed.

Deprecated Features

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 will not explain how to use it and we will 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.

Orbix 3.3.2 C++ Edition

This section describes changes made to Orbix 3.3.2 C++ Edition.

New Features

Orbix 3.3.2 C++ Edition is binary compatible with Orbix 3.3 C++ Edition, therefore no new APIs have been added nor existing ones modified.

The following feature have been added to the Orbix 3.3.2 C++ Edition:

Support for Multi-Profiled IORs

In Orbix 3.3.2 the Client ORB will 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).

New and Modified APIs

Orbix 3.3.2 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 3.3.2 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 3.3.2 C++ Edition:

Incident ID	Synopsis
64712	The *Host* parameter in a call to string_to_object is always ignored
64674	Orbix 3.3 daemon on AIX does not respond properly when SIGTERM is sent by using the *kill* utility
64651	Bidirectional IIOP does not work on Orbix 3.3.1
64580	The Orbix daemon cores while launching servers with empty-string launch commands in the Implementation Repository.
64558	When Orbix 3.0.1 or Orbix 3.3 is used to narrow a reference to `CosNotifyChannelAdmin::EventChannel` obtained from the Orbix 2000 Naming Service, `Unexpected Exception 43072` is thrown
64491	Memory leak when using POOP for each request, when testing shared, unshared, per-method servers, and per-client activation
64464	Illegal close on startup of IFR utilities in Orbix 3.3
64362	Purify shows memory leak in liborbixmt.3.3aCC.1
64260	Internal char buffer overruns in the putit utility, causing segmentation violations in some circumstances
64235	IFR Module scoping not working correctly – proxy does not correspond to IFR details
64220	Client hangs when recursive sequences (unions) are passed as values of

	`CORBA::Any`
64202	Calling IT_PING() across multiple threads on an object that resides on a Visibroker server results in a SEGV and core dump
64058	Client dumps core when _var on a fixed length structure (as described in the Orbix 3.3 C++ Programmers Guide p108-110) is used
58729	Server application core dumps on the destructor of _var
58702	Server leaks when client's request times out
58686	If IT_DEFAULT_CLASSPATH contains too many characters, `orbixd` core dumps (Solaris) and fails to launch (NT)
58682	Orbix 3.3 clients and servers hang, when communicating with an Orbix 2.2 daemon (readonly)
58541	Problem in narrowing to interfaces that contain "_". For example: interface `xyz_hello`
58540	Changing the length of a hostname of an object using `host()` then using `object_to_string()` on that object, causes a core dump
58532	Running the Orbix daemon as an NT service in Orbix 3.3 causes messages to be inserted into the NT Application log.
58525	Orbix doesn't connect to multiple IP addresses returned by DNS for a hostname
58463	Fixed type is treated as simple data type, not a complex data type
58394	Orbix 3.3 support for multi-profile IOR (a new feature in this release)
58275	Receiving signal 1 error because we can no longer get a handle on a signal
	Note: 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
58240	The Orbix 3.3 API, Principal, which is deprecated, is required for authentication
58198	Fixed data type causes error with putidl
58197	When the server is running for about six hours or more Orbix hangs with the following message `Orbix::Exhausted available memory`
58169	Server dumped core during long run test of testcase because of a Protocol

	mismatch
58011	Performance degradation on a 1-CPU machine when transmitting a simple data type in an Any data type in Orbix
57999	Long running application dumps core on the client side
57978	pingit – h <IP Address> dumps when IT_ENABLE_MULTIPLE_HOMED_SUPPORT=YES
57884	PID reuse problem reoccurring (causing psit to report servers that don't exist)
57719	orb->`string_to_object`(<IORstring>) returns same object reference with different IOR strings
57659	Client fails to bind with server broken pipe error
57631	Memory leakage occurs when the client catches exceptions
57626	`CORBA::Orbix.useRemoteIsACalls()` fails - _narrow continually catches End of Connection exception
57619	`readifr` spins on multi-homed host
57440	Orbix can not distinguish between IORs that differ only in port number
57222	IT_PING messages sent by client to `orbixd` when attempting to connect to a transient-port IOR
57217	Memory leak while using `_closeChannel()`
57117	Memory leaks on the client side while using `_closeChannel()` done by server
56892	Problem with SIGTERM and limited time for the execution of the body of the signal handler
56891	Invalid signal handling in programs compiled and linked with the –mt flag
56845	IORs that differ only in port number resolve to the same object reference
56747	Orbix cannot distinguish between IORs that differ only in hostname and/or port number (that is IORs that have the same object keys)
56663	Orbix 3.3 C++ libraries do not recognize changes to IT_NAMES_SERVER_HOST, and can not use a remote naming service
56574	`CORBA::Orbix.useHostNameInIOR()` leaks memory
56465	Problems occur when narrowing to interface (names) that contain "_", that is, interface names such as `xyz_hello`
56455	When using the any data type, the server core dumps after several iterations
56428	Calling `_closeChannel()` and then looking for the descriptor eventually returns –1
56357	Server core dumps when using `_closeChannel()` in server implementation
56165	`orbixd` displays incorrect information if the daemon port number is not available

55721	ABR in Orbix client when using unmarshalling an IIOP 1.1 SSL enabled IOR
55703	Client leaks blocks of memory when exceptions are raised in invocations to the server
54401	Client runs out of file descriptors and crashes even though the limit is set to the maximum allowed by the operating system
54171	Psit does not show persistent servers if registered using `putit -persistent` and `useHostNameInIOR(0)`
53805	Race condition inside Orbix –MT
53015	Calls to _IT_PING or non_existent do not always respect a timeout set in the environment parameter
52408	IORs that only differ in port number resolve to the same object reference in Orbix. This results in non-interoperability with foreign ORBs.
52358	`Orbixd` in protected mode does not work correctly
30040	IORs that only differ in port number resolve to the same object reference in Orbix. This results in non-interoperability with foreign ORBs.

Tips

This section summarizes recommendations for improving the performance of Orbix 3.3.2 C++ Edition.

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 will cause 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 3.3.2 Daemon in Orbix 3.0.1 Environment

Orbix 3.3.2 daemon can launch Orbix 3.0.1 servers. For all Orbix 3.0.1 Daemon utilities, your clients and servers will work with the Orbix 3.3.2 daemon. All you need to do is append the Library Path in the environment with the Orbix 3.3.2 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 will operate on version 4.3.2 daemon utilities.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix 3.3.2 C++ Edition.

Incident ID	Synopsis
64994	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`.
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 will hang. 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.
56390	Top level Makefile on HP and Solaris is missing `bankexceptions` demonstration name. Hence `bankexceptions` demonstration should be

	built locally. This can be done by entering the command `gmake all`.
56121	The IDL compiler issues warnings if the IDL contains identifiers which 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".
55976	After binding (successfully) to the IFR using the TCP/IP loopback address 127.0.0.1, calls to the method `Container::lookup()` fail.
55975	After binding (successfully) to a server using the TCP/IP loopback address 127.0.0.1, calls to the method CORBA::Object::_get_interface() fail with an INV_OBJREF exception.
55949	After a 3.0.1 client binds (successfully) to a version 3.3 server using the TCP/IP loopback address 127.0.0.1, any method invocation causes an INV_OBJREF (minor 10102) exception to be raised in the client.
55947	Polymorphic bind is always successful from a version 3.0.1 client to a version 3.3 server using the TCP/IP loopback address 127.0.0.1 as the host name.
55939	Polymorphic bind is successful when fully qualified (marker:server) or anonymous (just marker:) when using the loopback IP address 127.0.0.1 for host.
55640	Calling CORBA::_release() on a null object reference causes the application to core.
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.
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.
56334	When service context handlers in Orbix runtime encounter an abnormal condition, the diagnostic messages are not very informative.

Orbix 3.3.2 Java Edition

This section describes changes made to Orbix 3.3.2 Java Edition.

New Features

Orbix 3.3.2 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 3.3.2 Java Edition:

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 3.3.2 the Client ORB will 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).

New and Modified APIs

Orbix 3.3.2 Java Edition is binary compatible with Orbix 3.3 Java Edition, therefore no new APIs have been added nor existing ones modified.

Newly Implemented APIs

The following APIs have been implemented for this release:

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.

Functionality Removed

Orbix 3.3.2 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 3.3.2 Java Edition:

Incident ID	Synopsis
Orb Runtime	
64616	Level 2 diagnostic messages missing in Orbix 3.3.1 Java Edition
64504	OrbixWeb will not record configuration information changes for connecting to the Naming Service
64343	Ping on a non-running server returns true. Related to Incident ID 64275
64296	Multi-profile IOR support in Orbix 3.3 Java clients for connecting and reconnecting to servers (a new feature in this release).
64275	Performing a non_exist operation on an IOR causes the IOR to point to a different object.
64216	For a client and server running on the same JVM, the client-side connection does not shut down correctly
64172	IT_SSL_IIOP_LISTEN_PORT used to connect a client to OrbixWonderwall via SSL, this is not a valid usage
64044	Fixed data types don't work in OrbixWeb 3.2 and Orbix 3.3 Java Edition (required idlj compiler and runtime fixes)
58335	OrbixWeb 3.3 leaks memory and threads when HTTP Tunneling is turned on.
57997	Semi-secure Java server does not respond to insecure C++ client
57692	Error '10040 NO_MEMORY Dynamic memory allocation failure' when passing a complex struct as an Any
57421	Running the Naming Service semi-securely can cause hang for insecure clients if IT_SSL_IIOP_LISTEN_PORT is the same as that which the Orbix Daemon assigns dynamically
53588	Invalid IOR passed to string_to_object() throws an inappropriately named exception
IDL Compiler	
64815	Idlj compiler in Orbix 3.3 Java Edition crashes when using temp output directory
64244	Idlj compiler missing package name in stub code. If you compile the IDL with a nested package, (no problem with just one package) only the first package is scoped, not the whole nested package path.
64044	Fixed data types don't work in OrbixWeb 3.2 and Orbix 3.3 Java Edition (required idlj compiler and runtime fixes)
58516	Incorrect code generated from an IDL Union helper class' write() method.
58332	Idlj compiler missing package name in stub code. If you compile the IDL with a nested package, (no problem with just one package) only the first package is scoped, not the whole nested package path.
57823	If a fixed type is typedefe'd inside a module and used outside of this module, the IDL compiler does not generate the correct skeleton or server code.

56627	IDL that contains an enum discriminator for a union type causes invalid write method in generated code

Tips

This section summarizes recommendations for improving the performance of Orbix 3.3.2 Java Edition.

Windows NT Installation Directory

We recommend that neither Orbix nor your JDK be installed under a directory path that includes "space" characters. If you have installed under "Program Files", for example, you may need to remove the space characters from variable-settings in certain files in your installation. The OrbixNames problem described below is one of the problems that may otherwise result.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix 3.3.2 Java Edition.

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 will fail 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 will appear 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

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.

Other Known Problems

Incident ID	Synopsis
55822	Using a typedef'd CORBA::Typecode type. Problem in the generated code.
55781	#pragma prefixes and bind not working.

Orbix Code Generation Toolkit 3.3.2

This section describes changes made in Orbix Code Generation Toolkit 3.3.2.

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 3.3.2 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 3.3.2 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 3.3.2 is binary compatible with Orbix Code Generation Toolkit 3.3, therefore no functionality has been removed.

Bugs Fixed

No bugs were fixed in this release.

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

Known Problems and Workarounds

This section summarizes known issues and workarounds for Orbix Code Generation Toolkit 3.3.2.

Incident ID	Synopsis
64906	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.

64905	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`
64904	The environment variable used by the IDLgen engine has changed to use `IT_IDLGEN_CONFIG_FILE` instead of `IDLGEN_CONFIG_FILE`.
64903	The Orbix Code Generation Toolkit 3.3 genies supplied will not work with previous released versions (3.0.2 or earlier) of the IDLgen product. The paths to any custom genies will need to be placed into the `idlgen.cfg` file present in the configuration directory.

OrbixCOMet Desktop 3.3.2

This section describes changes made in OrbixCOMet Desktop 3.3.2

New Features

OrbixCOMet Desktop 3.3.2 is binary compatible with OrbixCOMet Desktop 3.3, therefore no new APIs have been added nor existing ones modified.

Tips on Upgrading from Orbix 3.0.1

No new functionality has been added to this release. However, this release incorporates all changes made up to, and including, OrbixCOMet 3.0.1-20. 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.

New and Modified APIs

OrbixCOMet Desktop 3.3.2 is binary compatible with OrbixCOMet Desktop 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixCOMet Desktop 3.3.2 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 3.3.2.

Incident ID	Synopsis
58428	OrbixCOMet 3.x leaks memory in Callback. (String, TypeCode, any Leak)

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixCOMet Desktop 3.3.2

The following are known issues for OrbixCOMet Desktop 3.3.2:

Incident ID	Synopsis

64981	VB clients for common demos fails with Automation error or Unspecified error
	
	Workaround: remove old type libraries and recreate them using the ts2tlb tool. Use IT_ as library prefix (1-IT_XXXX) while creating the new type library. For example:
	
	`Putidl ..\banksimple.idl`
	
	`Typeman –wm`
	
	`ts2tlb –1 IT_BankSimple BankSimple`
	
	This will create BankSimple.tlb which will work fine with the

	demonstration.
64980	Callback CORBA client (which talks to COM servers) blocks on complex types.
64978	Callback PB demonstration client does not receive callbacks
64977	Encrypt VB demonstration client fails
64887	`Aliassrv.exe` doesn't work on Window 95 machines.
58577	OrbixCOMet 3.3.2 COM client for common/BankSmartProxy demonstration fails because of the known bug in `ts2idl` utility of OrbixCOMet.
64886	OrbixCOMet 3.3.2 demos corbaclient/Excel and corbaclient/ExcelMon are not working.

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 will result 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 will attempt 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 Demos

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

You will 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 demos shipped on all platforms.

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

The makefiles for the CORBA servers will call `putidl` to insert the IDL into the IFR. They will 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 3.3.2

This section describes changes made in OrbixNames 3.3.2.

New Features

OrbixNames 3.3.2 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 3.3.2

IT_NAMES_REP_CLEAN_CNT Configuration Variable added to orbixnames3.cfg

A new configuration variable, IT_NAMES_REP_CLEAN_CNT, has been added to `orbixnames3.cfg`. This variable will be 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 will be 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.

New and Modified APIs

OrbixNames 3.3.2 is binary compatible with OrbixNames 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixNames 3.3.2 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 3.3.2:

Incident ID	Synopsis
64630	Isns returns 1 regardless of whether it succeeds or not
64470	OrbixNames 3.3.1 performance on rebinds is poor for greater than fifty objects in a context
64270	The OrbixNames 3.3.1 C++ Edition load balancing demonstration causes an error at compile time
64059	The rebind operation in the Naming Service in Orbix 3.3 is not safe
57551	Customers are required to read the Naming Service SSL password from a file instead of via a GUI.
57475	Isns –I (capital i)dumps core when passed a file with an IOR spanning multiple lines (because it does not read the full IOR)
56714	Using catnsj rather than catns when sending an IOR to a file now includes the hostname, port number, type ID, and object key in addition to the IOR. A new –d switch has been added to view these details.
53941	del_group dumps core on Orbix 3.0.1-07 when an invalid host name and invalid group name are specified

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixNames 3.3.2.

Incident ID	Synopsis
65141	The namesbrowser.sh script has an invalid path to Java. **Workaround:** change namesbrowser.sh file in the directory path <*orbix332 install dir*>/opt/iona/bin/ from <*orbix332 installdir*>/opt/iona/tools/jre/sh/java to <*orbix332 installdir*>/opt/iona/tools/jre/bin/java
65061	The NameBrowser GUI cannot connect to the Naming Service when the IT_NAME_SERVER variable is changed from its default name (NS) . **Workaround:** add $IT_CONFIG_PATH to the CLASSPATH of <*orbix332 installdir*>/opt/iona/tools/jre/sh/java
64954	When migrating from a version of OrbixNames that is older than OrbixNames 3.0.1-Patch 20, the following issues must be noted: **Repository:** Due to a change in the format for the Names Repository you will need to clear out the repository and repopulate it with the new OrbixNames server. To do this go to the directory where the Names Repository is (default is `$ORBIX_ROOT/config/Repositories/NamesRep`) and delete all files (using `rm -f`) and then restart the Naming Service. **Configuration:** The `IT_DEFAULT_CLASSPATH` configuration variable must be altered to include $ORBIX_ROOT/lib/OrbixNamesUtils.jar in it. This is done in the

common.cfg.

Names GUI: For interoperability with the Orbix2000 Naming Service you will need to add a line to the NamesBrowser_en_US.properties file (bin directory) with the IOR of the Orbix2000 1.1 Naming Service under the variable ARTNS. For example, ARTNS=IOR:00...

When you start the Names Browser and try to connect to a Naming Service, there is a checkbox that gives you the option to connect to this Naming Service.

Registering the Naming Service

JDK1.1.*x* users should use the following command to register their Naming Service:

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

Secure Naming Service

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 will be 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 will 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 Wonderwall 3.3.2

This section describes changes made in Orbix Wonderwall 3.3.2.

New Features

Orbix Wonderwall 3.3.2 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 3.3.2 is binary compatible with Orbix Wonderwall 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix Wonderwall 3.3.2 is binary compatible with Orbix Wonderwall 3.3, therefore no functionality has been removed.

Bugs Fixed

No bugs were fixed for release.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for Orbix Wonderwall 3.3.2.

Incident ID	Synopsis
56401	To run the SSL demonstrations successfully, set the `IT_DAEMON_POLICY` for the Orbix daemon to "`SEMI_SECURE_DAEMON`" in the `orbixssl.cfg`.
55030	An Orbix client will experience a marshalling error when the `iiopproxy` has been configured to 'proxify' the returned IOR from a factory method, and the factory method also contains out parameters.

OrbixEvents 3.3.2

This section describes changes made to OrbixEvents 3.3.2.

New Features

Orbix Events 3.3.2 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.

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 will 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.

New and Modified APIs

OrbixEvents 3.3.2 is binary compatible with OrbixEvents 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixEvents 3.3.2 is binary compatible with OrbixEvents 3.3, therefore no functionality has been removed.

Bugs Fixed

No bugs were fixed in this release.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixEvents 3.3.2.

Incident ID	Synopsis
58545	Multiple event channels, when joined, slow down the performance of Events Consumer significantly.
58594	OrbixEvents does not work in secure mode on AIX.

OrbixSSL C++ 3.3.2

This section describes changes made in OrbixSSL C++ 3.3.2.

New Features

OrbixSSL C++ 3.3.2 is binary compatible with OrbixSSL C++ 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 C++ 3.3.2 is binary compatible with OrbixSSL C++ 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL C++ 3.3.2 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

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++ 3.3.2:

Incident ID	Synopsis
56900	In OrbixSSL 3.3.1 enabled daemon utilities cause the daemon to crash when multi-homed support is enabled.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixSSL C++ 3.3.2.

Incident ID	Synopsis
64952	Orbix Wonderwall SSL Java Demos do not work for Orbix 3.3.2 on Windows NT if it uses SSLeay PEM Format certificate private keys.

OrbixSSL Java 3.3.2

This section describes changes made in OrbixSSL Java 3.3.2.

New Features

OrbixSSL Java 3.3.2 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 3.3.2 is binary compatible with OrbixSSL Java 3.3, therefore no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL Java 3.3.2 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. 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 will stay there for converting OrbixSSL private keys.	NO	Orbix 3.3.1

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 Java 3.3.2:

Incident ID	Synopsis
58292	The KDM could not support semi-secure Orbix 3.3 auto-launching
57421	Running the Naming Service semi-securely can cause hang, for insecure clients if IT_SSL_IIOP_LISTEN_PORT is the same as what `orbixd` assigns dynamically

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixSSL Java 3.3.2.

Incident ID	Synopsis
64924	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 will return 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 3.3.2

This section describes changes in OrbixOTS 3.3.2.

New Features

OrbixOTS 3.3.2 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 3.3.2 is binary compatible with OrbixOTS 3.3, therefore no new APIs have been added nor existing ones modified in this release.

Functionality Removed

OrbixOTS 3.3.2 is binary compatible with OrbixOTS 3.3 therefore no functionality has been removed.

Bugs Fixed

No bugs were fixed in this release.

Known Problems and Workarounds

This section summarizes known issues and suggested workarounds for OrbixOTS 3.3.2.

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 will not interoperate with Java servers in this release. For example, the C++ `simpleclient` program in the `gridcache` demonstration will 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 will not have to co-ordinate the transaction. Because the Java server also cannot co-ordinate, the transaction will 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 will 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 will not work for recovery, as there will not be an existing connection.

Tips

This section summarizes recommendations for improving the performance of OrbixOTS 3.3.2.

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.

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 www.iona.com/MinervaRoot/index.jsp.

For information about Encina, refer to the IBM/Transarc website at www.transarc.com.