Orbix 3.3

Release Notes

September 2000

Updated 30 March 2001 to include AIX 4.3.3 Release

Contents

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Introduction

Orbix 3.3 is the final minor release of the current Orbix code base. Improvements have been made in the areas of performance, maintainability, quality, testing, and interoperability. This document contains information about Orbix 3.3, including build information, new features, and details of bugs that have been fixed in this release. For information on migrating from an earlier version of Orbix to Orbix 3.3 see the Migration Page at www.iona.com/moving_forward

This document is divided into the following main sections:

- Orbix 3.3 C++ Edition
- Orbix 3.3 Java Edition
- OrbixCOMet 3.3
- Orbix Code Generation Toolkit 3.3
- Orbix Wonderwall 3.3
- OrbixEvents 3.3
- OrbixSSL C++ 3.3
- OrbixSSL Java 3.3
- OrbixOTS 3.3

Development Environments

This table lists the operating system versions and compiler versions on which Orbix 3.3 is built and tested.

Platform	O/S version	Compiler version	JDK version*
Solaris	7.0/8.0	Sun C++ 5.1 (32 bit)	JDK 1.2.2_05a
HP-UX	11.00	HP ANSI C++ (aCC) version A.03.13	JDK 1.2.2.03
NT	4.0 SP 6a	Visual C++ 6.0 SP 3	JDK 1.2.2_005
Tru64	5.1	Compaq C++ v6.2-024 (64 bit)	JDK 1.2.2-8
AIX	4.3.3	IBM VisualAge C++ v5.0	JDK 1.2.2

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

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

Note issued by Compaq: "Orbix 3.3 on Tru64 UNIX V5.1 requires DECthreads version 3.18-042a (or later). This is not the version installed with Tru64 UNIX V5.1, Tru64 UNIX V5.1 Patch Kit 1 (Nov 2000) or Patch Kit 2 (Dec 2000), but will be incorporated into a future Patch Kit release. Until this kit becomes available, you should contact the Compaq Customer Support organization and ask that they submit an IPMT requesting the "DECthreads version 3.18-042a fix". You should state the version of Tru64 UNIX and the Patch Kit level that the fix is for."

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.

Compatibility with Other IONA Products

Orbix 3.3 C++ Edition and Orbix 3.3 Java Edition have been tested with and are interoperable with each other and with OrbixOTS 3.3, OrbixTalk 3.3, Orbix 2000 1.1 C++ Edition and Orbix 2000 1.1 Java Edition.

Orbix 3.3 C++ Edition

Orbix 3.3 C++ Edition has been internally and externally enhanced. This section describes the changes that affect application developers, administrators, and other users of Orbix 3.3 C++ Edition.

New Features

- The Orbix File Descriptor (FD) related APIs are always available. `WANT_ORBIX_FDS` no longer needs to be #define'd prior to #include "CORBA.h" to access the FD APIs.
- The CORBA System Exceptions are always available. EXCEPTIONS no longer needs to be #define'd prior to #include "CORBA.h" to get the System Exceptions.
- The public header files (CORBA.h) have been reorganized.
- Doc++ style documentation templates have been added to public header files. Doc++ can be obtained from www.linuxsupportline.com/~doc++/.
- New internal thread model for receiving events from the network.
- New IOCallbacks for thread throttling: `AtOrbixFDLowLimit()`, `StopListeningAtFDHigh()`, and `ResumeListeningBelowFDLow()`.
- Reimplemented connection management.
- Interoperable with Orbix 2000 1.1.
- Enriched API for getting and setting configuration variables.
- CDR library was merged into libOrbix
- New Multi-Threaded engine in Orbix 3.3 (Solaris only). We now use the TS and NetworkThreads work inside Orbix. This should not affect any current functionality.

New and Modified APIs

- Added (for internal use only) IT_ObjectImpl* Object::_get_impl(). This supports the Public Handle-Body objects and should not be used by the customer. Customer does not have definition of class IT_ObjectImpl.
- Added (for internal use only) IT_RequestImpl* Request::_get_impl(). This supports the Public Handle-Body objects and should not be used by the customer. Customer does not have definition of class IT_RequestImpl.
- Added (for internal use only) IT_ORBImpl* ORB::_get_impl(). This supports the Public Handle-Body objects and should not be used by the customer. Customer does not have definition of class IT_ORBImpl.
- Added (for internal use only) IT_EnvironmentImpl* Environment::_get_impl(). This supports the Public Handle-Body objects and should not be used by the customer. Customer does not have definition of class IT_EnvironmentImpl.
- The IDL fixed data type support class was changed. The CORBA specification for this class had several errors with respect to use of references ('&'s) in the API. The Orbix 3.3 support class has been modified to correctly use &'s in the various assignment operators, ++, --, and other operators.
- New API for unsafe FD close: SetUnsafeFDClose().
- Removed Public data member Request* Environment::m_request.

- Added Request* Environment::request() --- replaces public data member Request* Environment::m_request.
- Added void Environment::request(Request*) --- replaces public data member Request* Environment::m_request.
- Removed Public data member ULong Environment::m_timeout.
- Added ULong Environment::timeout() --- replaces public data member ULong Environment::m_timeout.
- Added void Environment::timeout(ULong) --- replaces public data member ULong Environment::m_timeout.
- Removed Public data member Boolean Environment::m_ack.
- Changed ULong ORB::defaultTxTimeout(ULong val = INIFINITE_TIMEOUT, Environment& = IT_chooseDefaultEnv). The default value of the timeout has been removed. Additionally an accessor method has been added. This means that the old call with no arguments accessed the timeout AND also set it to INFINITE_TIMEOUT, whereas the new accessor does not modify the value.
- Added ULong ORB::defaultTxTimeout(ULong val, Environment& = IT_chooseDefaultEnv);
- Added ULong ORB::defaultTxTimeout();
- NOTE: this means "accessor like functionality" no longer sets timeout to INFINITE_TIMEOUT.
- Changed CollocateResetter::CollocateResetter(Boolean tmpSetting, Environment& env = IT_chooseDefaultEnvironment()). Removed the defaulted Environment argument.
- Added Boolean ORB::pingDuringBind() accessor.
- Added Boolean ORB::resortToStatic() accessor.
- Added Boolean ORB::optimiseProcotolEncoding() accessor.
- Added ULong ORB::defaultTxTimeout() accessor.
- Added ULong ORB::connectionTimeout() accessor.
- Added ULong ORB::maxConnectRetries() accessor.
- Added Boolean ORB::mustRedefineDeref() accessor.
- Added Boolean ORB::supportBidirectionalIIOP() accessor.
- Added Boolean ORB::useTransientPort() accessor.
- Added Short getDiagnostics() accessor.
- Added Boolean ORB::noReconnectOnFailure() accessor.
- Added ULong ORB::defaultRxTimeout() accessor. -- RxTimeout is a new concept.
- Added ULong ORB::defaultRxTimeout(ULong val) mutator.
- Added Boolean ORB::isDefaultRxTimeoutSet() accessor.
- Added Boolean BOA::propagateTIEDelete() accessor.
- Added Boolean BOA::filterBadConnectAttempts() accessor.
- Added Boolean BOA::usingLoaders() accessor.
- Added Boolean BOA::isDeactivated() accessor.
- Added Boolean BOA::getNoHangup() accessor.
- Added void Request::encodeStringOp(const char* s, ULong bnd = 0). Note, the second arg and default was added to the existing Request::encodeStringOp(const char* s).
- New API to allow set_unsafeFDClose() user function to be set.
- Added CORBA::ORB::useReverseLookup().

- Added Boolean ORB::usingReverseLookup().
- Added Boolean ORB::GetConfigValueBool().
- Added Boolean ORB::GetConfigValueLong().
- Added Boolean ORB::SetConfigValueBool().
- Added Boolean ORB::SetConfigValueLong().
- Changed Boolean ORB::GetConfigValue().
- Changed Boolean ORB::SetConfigValue().
- Added Orbix.ENABLE_ANON_BIND_SUPPORT
- Orbix.IT_DIAGNOSTICS_LEVEL and Orbix.IT_COLLOCATED can now be used from configuration files and/or environment.
- New config variable GIOP_level (Orbix.IT_GIOP_LEVEL) Defaults to 1.1, if set to 1.0 fragments are not accepted.
- Now all service context handlers are always called regardless of their return value. If they return false a diagnostic message indicating an error is displayed.
- SC Handlers can now also raise System Exceptions, which are sent to the client.

Functionality Removed

- _bind has been consolidated, now requiring in most cases that the marker, server, and host be explicitly specified. This is called Fully Qualified Bind. In previous versions, the marker, server, and/or host could be empty or NULL in the _bind, and various rules were employed to select an appropriate object. Note that _bind continues to be deprecated, and customers are encouraged to use the Naming Service or Factory/Finder IDL interface for locating objects.

  Note: If the user has collocation on during a bind, they *should not* supply a server name.

- For each IDL interface, there were 3 static _bind methods generated, listed below. These are generally changed to support the Fully Qualified Bind. Note that if the supplied markerServer and host strings do not meet the requirements of Fully Qualified Bind, then a BAD_PARAM SystemException is raised.
- Unchanged: static IDLInterface* CALL_SPEC _bind(const char* markerServer, const char* host, const CORBA::Context& ctx).
- Removed: static IDLInterface* CALL_SPEC _bind(). Fully Qualified Bind requires marker, server and host arguments.
- Changed: static IDLInterface* CALL_SPEC _bind(const char* markerServer = 0, const char* host = 0). Arguments are no longer defaulted to 0. Fully Qualified Bind requires marker, server and host arguments.
- Removed class locatorClass. This class was used (possibly subclassed by customer) when no host was supplied to _bind. Fully Qualified Bind requires a host argument. NOTE: Locator functionality of the IT_daemon (orbixd) interface still exists. The orbixhosts and hostgroups files still exist, and are used by the IT_daemon interface for the Locator functionality.
- File MT.h is no longer shipped with Orbix. This file is no longer necessary.
- Orbix 3.3 only supports native C++ exceptions. There is no longer support for the exception macros.
- Removed TRY/CATCH macros. Exceptions are always native.
- Removed NatExcResetter class. Exceptions are always native.
- Removed Boolean ORB::nativeExceptions(). Exceptions are always native.

- Removed Boolean ORB::nativeExceptions(Boolean). Exceptions are always native.
- Removed void Object::_restate() removed. No longer used.
- Removed Object::_marshall() and void Object::_unmarshall(). No longer used.
- Removed void Object::_fixOnAccess() and PPTR* Object::_makeDummyPptr(). No longer used.
- Removed Object::Object(const Object*) removed. No longer used. NOTE: Object::Object(const Object&) is available.
- Object::operator=(const Object&) made private; not used.
- Removed Enumeration Object::OBJECT_STATE. Not used in the public API.
- Removed void Environment::propagate(). Only used by TRY/CATCH macros (which have been removed).
- Removed void Environment::acknowledge(). Only used by TRY/CATCH macros (which have been removed).
- Removed Boolean Environment::uncaught(). Only used by TRY/CATCH macros (which have been removed).
- Removed void Request::mk_arg(CORBA::TypeCode_ptr, void*) removed. This was an NT-only API. Note void Request::mk_arg(CORBA::TypeCode_ptr, const void*) is available.

Deprecated Features

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

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

* Orbix 3.0 was released February 1999

** 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. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
55784		Java and foreign Orbs receiving COMM_FAILURE because the C++ Orbix daemon was filtering out the principal information.
55635		Orbix Daemon not being able to restart using checkpointing if the server in the checkpoint file has exited or timed out
55627		Internal change to build and test same daemon executable as is used in the test suite.
55611		Problem communicating with the Orbix 3.3 daemon using utilities.
55590		Host parameter in `_bind`
55555		Daemon/psit not recognizing persistently launched servers (on NT only)
55502		Persistent Java servers are not being noticed by the Orbix Daemon
55481		System Exception org.omg.CORBA.NO_IMPLEMENT
55368		Crashes in transformers due to a race condition where m_remote_host was not set correctly before the transformer was called.
52335		Generates an implicit default for unions that need them.
55394		Orbix invokes wrong operation on server due to error in hashMatrix::hash function.
55325		Crash in _interface_marker when calling release on an object when using long interface names.

55200	The HP-11 version of mt.h has an incorrect implementation for the method MT::Thread::Id(const ID and Id), it incorrectly returns the thread ID of the caller.
55120	On remote hosts, OrbixTalk Listener does not hear messages.
55099	-typeCode flag does not work when 3.0.1 client passes an any to 3.0.1 server.
55064	Rebuild of idlgen with mips3 backward compatibility.
55027	The server will crash if the file limit is exceeded in a single thread Orbix server.
54867	A new flag was added to support CORBA 2.3 extended keywords, whilst not affecting CORBA 2.1 compliancy. This also allows for compatibility with Orbix 2000 IDL compiler.
54834	Free memory leaks when using OrbixTalk.
54833	Setting IT_ENABLE_MULTI_HOMED_SUPPORT to YES causes core dump during callback.
54819	An OrbixTalk server that calls CORBA::BOA::impl_is_ready() deliberately aborts.
54775	Orbix daemon grows in memory when using Orbix 3.0.1-Patch 21 on HP-UX 11.
54744	Reputns incorrectly changes the type-ID of an IOR in the Naming Service.
54659	Orbix daemon launching non-executable server goes into infinite loop.
54641	Slash '/' module separators in type-id get modified in underscores '_'.
54609	PID reuse problem on AIX.
54569	Patch 3.0.1-09 for HP-UX and later includes pthread.h directly.
54474	IFR server leaks memory.
54471	Location forward reply from Orbix 2000 locator causes unknown error in Orbix client.
54468	Orbix 3.0.1-Patch 07 and OrbixEvents 3.0-Patch 04 IFR core dump with long long type for typed events.
54442	Server leaks/grows continuously when IT_LOCAL_DOMAIN = "".
54436	Crash in _interfaceMarker when calling release on an object when using pure DII.
54433	Orbix 3.0.1-Patch 12 does not reuse existing connection with the daemon to the point of exhausting the available file

	descriptors.
54432	Throwing system exception from ServiceContextHandler causes core dump when IDL method contains a raises clause.
54377	Pid reuse bug on Unix platforms which causes psit to report servers which don't actually exist.
54311	Oneway memory leak problem fixed in Orbix 2.3.4 is reappearing in Orbix 3.0.1.
54255	Putting all your API, method calls, attributes, and operations into one try/catch block in Orbix 3.0.1 generates an errorCode for Windows NT.
54232	Memory leak when exception thrown in Orbix 3.0.1
54190	OrbixTalk 3.0 crashes due to buffer problem.
54164	Orbix 3.0.1 implementation repository has hard 1024 byte limit on marker/command line entries.
54110	Memory leak related to IOR.
54106	addForeignFD() and isForeignFD() do not give expected results using Orbix 3.0.1 on Windows NT.
54103	Checkpointing Orbix daemon does not find servers launched by the daemon.
54093	Orbix 3.0.1 server on Solaris closes connection to the client after receiving an incoming request of a certain type.
54090	Unbounded sequences with maximums and a length less than maximum cause problems coming back from a server under POOP.
54039	When using the locator, unable to bind to a server from a client if there are spaces in the server names.
53955	Problem marshalling doubles. 8 byte alignment when buffer arrives on client side is not guaranteed.
53936	Currently does not support the generation of the array copying function.
53923	The _non_existent() call from a VisiBroker 3.3 client to an Orbix 3.0.1 server does not work.
53902	Inefficient generated code, unnecessary copying of a buffer.
53814	The order in which the objects are exported from client to server causes problems if using callbacks with Orbix 3.0.x. If server tries to invoke callback on second exported object, it fails.
53686	Unions with signed integer types as discriminant and const do not work with the IFR.

53673	IDL const values, defined by nested typedefs, cannot be retrieved from the interface repository.
53647	Orbix CDR coder makes IIOP profile encapsulation the wrong length. It adds 4 nulls at the end.
53646	On NT, when using the "-j" switch to the orbixd it is not possible to specify any switches which the daemon will use.
53574	Orbix is unable to handle incoming CORBA::SystemExceptions with a
53565	When using killit IFR followed by readifr, the IFR is corrupted if an IDL file contains bounded string typedefs.
53548	struct data in CORBA::Any thrown in an exception are not being transferred between Orbix s1190-2.3.4 server and Orbix s1475-3.0 client.
53497	Orbix 3.0 hangs when string_to_object called while its marker is being changed.
53470	Orbix Client dumps core and CORBA::Exception 10603 raised when interacting with Visibroker C++ 3.2.
53469	Object Reference count is doubled when objects are passed in with a sequence of Anys.
53385	If the file descriptor limit is exceeded in a single-thread Orbix server, the server will crash. (duplicate of 55027).
53381	Memory leaks in Orbix 3.0 on Windows NT.
53300	Orbix 3.0.1 server has memory leaks when passed a struct to an Any as an IN parameter. Note that the struct contains a sequence of string.
53295	DNS lookup caused by gethostbyaddr results in slow bind.
53216	Cannot have OrbixTalk 3.0 talker and listener in the same process
53097	Orbix 3.0.1 MT client/server deadlock.
53087	putidl -s was fixed on AIX.
53082	DII problem with an operation returning a sequence of Contained object.
53041	FMMs within Orbix libraries when running grid demo through Purify.
52987	TypeCode flag does not work as expected when struct is passed through an Any.
52963	Error 10170 encoding/decoding error when transmitting an Any if the server was compiled without the skeleton code.
52957	Orbix daemon starts two server processes for just one client process if the server is registered as-per-client-pid

	server.
52951	Windows NT pid reuse problem.
52901	Allocbuf in Solaris 3.0 does not return null when memory cannot be allocated.
52894	Connection delay when binding to an Orbix 3.0 C++ server from an OrbixWeb Java client when using the Orbix 3.0 daemon as an NT service.
52894	Connection delay when binding to an Orbix 3.0 c++ Server from OrbixWeb java client when using the Orbix 3.0 daemon as an NT service.
52863	Orbix3.0.x IDL Compiler Forward Declarations generate error if forward declared interface is not in the same file.
52847	Problem with Orbix 3.0.1-Patch 1 Any encoding/decoding.
52833	IDL compiler does not generate CORBA:: prefix for NamedValue.
52788	Large memory leaks in DSI server.
52778	OrbixNames utilities appear to ignore the -h flag.
52755	No trace information/daemon.log file for Orbix3.0.x
52732	If processEvents, processNextEvent is run with a timeout of less than 1000 it is treated as 1000 milliseconds.
52731	Server reaches limit of file descriptors due to idle sockets with Orbix daemon.
52683	When an Object_to_String() is performed, the IOR's type-ID is wrong for Orbix 3.0.1 with the grid_dsi demo.
52664	_hash does not a return proper ID for an object reference directly after it is created on the server side.
52599	Passing and returning Anys that contain a simple struct gives Purify UMR errors.
52515	Orbix 3.0 server core dumps when an OrbixWeb client passes a union into an Any.
52428	Multithreaded problem with file descriptor blocking.
52284	The bidirectionalIIOP(1) call used with OrbixNames 3.0 causes exception 10100.
52069	Purify FNH error caused by BOA_init().
52018	Any within sequence of struct within a struct performs badly in Orbix 3.0.
51941	Error in operation name when operation is a reserved C++ keyword.
51939	_bind() problem between HP-UX 11 and other operating

	systems when rebinding after killing the daemon.
51585	Empty "#defines" should not generate errors in Orbix.
50740	Truncated/corrupted server names in psit and checkpoint file when orbixd -c switch is used.
48860	Calling _non_existent() launches an exited server instead of checking it.
48200	Cannot have spaces in user names. This causes permission errors when launching a server.
44900	Commands use the real-ID rather than the effective-ID when determining the owner of an implementation.
43160	White space in IDL macros causes problems.
36260	Server crash if a method raises a user exception when passed an object reference that has been deleted.
22440	Foreign IORs are mishandled by Orbix 3.0.1.

Bugs Fixed in Tru64 Release (January 2001)

The following bugs were fixed on Tru64 only:

Incident Number	PR Number	Synopsis
54959	234857	MT Objects are being released incorrectly after many iterations.
56261	241233	Typedef from one module can be used in another if both modules start with the same letter in IDL.
54565	237072 236994	All reserved C++ keywords are not fuly supported with idl compiler; need new idl compiler switch to enable this functionality.

Bugs Fixed in AIX 4.3.3 Release (March 2001)

The following bugs were fixed on AIX 4.3.3 only:

Incident Number	PR Number	Synopsis
52358		`orbixd` protected mode does not work correctly.
54436		Crash in `interfaceMarker` when calling release on an object.
54948		Reopened IDL modules do not produce C++ namespaces unless <-N> compiler switch is used.
54959		MT objects are being released incorrectly after many iterations.
55027		Server will crash if the file limit is exceeded in a single

	thread Orbix server.
55325	Crash in `interfaceMarker` when calling release on an object.
55498	Any memory leak made drastically worse by patches after and including 3.0.1-Patch 20 on s1475, s1474, and perhaps s1477.
55586	Duplicate Free Errors (DFREE) when using ZeroFault on the IDL compiler under Orbix3.0.1-37 on AIX4.3.
55885	`putidl` does not handle forward declarations correctly under Orbix 3.0.1-41.
55924	`orbixd -c` checkpoint file does not recover all servers, when middle list servers are killed via UNIX kill command.
56203	Forward declarations in IDL do not always function correctly.
56465	Problems narrowing to interfaces that contain "_" when using (s1477) Orbix 301-Patch 47. For example: `interface xyz_hello.`
56615	If a client is killed while the server sends data/response, the CPU usage of the server increases suddenly. The CPU usage is up to 100 % and will not reduce even when the server becomes idle.
56663	libs do not recognize changes to `IT_NAMES_SERVER_HOST`, and can not use remote NS.
57346	Memory leaks around `convertToIP`, `lookahead`, `convertToExceptionKind` and `makeTransportConnection` in Orbix 3.0.1- Patch 60.
57735	Purify FFM error in IDL compiler for union tests.

Note: Using –Bdynamic while linking with Orbix libraries may cause problems. By default, the libraries on AIX are archive libraries. For example, libxxx.a. The C library is not shared by default on AIX (see command `rtl_enable`).

Known Problems, Workarounds, and Tips

- 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 . Move line 22, #include <corba/PreCORBA.h>, to the position immediately after line 15, #define CORBA_INCLUDES.

- 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.

- There is a known problem with foreign FDs (File Descriptors) on HP. 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.

- 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.

- The following Orbix daemon option is omitted from Appendix B of the Orbix Administrator's Guide C++ Edition:

  `-f` filename (NT-only)
  Redirects 'stdout' to the file when Orbix Daemon is started as an NT service. Unless an absolute path name is specified, the file is placed in a directory relative to that from which the daemon install command is given.

Incident ID	Synopsis
56390	Top level Makefile on HP and Solaris is missing `bankexceptions` demo name. Hence `bankexceptions` demo 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 Java Edition

This section describes changes made to Orbix 3.3 Java Edition

Orbix 3.3 Java Edition is built and tested on JDK 1.2.2 and it also supports JDK 1.1.X.

New and Modified APIs

- `bind()` call modified to support only fully qualified bind.

Functionality Removed

- `bind` has been consolidated and now requires (in most cases) that the marker, server, and host be explicitly specified. This is called Fully Qualified Bind. In previous versions, the marker, server, and/or host could be empty or NULL in the bind, and various rules were employed to select an appropriate object. Customers are encouraged to use the Naming Service or Factory/Finder IDL interface for locating objects.
- Bind Calls with the following parameter combinations are not supported:
  - No Parameters
  - Orb

  Bind Calls with the following parameter combinations are supported only in collocated mode:
  - MarkerServer
  - MarkerServer, orb

  Bind Calls with the following parameter combinations are supported for fully qualified bind:
- MarkerServer, host
- MakerServer, host, orb

Deprecated Features

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

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

* OrbixWeb 3.3 was released February 1999

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
ORB Runtime		
52818	225137	It was not possible to run `ORB.processEvents` more than once as the listener socket was not re-opened the next time `ORB.processEvents()` was invoked. A configuration parameter called `IT_KEEP_LISTENER_SOCKET_OPEN` has been added which keeps the socket open between invocations to `ORBprocessEvents()`. If this variable is set true then the user must explicitly call `ORB.shutdown()`.
11943	221996	`ORB.noReconnectOnFailure()` now behaves as documented in the OrbixWeb reference manual
52971 52310	219029	It was possible when using multi-threaded clients and servers that a sequence number in request could be re-used on the same connection when a request was forwarded onto another server. This has been resolved.
52904		A java client can now use `resolve_initial_reference` to get an object reference to its Trader. It will now return the daemon's port. You can set `IT_TRADING_SERVER_HOST` in your configuration file to be the host your Trader is running on.
52091	221400	When `pingDuringBind` is set to false and `_bind()` is called it now behaves correctly. The server shutdowns it will fall back to

		the daemon port and relaunch the server.
51869	220010 219571	A sequence of multiple inheritence interfaces that is inserted into an Any cannot be extracted on the server side.
51862	220012 219457	Problem extracting from nested structs that contain Anys, which contain multiple inheritance interfaces.
52121	220915	Creating clones of null Anys causes exception.
228090		A configuration parameter `IT_HTTP_ALWAYS_POST` has been added. This parameter ensures that only POST messages are used during HTTP tunneling and allows the user to get around the limitations some browsers place on the length of a URL.
53048		Names utilities connect to "localhost" rather than then hostname specified in `orbixnames3.cfg`. The `IT_NS_HOSTNAME` variable has been changed to `IT_NAMES_SERVER_HOST` in line with OrbixNames
53151 53465	228967 227464	A server may hang under a heavy load e.g. a client invoking the same operation in a tight loop. The server will resume once another client connects to it. This has been resolved.
53478	229266 229771	`ORB.set_principal()` now correctly re-initialises internal cache.
53017	226074	Writing an Any containing a struct to an output steam no longer throws a ClassCastException.
53876		OrbixWeb 3.2, OrbixNames3.0 and OrbixSSL would not work together on Solaris. The server calling `impl_is_ready` would receive a `COMM_FAILURE` exception. Now resolved
51538	229488	The listener of an Orbixweb server exited prematurely on receipt of an exception.
53634 54253	228465 232780	`IT_USE_ORBIX_COMP_OBJREF` has been added to allow OrbixWeb 3.2 to be backward compatible as regards `typeIds` for CORBA/Object except for applets. In the case of applets, the `typeIds` for CORBA/Object will take the default case. By default it will output CORBA compliant `typeIds` of `IDL:org.omg/CORBA/Object:1.0` and if set to true will output `IDL:CORBA/Object:1.0`. It is a System Property and not a Configuration property. Use `IT_USE_ORBIX_COMP_OBJREF=true` for backwards compatibility.
52040	220265	`TypeCode.default_index()` always returned `-1` even if a union was created with a default member.
53031 53931	226560 226806 227031 228665 230567 231517 232174 232567 231875	The typecode returned by the `<typedefHelper.type()` method was always null.

	231975 230809	
54161	232279	The call to ORB.init((Applet)null, null) no longer throws a nullpointer exception when null is passed as the Applet parameter.
54658	234476	Null characters are no longer introduced into an interface's name (java strings) when using loaders with inherited IDL interfaces.
53356	228328	A Security policy of IT_SECURE_ACCEPT and IT_SPECIFIED_INSECURE_CONNECT no longer throws an exception on server startup.
54786 52421 53067	236160 223390	The scoping of OrbixNames configuration variables now work correctly. There is no need to set IT_NAMES_SERVER_HOST and IT_NS_PORT in both orbixweb3.cfg and orbixnames3.cfg. The following now all set the same value internally: setConfigItem ("OrbixNames.IT_NAMES_SERVER_HOST", "myhost") setConfigItem ("OrbixWeb.IT_NAMES_SERVER_HOST", "myhost") setConfigItem("IT_NAMES_SERVER_HOST","myhost ")
52421		An applet ignores new value set up in OrbixWeb.properties for IT_NS_HOSTNAME.
54429		Using rsh, remsh or cron to run idlj.

Java Activator

52166	220998	When a server with an array of objects is launched in-process by the orbixdj daemon, a call to disconnect one of the objects (using BOA.disconnect()) will result in the wrong object been selected for removal. This has been resolved.
53257		The orbixdj failed to launch servers in-process when registered with the -jdk2 option. This has been resolved.
53102	227155	Minor problem where the orbixdj console did not display the correct diagnostic information has been resolved.
53421		A client sometimes received an org.omg.CORBA.BAD_OPERATION exception (mainly HPUX) when invoking on an OrbixWeb server which the orbixdj launches in-process. Now resolved
53467		orbixdj can now launch OrbixWeb servers in-process on NT if the server's implementation repository entry was a directory. e.g. IT_Demo/BankExceptions/Bank. Previously the client received an org.omg.CORBA.BAD_OPERATION exception
41800		The orbixdj can now launch the Naming server in-process. Requires OrbixNames 3.0.2

IDL Compiler

51869	220010 219571	(see Runtime section above)
51862	220012 219457	(see Runtime section above)
52076	220004 222250	IDL compiler error for a const = const + value
52439	222467	Failure when calling a method with a parameter of type sequence of unions
53408	228723	Problem with typedef interfaces resolved. The holder class is now produced for attribute members that are declared as a typedef alias of an interface.
53337 53897	228208 228252 228424 229726 230470 230477 230928 230808	Idl compiler producing incorrect code for typedef structs. Results in BAD_TYPECODE exception .This is related to 53031 (see above)
51628	217719 229889 230351 232909	Typedef'ing a typedef attribute causes an `org.omg.BAD_TYPECODE` exception. Now Resolved.
53959	231248	The `idlj` compiler is now dynamically linked with system libraries. This fixes the problem of allowing standard errors to be redirected to standard output.
52863	221073	Forward Declarations defined in IDL will not generate an error if forward declared interface's are not in the same file.
53685	228779	`idlj` compiler generates a switch statement in which a break statement is now included.
20360	234514	A union with no default specified in IDL - where the discriminator is an enum now generates correct code.
55159		Typedefs defined in idl that generated code that caused an infinite loop where the type was NULL now generate correct code.
54356		A discriminator value not set correctly in generated code, set to false when should be true.
53685		The idl compiler generates switch statement in which break statement is not included.

Bugs Fixed in Tru64 Release (January 2001)

The following bugs were fixed on Tru64 only:

ORB Runtime

49180	208369 240944	System exceptions thrown by Thread filters that were not getting propagated back to the client have now been resolved.
56118	239955	A Java server on multi –homed machine can communicate on primary ip addresses with a remote C++ client, and it will now no longer give an "Invalid object reference" exception when trying to communicate on secondary ip address.
51478	243879	IT_KEEP_ALIVE_FORWARDER_CONN when set to false does not close Client to Daemon Connection.
56457	241129	Struct containing arrays cannot be passed as an Any in OrbixWeb.
56829	243236	Serializing an Any containing a complex IDL structure causes BAD_TYPECODE exception.

Java Activator

42560	204604	Invoking on persistent server failed when trying to do invocations from another user account.

IDL Compiler

54373	233503	Generated skeleton code does not compile when attempting to use object filters.
52527	233058 223830 232174	Accessor method for a bounded string attribute causes BAD_OPERATION error.
56174	240297	Having multiple package names with -jP switch to idl compiler causes problems.
56468	241297	The scoping of the code for the type() operation in the Helper class is now correct.

Utilities

54060		Putitj -? Prints incorrect info. In an error/info message.
44980	208929	The use of -D by the putitj utility to pass properties to the JVM is hard coded.
56236		OrbixWeb utilities refer to Orbix utilities when -? Option is used.

ORB Features

55251	237173	SetConfigItem() does not invalidate the config cache correctly, particularly “Common.IT_DAEMON_PORT".
57291	243601	IT_HTTP_ALWAYS_POST variable not picked by OrbixWeb runtime.

Bugs Fixed in AIX 4.3.3 Release (March 2001)

The following bugs were fixed on AIX 4.3.3 only:

Incident ID	PR Number	Synopsis
Java Activator		
53127	227429 231656	Psit shows manually launched servers as “auto” launched.
IDL Compiler		
56543	241999 243024	A sequence of zero length causes exception in OrbixWeb client.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for Orbix Java Edition 3.3.

55822

Using a typedef'd CORBA:Typecode type. Problem in the generated code.

55781

#pragma prefixes and bind not working.

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 following is one of the problems which may otherwise result.

Problem

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 utilties 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`. (Wrong class path?)

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
```

Problem on Tru64

On Tru 64 5.1 Platform the JVM 1.2.2-8 crashes spuriously without any runtime exception.

Solution

Contact Compaq in case the behavior gets reproduced.

Orbix GUI Tools Workaround

In JDK1.2.2: Multiple `font not found` messages starting jdk1.2:

To work around this:

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

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]
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]
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]
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]
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]
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]
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]
```

Known Problems on AIX 4.3.3 (March 2001)

The following known problem is specific to AIX 4.3.3 only:

57997

Semi-secure Java server does not respond to insecure C++ client on AIX 4.3.3.

Orbix Code Generation Toolkit 3.3

This section describes changes made in Orbix Code Generation Toolkit 3.3.

New Features

This section describes new features added to the Orbix Code Generation Toolkit 3.3.

C++ Genies

Object Reference Distribution Methods

Three alternatives are now provided to enable the client to establish initial contact with the server objects. The three mutually exclusive methods of object reference distribution include ior files, the naming service and `_bind`.

The default method used is ior files.

A `-ns` flag is provided with the genie. If this flag is used on the genie, server code is generated that distributes object references by creating object bindings in the Naming Service. The following set of commands should be used to run the client and server :

On Unix :

```
make putit
make runns &
make setup_ns
./server &
./client
```

On Windows:

```
nmake putit
start nmake runns
nmake setup_ns
start ./server
./client
```

A `-bind` flag is provided with the genie in order to generate client code that creates object references based on the arguments passed to `bind()`.

Note the use of bind is deprecated.

Server timeout

Updated code generated on server side will have an infinite timeout by default. This

can be changed using the configuration file.

MicroSoft Wizard

The Microsoft Wizard has been updated to provide support for using the Naming Service and stringified IORs.

Java Genies

Object Reference distribution methods :

Three alternatives are now provided to enable the client to establish initial contact with the server objects. The three mutually exclusive methods of object reference distribution include ior files, the naming service and `_bind`.

The default method used is ior files.

A `-ns` flag is provided with the genie. If this flag is used on the genie, server code is generated that distributes object references by creating object bindings in the Naming Service. The following set of commands should be used to run the client and server:

On Unix :

```
make putit
make runns &
make setup_ns
make runserver &
make runclient
```

On Windows:

```
nmake putit
start nmake runns
nmake setup_ns
start nmake runserver
nmake runclient
```

A `-bind` flag is provided with the genie in order to generate client code that creates object references based on the arguments passed to `_bind()`.

Note the use of bind is deprecated.

HP-UX make and generated makefiles

A new script `hp_port_dot_deps.tcl` is shipped on HP-UX in order that make can be used with the generated makefiles.

The makefiles generated by idlgen for java applications have previously caused problems with make on HP-UX. A new script is now supplied in order to accommodate the problems with make on HP-UX. The script is automatically invoked by the command 'make depend'.

IT_IDLGEN_CONFIG_FILE

The location of the idlgen configuration file is identified by using the environment variable `IT_IDLGEN_CONFIG_FILE` rather than `IDLGEN_CONFIG_FILE` as previously used.

New Configuration Options

The variable `idlgen.builtin_types` has been added to the idlgen configuration file. This variable is used internally by idlgen and indicates the list of basic types currently supported by the genies. In the case of Orbix 3.3 C++ Edition and Orbix 3.3 Java Edition, this list is a subset of all types understood by the parsing engine used within the idlgen component.

idl_cpp preprocessor

A preprocesser `idl_cpp` is now shipped on all platforms. This preprocessor is used by idlgen and is pointed to by the configuration variable `idlgen.preprocesser`.

New and Modified APIs

Java genies

The java genies have been updated for this release. The use of the undocumented config, thread and idlgen packages has been removed. Please note backward compatibility with previous releases of the java genies is not gauranteed.

Default config preferences and the Java genies

The file `std/java_config_defaults.tcl` must be sourced by your genies before sourcing any of the supplied tcl libraries. For example, before `sourcing java_boa_lib.tcl`.

By sourcing this file you will set up the default values for the various configuration variables required by the procedures in the tcl libraries.

cpp_random_assign_stmt

This tcl procedure now takes an additional optional `depth_var`.

The gen variant of the tcl procedure also takes the `depth_var` parameter.

Management of recursive depth for structs, unions and anys has been changed.

Functions generated for creating random values for structs, unions, sequence types and anys now take an additional depth parameter which indicates the current level of recursion.

Structures or unions can contain data members that are sequences of the structure

or union under definition making the definition recursive.

Each time a new struct, union or any is created the value of the depth parameter passed to the random function is incremented. When the random value for the sequence member is being created the value of the depth parameter is compared to the global variable `lsd_recursive_max`. If a depth of `lsd_recursive_max` has been reached, a sequence of zero length is created for the sequence member, thus terminating the recursion.

Infinite recursion can also occur with any types containing anys. Random functions for creating any values also use this depth parameter to terminate recursion.

The `depth_var` parameter on the tcl procedure is used if generating code for structs, unions, sequence types or anys.

Functionality Removed

Java Genies

`-batch` flag is no longer supported. Cygwin is shipped on NT in order to provide an alternative to Microsofts Visual Studio `nmake` utility.

Perl Modules in contrib directory

The perl modules previously shipped with idlgen are no longer shipped. These modules were used when calculating dependencies for the compilation phase of generated java applications. A tcl script `create_src_list.tcl` is now used instead of the perl script create_`src_list.pl`

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
55893	None	Orbix Code Generation Toolkit (OCGT) was not verifying the random data generated to fill a bounded string was less than the bounds defined for the sting
54953	235434	OCGT was not compiled +DAportable flag on HPUX which made it incompatible with PA-RISC 1.1 systems.
52066 54738	221075 234797	OCGT Wizard on NT generates code files in an incorrect location.
53889	230997	OCGT fails to preprocess idl on HP-UX which has a "//*" present in the file.
53432	228640	Preprocessor fails to process certain IDL files.
54304	233090	Java genie `java_print.tcl` has fatal errors
53883	230693	The `idlgen java_genie.tcl` from the OCGT does not generate a configuration `.cfg` file (typically `NoPackage.cfg`) if you do not specify an `-all` option. This causes make runclient and runserver to fail. A `.cfg` is no longer used by the generated application.
53426	228261	Orbix Code Generation Toolkit (IDLgen) 3.0.1 / OrbixWeb 3.2 `java_genie.tcl` does not understand the `-I` switch. Looks like the -I is not implemented.
53415	228425	`java_genie` generated java files do not compile. They refer non-existent package. No logging functions are provided for certain types when declared in global scope
53412	228266	The -incomplete switch in the Orbix Code Generation Toolkit 3.0.1 (IDLgen) Java genie (`java_genie.tcl`) does not work.
53311	228363	`java_genie` error when `-noloader` option is used.
53275	228121 228123	`java_print` and `java_random` genies don't read variables from the java scope but require settings in the `java_genie` scope.
53106	224912 232877 236150	Bug in the idlgen parser. Verified on both Solaris and NT.
53047	226729 228372	Code generator shipped with OrbixWeb 3.2 does not handle inouts correctly.
52824		idlgen's `java_genie.tcl` doesn't like filenames with '-' in them.
52686	222568	Error using IDLGen `idl2html.tcl`?
56278	241155	Generated Makefile for Java using JDK 1.2.2 does not work due to conflicts with Sun's ORB.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for Orbix Code Generation Toolkit 3.3.

- This version of idlgen ships with a new idlgen engine, and the genies supplied are designed to work with this engine only. The genies will not work with the previously released versions of the idlgen product. Previously released versions of the product genies will work with the new engine supplied. The paths to any custom genies will need to be placed into the `idlgen.cfg` file present in the config directory.

- The environment variable used by the idlgen engine has changed to use `IT_IDLGEN_CONFIG_FILE` instead of `IDLGEN_CONFIG_FILE`.

- The file which produces the list of available genies has been renamed from `-list` to `list.tcl`. However, the command line argument which produces the list of genies is still the same, i.e. idlgen `–list`

- The parser used by the idlgen engine supports the CORBA 2.3 spec. You may therefore encounter problems when using identifiers which are recognised as keywords by the CORBA 2.3 spec. For example, factory.

OrbixCOMet Desktop 3.3

This section describes OrbixCOMet Desktop 3.3.

Patch 1

A new patch is available for OrbixCOMet 3.3, and it can be downloaded from the following URL:

```
ftp://c33_p1:c33_p1@ftp-
    irl.iona.com/guests/ENG/c33_p1/ftp://c33_p1@ftp-
    irl.iona.com/guests/ENG/c33_p1
```

The patch consists of a zip file. There is also a readme.txt, which contains details about the patch and installation instructions.

Note: All customer using OrbixCOMet 3.3 with the model 'CORBA client >>>> DCOM server' should download this patch.

Bugs Fixed in this Patch

No new functionality has been added to this release.

The following bug was fixed in this patch:

Incident ID	PR Number	Synopsis
56397		In OrbixCOMet 3.3, Custsur.exe crashes when a CORBA client uses it to connect to a COM server

New Features

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 demo 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 COMet's `custsur.exe` as a CORBA server.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) 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	PR Number	Synopsis
55551		If an idl file contains bounded strings then COMet will ignore the bound of these strings when passing them across to a CORBA server with COMet 3.0.1
54006		A sequence of object references returned in a SAFEARRAY returns a sequence of unknown objects
53114		Documentation error
54115		Enhancement to documetation regarding Typeman
52716		Enhancement to documetation regarding Handler DLLs
55513		TypeID in IOR is not in the format of

	"IDL:<modulename>/<interfacename>:1.0"
55302	Re-using global callback object after calling ReleaseCORBAView() will cause Exception error
55199	Enhancement Request for COMet Documentation
51436	Problems with sequence of sequence of strings.
54905	Passing callbacks containing sequence of structs containing structs gives an "Orbix insufficient memory" error when using COMet 3.0.1-2.
52038	`CORBA->DCOM`; anys as out parameters don't work
52023	Invalid URL and instructions given for downloading COMet DLLs.
52887	The Powerbuilder Callback example in OrbixCOMet is not up to date.
52275	Problem querying C++ IFR server with COM client.
54204	`COM_ERROREX` always returns the same `HRESULT` error, not respecting the error number thrown.
53122	Reference to incorrect VC and VB versions in the documentation.
32840	In the description of the Dcollection interface there is no mention of a `propput` method for Count.
52346	OrbixCOMet 3.0 `dcomapp\testexe\server` executable affects the "replace" demo, missing type library.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixCOMet Desktop 3.3

Supported Mappings

1. Bi-directional Automation/CORBA as per COM/CORBA Interworking Specification, OMG Document ORBOS/98-02-01, (February 01 1998).
2. Bi-directional COM/CORBA as per COM/CORBA Interworking Specification, OMG Document ORBOS/98-02-01, (February 01 1998).

Usage Models

Automation

1. In-process dispatch.
2. Out-of-process dispatch.

a. Local machine—IIOP on the wire.

b. Remote machine—DCOM on the wire.

COM

1. In-process COM custom interfaces.
2. Out-of-process COM custom interfaces (local/remote machine).
    a. Local machine—IIOP on the wire.
    b. Remote machine—DCOM on the wire.

OrbixCOMet Desktop is a bi-directional dynamic bridge. That is, it supports:

- COM/Automation clients of CORBA servers.
- Callbacks (invocation from a CORBA server upon a COM/Automation client).
- Implementing CORBA servers in Visual Basic (VB), PowerBuilder etc. using the `IT_ServerAPI` interface. For an example of how to do this, refer to the sample application in the `<COMET ROOT>\demo\corbclient` directory.
- CORBA clients of native DCOM servers (e.g. MS Excel, MS Word etc.). For examples of this refer to the sample applications in the `<COMET ROOT>\demo\corbaclient` directory.

Known Issues

The following are known issues for OrbixCOMet Desktop 3.3:

- 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 COMet objects in a Free Threaded Apartment is okay.

  It is recommended that you create a Multithreaded Apartment when using COMet 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 COMet 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 COMet 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 COMet `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 COMet 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 COMet loaded in-process, it is recommended that any unused elements in the sequence be memset to zero '0'. COMet will attempt to skip these unused elements, but you may get a marshalling error if the element types are complex.
- `Aliassrv.exe` doesn't work on Window 95 machines.
- Anys are not supported in COM, that is, the use of `ICORBA_Any`.

Building/Running Demos

Runtime libraries for PowerBuilder are not included with OrbixCOMet. You will need this runtimes 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 compatible C++ compiler.

Note that 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 demo makefiles in `<COMet Install>\demos\com` for more details. (This is due to a bug in the code optimizer in the Visual C++ compiler)

Reference Material

Support for Orbix COMet is provided by IONA's Knowledge Base, which may be found at: www.iona.com/online/support/kb/OrbixCOMet/index.html

A separate support contract may also be purchased which entitles you to email-based support queries. Contact `sales@iona.com` for details.

OrbixNames 3.3

This section describes changes made in OrbixNames 3.3.

New Features

Performance of the OrbixNames server has been improved due to enhancements in internal access to the repository. As a result of this change, repository entries created with versions of OrbixNames before 3.0.1-Patch 20 are not compatible with OrbixNames 3.3. (For further details see "Migration from OrbixNames 3.0.1").

OrbixNames 3.3 works by default with JRE 1.2.2 instead of JRE 1.1.X. The relevant JRE is shipped with the OrbixNames product.

New and Modified APIs

There are no new or modified APIs.

Functionality Removed

No functionality has been removed from OrbixNames 3.3.

Deprecated Features

By default, OrbixNames 3.3 no longer works with JRE 1.1.X but with JRE 1.2.2. All Java-related OrbixNames scripts are now designed to use JRE 1.2.2, which is shipped with the OrbixNames product.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
52691		When entering a password for the private key in the secure Naming Service, the password was echoed to the screen.
55315	237428	If the `lsns` utility was called on an object instead of a naming context and the server containing the object was hung, then `lsns` would hang also.
54744	234366	The `reputns` utility incorrectly changed the type ID of an IOR inside the NS.
55037	236034	OrbixNames changed the IOR's TypeID if the object interface was using inheritance.
51529	21746	The client was receiving a "CannotProceed" exception instead of "NotFound" if the ObjectGroup was empty.
54662	234440	The secure Naming Service was hanging during continuous calls to the `catns` utility.
52305	222448	The `pick_member utility` was failing with the random selection algorithm.
53298	228268	Calling `putnewncnsj -h` without specifying a context did not return an exception.
52898		Calling `ns -I<outfile>` (no space after the `-I`) caused the IOR to be written to a file with the wrong name.
53288	228151	The `reputncnsj` utility did not work with `-f` switch if the IOR in the file contained line-feeds/carriage-returns. It caused a "Failed to narrow" exception to be returned.
53287	228145	The `putncnsj` utility gave an unexpected system exception (`java.lang.NullPointerException`) if the IOR contained line-feeds/carriage-returns.
53286	228144	The `reputns`*j* utility did not work with the `–f` switch if the IOR in the file contained line-feeds/carriage-returns. It caused an Unexpected Exception (`java.lang.ArrayIndexOutOfBoundsException`) to be returned.
54010	230982 231956 231961 238243	The OrbixNames load-balancing demo caused the server to start up automatically when `resolve()` was called.
54343	232551	Unreachable contexts were not found in the lost+found context.
53455	229135 229634 233047 233076 237112	Orbix Names did not exit when using the timeout feature specified by `IT_NAMES_TIMEOUT`.
52297	232677 222252	The timeout switch `-t` did not cause the NS to exit.

	222256	
55694	238907 235734	Names Browser disregards the values given for host and port and goes for localhost/1570 always.
55335	238657 235766 239668	Federated Naming service fails in Patch 20 and beyond.

Bugs Fixed in Tru64 Release (January 2001)

The following bugs were fixed on Tru64 only:

Incident ID	Bug Number	Synopsis
56069	239545	lsns on any object group will cause a core dump.
55829	237456	Problem with Object Groups when restarting the Naming Service if object groups have '-' and '.' characters in them.
55271	237182 238973	Out of memory problem.
56662	243569 242637	OrbixNames browser under Orbix 3.3 is unusable due to OrbixSSL.jar dependency.

Bugs Fixed for AIX 4.3.3 Release (March 2001)

The following bugs were fixed for AIX 4.3.3 only:

Incident ID	PR Number	Synopsis
57827		Problems with NamingContext that have less than 4 characters in their names.
58019		Run-time linker resolves the symbols of multi-threaded NS C++ library in single-threaded Orbix C++ library.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixNames 3.3.

Migration from OrbixNames 3.0.1

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 clean 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 1.1 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.

Secure Naming Service

Currently some restrictions apply to SSL-enabled Names.

A persistently launched names server cannot use the KDM to supply its password and as a result requires user input of the password.

The following JDK1.2.2 bugs affect the operation of secure NS.

1. **Bug ID: 4276129 in JDK1.2.2 -- Multiple font not found messages starting jdk1.2**

   When NS 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.

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

   When NS 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 NS asking for user input for password when it is automatically launched.

   The suggested workarounds are given below:

- On Solaris, copy the .so into `${JDKHOME}/jre/lib/sparc` (or set a symbolic name).
- On HPUX, copy the `.sl` into `${JDKHOME}/jre/lib/PA_RISC` (or set a symbolic name).
- On NT, Copy the `.dll` into `${JDKHOME}\jre\bin.`

  `${JDKHOME}` points to the JRE directory used in `IT_JAVA_INTERPRETER` used in `common.cfg`. That is the intended behavior. All system classes will only lookup shared libraries in `$JAVA_HOME/bin.` If you do need to load custom libraries for the system classes, there are several choices:

- Install custom libraries into `$JAVA_HOME/bin`;
- 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 Naming Service.

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

Run-time linking of C++ multi-threaded library (libITnsmt)

There is a known bug (58019) in this library. At the link time, this library imports the symbols from single-threaded Orbix library (`liborbix`) instead of multi-threaded library (`liborbixmt`). If a multi-threaded application executable is built by telling the linker to remove the references to run-time linker libraries, it will resolve all the references to symbols of this library (that is, `libITnsmt`) in a single threaded Orbix library. This results in unpredictable behavior.

This bug is fixed only for AIX 4.3.3 release. It is present in all the previous releases of Orbix 3.3 on other Unix platforms.

There is a workaround for this problem. If it is necessary to remove the references to run-time linker libraries, do not link this library on the linker line of the application executable. Instead, compile the Naming Service IDL (`NamingService.idl`), compile the generated client stubs into a normal object and link it.

Orbix Wonderwall 3.3

This section describes Orbix Wonderwall 3.3.

New Features

A new tuning variable `listener-sleep-time` is added, to get the listener to sleep when iiopproxy has no more file descriptors available. Other threads will continue to act normally so that client connections could be closed if not needed and make FDs re-usable.

The new variable `listener-sleep-time` should be used in addition to `iiop-idle-timeout` to tune individual customer deployment, and their requirements. The value for `listener-sleep-time` could be defined from 1 to 9999 (milli seconds).

New demos are added to demonstrate SSL functionality of Wonderwall.

Updated documentation describing a wider range of deployment scenarios and examples is provided in PDF and html with your installation in the `<iona>/docs/` directory.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
54022		Wonderwall doesn't clean up fds correctly after client succesfully closed connection by calling `closeConnection()` on its side
54075		After Wonderwall runs out of fds (due to another bug - see 54022) it continuously writes to a log file message "Too many files open" until the log fills the entire disk space.

	A new tuning variable `listener-sleep-time` is added, to get the listener to sleep when iiopproxy has no more file descriptors available. Other threads will continue to act normally so that client connections could be closed if not needed and make FD's re-usable.
52684	`iiop-idle-timeout` doesn't work in Wonderwall.
52436	alias-hosts cannot be set up in the iiopproxy configuration file
54450	The Wonderwall proxify tag does not use the hostname specified in masquerade-as-host when proxifying IORs to return (to the client).
55776	intranet-domain can not be set
55860	Cannot use the 'proxify' parameter with factory objects. This error was manifesting itself with the error code "Marshaling Error" on the client side. It was happening only when bidirectional-iiop is used. This was an OrbixWeb problem, and it is fixed in OrbixWeb.
53062	Wonderwall 3.0.1 cannot talk SSL to servers. Now Wonderwall can talk to secure daemon. It is important to define ssl-invocation-policy variable inn the `iiopproxy.cf` file after `makinf` entry for `ssl-lib`.
52453	Directory `lib_sol2` Is this a solaris directory and if so what is it used for.
52468	Typo in `$ORBIX_ROOT/Wonderwall_3.0c/demo/Orbix 3/grid/README`
52473	pint.gif. This gif file should not be in the WWall kit.
52476	Warning message when opening the Orbix Wonderwall Administrators Guide.
52534	File `transform.idl` refers to demo that does not exist.
52535	`pint.jif` and directory `lib_sol2` should not be in dir. `/Winderwall_3.0c/tools/lib.`
53371	Lack of Wonderwall documentation on how to setup C++ clients. Revised, and improved documentation is provided in Orbix Wonderwall 3.3 release.
54055	`Perl.exe` is not being used to interpret `owjava.pl` in the `client.bat` and `server.bat` generated by the Wonderwall 3 OrbixWeb demos. There is a typo in the `compile.bat`. It is corrected.
54184	The Wonderwall tags "allow (all)" and "allow-unlisted-objects on" do not work if your client is connecting with stringified IOR object references. There is no problem if your client uses `bind()`.

	This is user misunderstanding. Explanation is provided below. **Using _bind()** In this case, client sends a request to the daemon using its well known port. If Wonderwall is running on that port, it checks the object key embed in the request. As Wonderwall has knowledge of Orbix daemon (`orbixd-iiop-port`), and it knows how to manufacture the object key for orbixd (due to presence of "allow" rule) it lets the connection through. The daemon then resolves the requested object. As the returned object reference is NOT PROXIFIED. So next time when a client invokes on that returned object reference, it bypasses Wonderwall. i.e. it does not go through Wonderwall. We observe that client got reply to its request. **Using IORs** In this case, client does not invoke on `orbixd` daemon. It uses the IORs and converts that to required Object Reference of the required type by narrowing it. When client makes a remote call on that Object Reference, via Wonderwall, Wonderwall intercepts that request and checks the object key against its known list. When it does not find the given object key in its list, Wonderwall returns `NO PERMISSION` error message. Due to this we observe that client request to server failed.
56212	Missing `demos/index.html` file in `rel/Wonderwall/demo`.

Bugs Fixed in AIX 4.3.3 Release (March 2000)

The following bugs were fixed on AIX 4.3.3 only:

Incident ID	PR Number	Synopsis
55923		Wonderwall core dumps if the `ssl-client-ciphers` configuration variable is set in the iiopproxy configuration file.
57281		Wonderwall does not accept HTTP/1.1 or HTTPS/1.1 tunneled requests.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for Orbix Wonderwall 3.3.

56404 Wonderwall iorexplorer

The iorexplorer fails to run on NT because the current installer setup scripts do not set the `IONA_ROOT` directory in the `iorexplorer.bat`. The workaround is to set

the IONA_ROOT manually in the iorexplorer.bat file.

56401

To run the SSL demonstrations successfully, set the IT_DAEMON_POLICY for the Orbix daemon to "SEMI_SECURE_DAEMON" in the orbixssl.cfg.

55923

Selecting the client cipher suite SSLV3_RSA_WITHRC4_128_SHA will cause a core in the iiopproxy on boot up

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.

56399

NT Orbix Java demonstrations:

There is an error in the currently shipped compile.bat. Customers need to edit and modify the compile.bat for each of the demonstrations. The necessary change is as follows:

The following commands:

```
echo %JAVA_DIR%\bin\javac –classpath
%JAVA_DIR%\lib\classes.zip;%ORBIXWEB_DIR%\lib\
OrbixWeb.jar;java_output -d %ORBIXWEB_DIR%\OrbixWeb\classes
%PKGNAME%\*.java %JAVA_DIR%\bin\javac -classpath
%JAVA_DIR%\lib\classes.zip;%ORBIXWEB_DIR%\lib\
OrbixWeb.jar;java_output -d %ORBIXWEB_DIR%\OrbixWeb\classes
%PKGNAME%\*.java
if errorlevel 1 goto FAILED
if not exist %ORBIXWEB_DIR%\OrbixWeb\classes\%PKGNAME%\
javaclient1.class goto FAILED
if not exist
%ORBIXWEB_DIR%\OrbixWeb\classes\%PKGNAME%\javaserver1.class
goto FAILED
```

need to be changed to

```
echo %JAVA_DIR%\bin\javac –classpath
%JAVA_DIR%\lib\classes.zip;%ORBIXWEB_DIR%\lib\
OrbixWeb.jar;java_output -d %ORBIXWEB_DIR%\demos\classes
%PKGNAME%\*.java
%JAVA_DIR%\bin\javac –classpath
%JAVA_DIR%\lib\classes.zip;%ORBIXWEB_DIR%\lib\
OrbixWeb.jar;java_output -d %ORBIXWEB_DIR%\demos\classes
%PKGNAME%\*.java
if errorlevel 1 goto FAILED
if not exist
%ORBIXWEB_DIR%\demos\classes\%PKGNAME%\javaclient1.class goto
FAILED
if not exist
%ORBIXWEB_DIR%\demos\classes\%PKGNAME%\javaserver1.class goto
FAILED
```

to reflect the new directory structure of the Orbx3.3 release.

Known Problems on AIX 4.3.3 (March 2000)

This section summarizes known issues, workarounds and tips relating to Orbix Wonderwall 3.3 on AIX 4.3.3 only.

57974

The `grid_http` demonstration will build properly, but it requires some additional manual configuration to enable it to run correctly. You will need to extract the ORB classes from the `OrbixWeb.jar` into the same directory from which the applet classes are served. For example, in the `Wonderwall/demo/Orbweb3/grid_http/test_classes.link` directory, this can be done using the following commands:

```
cd $ORBIX_ROOT/Wonderwall/demo/Orbweb3/grid_http/test_classes.link

jar xvf  $ORBIX_ROOT/OrbixWeb.jar
```

OrbixEvents 3.3

This section describes changes made to OrbixEvents 3.3.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
55142	236653	Event Server dumps core on disconnect callback depending on the length of server name.
55137	236177	Event Server crashes if an untyped supplier pushes any which has a structure with sequence and another data.
53546	229212 235100	Using Modules in idl.
54045	235502	Using non-thread safe functions in logging.
54576	234106	Event Server dumps core when more than 10 Suppliers are started the background at the same time on the same channel.
55086	236200	Event Server cores if typed push consumers and suppliers are killed randomly.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixEvents 3.3.

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.

OrbixSSL C++ 3.3

This section describes changes made in OrbixSSL C++ 3.3.

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. These Cryptographic libraries used by OrbixSSL C++ were written by Eric. A. Young (`eay@cryptsoft.com`).

3. On Tru 64 OrbixSSL C++ now 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`).

New Features

1. Added support for special test mode `IT_ENABLE_DEFAULT_CERT` configuration variable that can be used to test client behavior with SSL without any code changes.

2. The OpenSSL 0.9.4 utility is now supplied instead of the SSLeay utility. Using this utility is essentially the same as for SSLeay, however support for PKCS12 is added and support for creating certificates with extensions is better. New libraries in `contrib/openssl-0.9.40-lib/ssleay32.dll` and `libeay32.dll` for `openssl.exe` on Windows NT only. They are in this location so they will not clash with the identically named libraries that SSLeay uses.

3. The `putit` utility now has flags that are needed when interoperability with Orbix2000 1.1 or other OMG CSI Level 0 interoperable SSL orbs is required.

4. Interoperability has been tested with Visibroker 3.3.

> **Note:** Note: Visibroker must be configured to use SSL V3.0, Visibroker incorrectly uses V2 client hellos by default rather than SSL V3.0. The OMG have only defined interoperability for SSL V3.0 and greater, SSLv2 hellos are recommended to be avoided by the SSL V3.0 specification wherever possible.

Example Visibroker code to do this follows:

```
SSL::CertificateManager_var certificateManager;
certificateManager = SSL::CertificateManager::_narrow(orb-
>resolve_initial_references("SSLCertificateManager"));
certificateManager->setProtocolVersion(SSL::Set_Version_30);
```

This interface is referenced in the Visi SSL documentation on Page 57 of VBSSL2.pdf. SSL interoperability is only defined over IIOP 1.1 so you must ensure that the Orbix `IT_IIOP_VERSION` is set to "11" (i.e. IIOP 1.1).

A bug in Visibrokers support for GIOP 1.1 means that you must set the Orbix `IT_GIOP_VERSION` configuration variable to be "10" (i.e. GIOP 1.0). This is because Visibroker does not accept GIOP 1.1 requests.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
55628		OrbixSSL Interoperability with Visibroker 3.3 SSL. OrbixSSK IIOP 1.1 SSL enabled client intermittently crashed with IIOP1.1 IORs.
56302		Enhancement request for OrbixSSL3.3. Improved performance timings for large amounts of data transferred over TLS layer. This was due to differing behavior of TCP_NODELAY TCP functionality on different platforms and affected transmission of > 4k data invocations.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixSSL C++ 3.3.

Running NS semi-securely On Tru64

Bug Number: 57421

Running NS semi-securely on Tru64 can cause hanging for insecure clients if `IT_SSL_IIOP_LISTEN_PORT` in `orbixnames3.cfg` is same as what the orbixd assigns dynamically. The simple workaround is to set the `IT_DAEMON_SERVER_BASE` variable in `common.cfg` to be greater than the `IT_SSL_IIOP_LISTEN_PORT`.

Installing OrbixSSL 3.3 on HP-UX 11.00

After installing SSL on HP-UX 11.00 the following symbolic links are incorrect :

```
/opt/iona/tools/jre/lib/PA_RISC/libkdmjj.sl     ->
../../../../libkdmjj.3.3.aCC.1
/opt/iona/tools/jre/lib/PA_RISC2.0/libkdmjj.sl  ->
../../../../libkdmjj.3.3.aCC.1
```

To fix these links :

```
cd /opt/iona/tools/jre/lib/PA_RISC
rm libkdmjj.sl
ln -s ../../../../lib/libkdmjj.sl libkdmjj.sl
cd /opt/iona/tools/jre/lib/PA_RISC2.0
rm libkdmjj.sl
ln -s ../../../../lib/libkdmjj.sl libkdmjj.sl
```

OrbixSSL Java 3.3

This section describes OrbixSSL Java 3.3.

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++ now 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`).

New Features

1. KDM support has been added for Java applications which means that Java servers now can use the same secure mechanism to automatically retrieve passwords as C++ applications do. This functionality has a dependency on the use of JNI.
2. Improved handshake performance.
3. Improved per invocation performance.
4. OrbixSSL Java now uses the Baltimore SSL-J V2.0 toolkit in place of the JCP SSL-PRO toolkit that was used previously.
5. MD2 and SHA signature algorithms are now supported.

Deprecated Features

RC2 Cipher Suite is not supported by the OrbixSSL Java toolkit since Baltimore does not support RC2. RC2 is little used and RC4 is the preferred cipher of the two.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
53898	240010	X509v3 BER format certificate with extension is not understood by SSL-pro 1.2.1 (it is with 1.0). This bug was reported in the JCP toolkit, which is now fixed in the Baltimore toolkit.

Bugs Fixed in AIX 4.3.3 Release (March 2001)

The following bug was fixed on AIX 4.3.3 only:

Incident ID	PR Number	Synopsis
53495	245156	In Orbix SSL for Java, a client cannot connect securely to a manually launched server.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixSSL Java 3.3.

Installing OrbixSSL 3.3 on HP-UX 11.00

After installing SSL on HP-UX 11.00 the following symbolic links are incorrect :

```
/opt/iona/tools/jre/lib/PA_RISC/libkdmjj.sl     ->
../../../../libkdmjj.3.3.aCC.1
/opt/iona/tools/jre/lib/PA_RISC2.0/libkdmjj.sl  ->
../../../../libkdmjj.3.3.aCC.1
```

To fix these links :

```
cd /opt/iona/tools/jre/lib/PA_RISC
rm libkdmjj.sl
ln -s ../../../../lib/libkdmjj.sl libkdmjj.sl
cd /opt/iona/tools/jre/lib/PA_RISC2.0
rm libkdmjj.sl
ln -s ../../../../lib/libkdmjj.sl libkdmjj.sl
```

56126 : 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

This section describes OrbixOTS 3.3.

New Features

The *OrbixOTS Programmer's and Administrator's Guide* has been updated to include the new and modified APIs (see below), to clarify some sections and to fix errors.

New and Modified APIs

OrbixOTS::Server::get_transaction_factory

The `get_transaction_factory` operation has been added as a replacement to using `_bind` to obtain a reference to the local transaction factory object (supporting the interface `CosTransactions::TransactionFactory`) in an OrbixOTS C++ server. Replace code such as:

```
CosTransactions::TransactionFactory_var factory =

      CosTransactions::TransactionFactory::_bind("Transac
      tionFactory");
```

with the following:

```
      OrbixOTS::Server_var ots = ...

      CosTransactions::TransactionFactory_var factory =

      ots->get_transaction_factory();
```

OrbixOTS::Server::get_lockset_factory

The `get_lockset_factory` operation has been added as a replacement to using `_bind` to obtain a reference to the local lockset factory object (supporting the interface `CosConcurrencyControl::LockSetFactory`) in an OrbixOTS C++ server. Replace code such as:

```
CosConcurrencyControl::LockSetFactory_var factory =

CosConcurrencyControl::LockSetFactory::_bind("LockSetFact
ory");
```

with the following:

```
OrbixOTS::Server_var ots = ...

CosConcurrencyControl::LockSetFactory_var factory =

ots->get_lockset_factory();
```

OrbixOTS::Client::setInterfaceTransactionPolicy
OrbixOTS::Server::setInterfaceTransactionPolicy
OrbixOTS::OtsEnv::setInterfaceTransactionPolicy

The `setInterfaceTransactionPolicy` operation (a member of the C++ classes `OrbixOTS::Client` and `OrbixOTS::Server` and the Java class `OtsEnv`) has been modified to take a CORBA repository identifier rather than the name of the interface. Replace code such as:

```
OrbixOTS::Client_var ots = ...

ots->setInterfaceTransactionPolicy("Bank", ...);
```

with the following:

```
OrbixOTS::Client_var ots = ...

ots->setInterfaceTransactionPolicy("IDL:Bank:1.0", ...);
```

OrbixOTS.OTS_INTEROP=TRUE

This is the default behavior now. Also, in the case of OTS Java client (or server) interoperating with OTS C++ Server, this must be set to TRUE.

Functionality Removed

The ability to use _bind to obtain references to the local transaction factory and lock-set factory in OrbixOTS C++ servers is no longer supported. See above for replacement operations.

Functionality Removed on AIX 4.3.3 (March 2001)

The following functionality was removed on AIX 4.3.3 only:

Otsmklog Utility

Otsmklog utility is not available on AIX. For the equivalent functionality, please refer to the Knowledge Base Article 3169.329.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. The bugs are broken down by module and 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 PRs (problem reports) as reported by customers.

- **PR Number**

  Not all bugs fixed have a PR number (the number assigned by IONA support when a call is logged).

- **Synopsis**

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

Incident ID	PR Number	Synopsis
18860		`replay_completion` is not throwing NOT_PREPARED when it should.
23900		Use of one-way operations within a transaction not covered in document.
33440		`get_control` throws C++ exception rather than returning a nil reference.
51373	215679	Server serialization mode `serializeRequestsAndTransactions` mode server crashes when blocking client aborts after timeout
51736		Resource reference not released for nested transaction.
51840		Incorrect exception raised when creating a transaction on an uninitialized OTS.
52573		No instructions for running the Java GUI demo.
52578		Incorrect error handling in the FlexiClient filesys demo.
52579		Incorrect error reported using the FlexiClient demo with an Oracle server
53347		Problem compiling the Java TransBank demo on NT
54014	231268 233282	`OrbixOTS.OTS_INTEROP` on NT causes spurious marshalling errors.
54399	230588	OTS java client not propagating transactional context with `TransactionAllowed` policy.
54453		Use of `OBJECT_NOT_EXIST` exception in OrbixOTS code
54938	235743	Excessive remote calls made by Java OTS
55267	237138	Java class `TransactionPolicy` is described incorrectly in the OTS manual
55298		Resource recovery fails with abort if narrow results in a system exception
55306		Change default behavior of `OTS_INTEROP` to `TRUE`.
55469		otstf displays incorrect default log device

55580	Running multiple Java OTS clients in parallel hanging
55823	Java clients failing with `org.omg.CORBA.TRANSACTION_REQUIRED` when invoking on C++ Servers
55824	Otstf coredumping when Java Clients invoke on Java Servers

Bugs Fixed in Tru64 Release (January 2001)

The following bug has been fixed for Tru64 only:

Incident ID	PR Number	Synopsis
57187		`otstf` does not export the IORs of transaction factory and lockset factory objects to files via `-T` and `-L` command line options.

Known Problems, Workarounds, and Tips

This section describes the known issues and suggested workarounds for OrbixOTS 3.3.

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 co-ordinating server must attempt transaction recovery. The recoverable server can only be restarted by the co-ordinating 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` demo 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.

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`.

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