Orbix 3.3.1

Release Notes

June 2001

Contents

Orbix 3.3.1

Release Notes

June 2001

Orbix 3.3.1

Release Notes

June 2001

Introduction

Orbix 3.3.1 is a Service Pack Release of Orbix 3.3. Improvements have been made in the areas of maintainability, quality, testing, and interoperability. This document contains information about Orbix 3.3.1, including build information, details of bugs that have been fixed in this release, known problems, workarounds and tips, and deprecated features.

No new features have been added nor functionality removed, nor have there been any changes to APIs since Orbix 3.3. For details of the changes that took place between Orbix 3.0.1 and Orbix 3.3, see the Orbix 3.3 Release Notes at http://www.iona.com/docs/relnotes/orbix/orbix33_relnotes.pdf

For information on migrating from an earlier version of Orbix to Orbix 3.3 or Orbix 3.3.1 see the Migration Page at http://www.iona.com/products/MigrationGuide.pdf

This document is divided into the following main sections:

- Orbix 3.3.1 C++ Edition
- Orbix 3.3.1 Java Edition
- Orbix Code Generation Toolkit 3.3.1
- OrbixCOMet Desktop 3.3.1
- OrbixNames 3.3.1
- Orbix Wonderwall 3.3.1
- OrbixEvents 3.3.1
- OrbixSSL C++ 3.3.1
- OrbixSSL Java 3.3.1
- OrbixOTS 3.3.1

Compatibility with Other IONA Products

Orbix 3.3.1 C++ Edition and Orbix 3.3.1 Java Edition have been tested with and are interoperable with each other and with Orbix 3.0.1, Orbix 3.3, OrbixOTS 3.3.1, Orbix 2000 1.1 C++ Edition and Orbix 2000 1.1 Java Edition.

Development Environments

This table details the operating system versions and compiler versions on which Orbix 3.3.1 is built and tested.

Platform	O/S version	Compiler version	JDK version
Solaris	2.6/2.7/2.8	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
Windows NT Windows2000	4.0 SP 6a SP 2	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

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.

Deprecated Features

When a feature is deprecated this means that:

- No support for this feature is given for the current version and for subsequent versions (i.e. we will not explain how to use it and we will not fix any bugs in this feature).
- The feature may not be present in future versions of the product.
- Customers are advised not to use this feature. This applies to new applications and to applications that customers are porting from a previous version of a product.
- This feature is provided on an as-is basis where it may be of limited help to applications being ported from a previous version of a product.

Orbix 3.3.1 C++ Edition

This section describes the changes that affect application developers, administrators, and other users of Orbix 3.3.1 C++ Edition.

New Features

No new features have been added in this release.

New and Modified APIs

Orbix 3.3.1 C++ Edition is binary compatible with Orbix 3.3 C++ Edition, and so no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix 3.3.1 C++ Edition is binary compatible with Orbix 3.3 C++ Edition, and so no functionality has been removed.

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

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

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. 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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in Orbix 3.3.1 C++ Edition:

Incident ID	Synopsis
51444	Multi Threading problem with FD management in servers when SIGPIPE received
52863	Orbix 3 IDL Compiler Forward Declarations generate error if forward declared interface not in the same file
53052	When using #include file.idl inside an idl file, the compiler has a limit of 249 files.
53373	IDL compiler wont generate any Throw clauses in the .hh files.
53484	IDL compiler prepends an underscore to string contents as it thinks it's a reserved word.
53493	Serious downgrade in performance of Orbix on NT.
53497	Orbix 3.0 hangs when string_to_object called while its marker is being changed.
53936	The IDL compiler doesn't generate an array copying function. Under OMG CORBA spec v2.1 it states we should.
54556	DII Clients use local IT_DAEMON_PORT even when IOR file is used which contains a different port
54585	All reserved C++ keywords not fully supported with idl compiler – need new idl compiler switch to enable this functionality
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	If the file limit is exceeded in a single thread Orbix server, the server will crash.

55055	In multihomed environment Orbixd leaks file descriptors when invocations are made on host which is not that defined as IT_LOCAL_HOST.
55243	CosTrading.idl file does not compile on Solaris 7 with Orbix.
55325	crash in _interfaceMarker when calling release on an object.
55331	Sending CORBA::Any containing typecode aliases to a method causes memory corruption.
55368	Transformers are broken in Orbix 3 when using IIOP - m_remote_host corrupt or null in transformer
55394	Orbix invokes wrong operation on server due to error in hashMatrix::hash function.
55416	When I try to compile the grid demo with mt and solaris_thr it generates errors.
55498	CORBA::Any Memory Leak.
55586	Duplicate Free Errors (DFREE) errors when using ZeroFault on the idl compiler under Orbix on AIX.
55626	Purify shows memory leaks when IDL file contains contexts.
55635	Checkpointing - Daemon Hangs.
55722	Orbix switches IIOP version on a connection from 1.0 to 1.1
55840	Foreign FD Read events not being raised if multiple _bind("localhost")s done in unregistered servers.
55885	putidl doesn't handle forward declarations correctly in Orbix 3.
55924	orbixd -c checkpoint file does not recover all servers, when middle list servers are killed with UNIX kill command.
56042	Applications (client and server) crash after normal exit.
56140	Can't set IT_LOCAL_DOMAIN to a null string dynamically in code.
56203	Forward declaraions in IDL do not always function correctly.
56261	typedef from one module can be used in another if both modules start with the same letter.
56424	Orbix 3 IDL compiler does not recognise "export" as C++ keyword .
56455	When using the any data type, the server core dumps after several iterations.

56575	string_to_object() memory leak in multi-homed environment
56605	Orbix leaks memory when IT_ENABLE_MULTI_HOMED_SUPPORT = "YES"
56663	Orbix3.3 C++ libs do not recognize changes to IT_NAMES_SERVER_HOST, and can't use remote NS.
56991	Orbix hangs when running out of memory.
57110	TypeCode memory management is thread unsafe.
57280	Defining method named after reserved word causes other methods starting with same letter to not be recognised as valid methods.
57311	addForeignFD() / removeForeignFD() increasing using file descriptors
57346	Memory leaks around convertToIP, lookahead, convertToExceptionKind & makeTransportConnection in Orbix 3.
57347	memory leakage around Channel::flushChannel in Orbix 3.
57387	idl compiler truncates 32 bit values
57509	core Dump in Orbix 3.3 on Solaris 2.7 if the simple program runs with multithreaded libraries.
57623	const octet usage in IDL definition causes errors in IDL compiler.
57674	Server hangs when a client seems to disappear off the network.
57891	Performance degradation with Orbix 3 when using config variable IT_READ_TIMEOUT
57934	Memory leak occurs when using ServiceContext with Per-Object model on AIX.
57994	Foreign FDs functionality broken in Orbix 3.3
58001	Performance degradation on 1-CPU machine when transmitting a simple data type in an Any.

Known Problems, Workarounds, and Tips

Memory Management of CORBA::Anys

Stopping double deletion of CORBA::Any when unmarshalling CORBA::Anys during DSI invocation processing: Some applications use the following pattern for memory management of CORBA::Anys required for DSI request processing. This is incorrect and will cause a memory corruption errors with this version of Orbix:

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

This code would not have caused problems prior to 3.3.1 as Orbix did not properly delete the Any.

Other Known Problems

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

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

  This may be resolved by defining WIN32_LEAN_AND_MEAN when compiling. For example: CL /c ... -DWIN32_LEAN_AND_MEAN ... myFile.cpp
  If you do not wish to use this flag when compiling you may also resolve the problem by editing CORBA.h . 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.

Tip

Deploy Orbix 3.3.1 Daemon in Orbix 3.0.1 Environment

Orbix 3.3.1 daemon can launch Orbix 3.0.1 servers. All Orbix 3.0.1 Daemon utilities, your clients and servers will work with the Orbix 3.3.1 daemon. All you need to do is append the `LD_LIBRARY_PATH` in the environment with the Orbix 3.3.1 library path.

Orbix 3.3.1 Java Edition

This section describes changes made to Orbix 3.3.1 Java Edition.

New Features

No new features have been added in this release.

New and Modified APIs

Orbix 3.3.1 Java Edition is binary compatible with Orbix 3.3 Java Edition, and so no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix 3.3.1 Java Edition is binary compatible with Orbix 3.3 Java Edition, and so no functionality has been removed.

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

Note: OrbixWeb 3.2 was released February 1999.

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. 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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in Orbix 3.3.1 Java Edition:

Incident ID	Synopsis
ORB Runtime	
53127	psit shows manually launched servers as 'auto' launched
52431	OrbixWeb: fromString() methods doesn't work with datatypes containing a union
50360	empty wstring causes ArrayIndexOutOfBoundsException in struct in Any
52208	org.omg.CORBA.SystemException missing toString() method.
52799	Negative pid number
57589	Federated naming service fails with OrbixWeb patches 10, 11, naming service patch 44, check 57644 also
57514	Checkpointing functionality not working for manually launched java server processes
55681	The orbix utility "psit" incorrectly reports the process id of persistently launched java servers
57894	In IIOP 1.1, Orbix 3.3 (Java) fails to unmarshall the wide chars properly. This happens only if the incoming wide char is from a little endian system
57335	Padding generated in secure IORs prevents O2K interoperability
55675	*is*equivalent returns false for identical Orbix 2000 object references
58040	Even after setting IT_DEFAULT_IIOP_VERSION to 11, Orbix 3.3 Java client sends IIOP 1.0 messages if the target IOR uses IIOP 1.2
58074	Zero length wstrings cannot be transmitted in Orbix 2000. Fails with CORBA.MARSHAL exception
58052	CORBA invocation with wstring as a return value and one in and one out parameter in Orbix 3.3 Java Edition when invoking on an Orbix 2000 server doesn't work properly
58127	Orbix 3.3 Java Edition client cannot get a read-only attribute wstring from an Orbix 2000 1.2.1 server
IDL Compiler	
56543	Sequences of zero length cause exception in OrbixWeb Client.
54020	NullPointerException error occurs if there is a sequence of

sequence of String in the IDL

53484 IDL compiler prepends an underscore to string contents as it thinks it is a reserved word. This is fixed now.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for Orbix Java Edition 3.3.1.

Orbix Java Configuration

The following configuration parameters need to be added to orbixweb3.cfg from Orbix Java Edition 3.3.1 and onwards:

IT_USE_TRUE_PROCESS_PID
Type Boolean

This flag should be set to true, so as to get the real process pid of the Persistent Java Server via a custom library. When the value is false, a pseudo pid is generated by Orbix Java Runtime. The Custom library is available in $IONA_ROOT/lib directory. The default value is false.

1. This Config variable is to be set to "true" to enable the fix for Bug 52799, 57514 and 55681.

2. If the Persistent Java Server is launched using -Xbootclasspath switch then:

   On Solaris 2.7/ Solaris 2.8 `libact.so` should be copied to `$JAVAHOME/jre/lib/sparc`
   On Tru64 `libact.so` should be copied to `$JAVAHOME/jre/lib/alpha`
   On AIX 4.3.3 `libact.so` should be copied to `$JAVAHOME/jre/bin`
   On HPUX 11 `libact.sl` should be copied to `$JAVAHOME/jre/lib/PA_RISC2.0`
   On NT 4.0 SP6 `act.dll` should be copied to `$JAVAHOME/jre/bin`

3. As an alternative to option 2 use `java-Dsun.boot.library.path=$JAVAHOME/jre/lib<platofrm>: $IONA_ROOT/lib...`

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.

OrbixNames Fails to Launch Automatically on WindowsNT

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
```

JVM 1.2.2-8 Crashes on Tru 64 5.1

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.

Problem on AIX 4.3.3

The following known problem is specific to AIX 4.3.3 only:

Semi-secure Java server does not respond to insecure C++ client on AIX 4.3.3 (Incident ID 57997).

Other Known Problems

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

Workaround for AIX Demos

Demo: any_demo and callback_tie

These two demos need to use -Xbootclasspath while registering the servers using putitj. Makefiles for the respective demos can be updated with this -Xbootclasspath as follows:

```
$(UTILSBINDIR)/putitj -j -jdk2 $(SERVERNAME)
 "Xbootclasspath:$(IONA_ROOT)/lib/OrbixWeb.jar:$(IONA_ROOT)/tools
       /jre/lib/rt.jar $(PACKAGE_NAME).javaserver1"
```

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]
```

Orbix Code Generation Toolkit 3.3.1

This section describes changes made in Orbix Code Generation Toolkit 3.3.1.

New Features

No new features have been added in this release.

New and Modified APIs

Orbix Code Generation Toolkit 3.3.1 is binary compatible with Orbix Code Generation Toolkit 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix Code Generation Toolkit 3.3.1 is binary compatible with Orbix Code Generation Toolkit 3.3, and so no functionality has been removed.

Bugs Fixed

No bugs were fixed in this release.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for Orbix Code Generation Toolkit 3.3.1.

- 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 3.3.1

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.

New and Modified APIs

Orbix COMet Desktop 3.3.1 is binary compatible with OrbixCOMet Desktop 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixCOMet Desktop 3.3.1 is binary compatible with OrbixCOMet Desktop 3.3, and so no functionality has been removed.

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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in OrbixCOMet Desktop 3.3.1.

Incident ID	Synopsis
54830	When sending a "Nothing" as an IN parameter from a vb client to a CORBA server(expecting a struct instead), throws an exception before call reaches CORBA server
56776	A typedef string defined inside a struct causes Marshalling error
55878	Errors with sequences of enums as out parameters
55887	Passing Object References as Nothing from a VB client causes an exception.
56397	In OrbixCOMet3.3 whereby custsur.exe crashes on startup
56560	String inside struct which is used an INOUT parameter does not update correctly.
57188	User exceptions are not being propagated back to the client using Orbix DSI with Orbix3.3.
57681	Array of CORBA:Any type is not working in callback using OrbixCOMet
57744	Callbacks cause a memory leak in COMet 3.x

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixCOMet Desktop 3.3.1

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 3.3.1:

- OrbixComet 3.3.1 demos corbaclient/Excel and corbaclient/ExcelMon are not working.
- OrbixComet 3.3.1 COM client for common/BankSmartProxy demo fails because of the known bug in `ts2idl` utility of OrbixComet.
- 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 runtime installed if you wish to run these demos.

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

To build the C++ COM client demos you will need Microsoft Visual C++ 6.0, or 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 OrbixCOMet is provided by IONA's Knowledge Base, which may be found at: http://www.iona.com/support/

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

OrbixNames 3.3.1

This section describes changes made in OrbixNames 3.3.1.

New Features

No new features have been added in this release.

New and Modified APIs

OrbixNames 3.3.1 is binary compatible with OrbixNames 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixNames 3.3.1 is binary compatible with OrbixNames 3.3, and so no functionality has been removed.

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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in OrbixNames 3.3.1:

Incident ID	Synopsis
58019	At the link time, this library imports the symbols from single-threaded Orbix library (`liborbix`) instead of multi-threaded library (`liborbixmt`).
57589	Federated naming service fails with OrbixWeb patches 10, 11, naming service patch 44.
56136	Naming Service stops responding when running under heavy load.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixNames 3.3.1.

Insecure C++ Clients

On AIX 4.3.3, insecure C++ clients trying to talk to secure daemon or semi-secure daemon and insecure Naming Service will hang.

Registering the Naming Service

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

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

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

Bug 58595 Secure NS when registered for automatic launching, does not get launched on the port assigned by the daemon.

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.

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.

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.

Orbix Wonderwall 3.3.1

This section describes Orbix Wonderwall 3.3.1.

New Features

No new features have been added in this release.

New and Modified APIs

Orbix Wonderwall 3.3.1 is binary compatible with Orbix Wonderwall 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

Orbix Wonderwall 3.3.1 is binary compatible with Orbix Wonderwall 3.3, and so no functionality has been removed.

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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in OrbixNames 3.3.1:

Incident ID	Synopsis
56404	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.
55923	Selecting the client cipher suite `SSLV3_RSA_WITHRC4_128_SHA` will cause a core in the iiopproxy on boot up.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for Orbix Wonderwall 3.3.1

56401 To run the SSL demonstrations successfully, set the `IT_DAEMON_POLICY` for the Orbix daemon to "`SEMI_SECURE_DAEMON`" in the `orbixssl.cfg`.

55030 An Orbix client will experience a marshalling error when the `iiopproxy` has been configured to 'proxify' the returned IOR from a factory method, and the factory method also contains out parameters.

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 3.3.1

This section describes changes made to OrbixEvents 3.3.1.

New Features

No new features have been added in this release.

New and Modified APIs

OrbixEvents 3.3.1 is binary compatible with OrbixEvents 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixEvents 3.3.1 is binary compatible with OrbixEvents 3.3, and so no functionality has been removed.

Bugs Fixed

No bugs were fixed in this release.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixEvents 3.3.1.

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.

Other Known Problems

Incident ID	Synopsis
58223	OrbixEvents does not interoperate between little-endian and big-endian platforms.
58545	Multiple event channels, when joined, slow down the performance of Events Consumer significantly.
58594	OrbixEvents C++ demos do not work in secure mode on AIX 4.3.3.

Not Certified on Solaris 2.6

OrbixEvents 3.3.1 is not supported on Solaris 2.6.

OrbixSSL C++ 3.3.1

This section describes changes made in OrbixSSL C++ 3.3.1.

New Features

OrbixSSL C++ 3.3.1 is binary compatible with OrbixSSL C++ 3.3; therefore No new features have been added in this release.

New and Modified APIs

OrbixSSL C++ 3.3.1 is binary compatible with OrbixSSL C++ 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL C++ 3.3.1 is binary compatible with OrbixSSL C++ 3.3, and so no functionality has been removed.

Credit Attribution

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

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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in OrbixSSL C++ 3.3.1:

Incident ID	Synopsis
58124	Zero daemon port problem - Orbix3.3 cannot connect to fully secure Orbix 2000 servers.
56900	OrbixSSL 3.3-enabled daemon utilities cause the daemon to crash when multi-homed support is enabled.

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixSSL C++ 3.3.1.

OrbixNames Secure Automatic Launch

Because of a bug in JDK 1.2.2 users must copy `kdmjj.dll` to `$IONA_ROOT/tools/jre/bin` directory. This will load `kdmjj.dll` at runtime, which is needed for Java servers to automatically insert passwords for them.

Running NS Semi-securely on Tru64

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 3.3.1

This section describes OrbixSSL Java 3.3.1.

New Features

No new features have been added in this release.

New and Modified APIs

OrbixSSL Java 3.3.1 is binary compatible with OrbixSSL Java 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixSSL Java 3.3.1 is binary compatible with OrbixSSL Java 3.3, and so no functionality has been removed.

Credit Attribution

1. The bundled OpenSSL command line utility includes software written by Eric. A. Young (`eay@cryptsoft.com`). For more details on OpenSSL please see the OpenSSL website at www.openssl.org.

2. OrbixSSL C++ 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`).

Deprecated Features

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

Bugs Fixed

This section describes the bugs fixed in this release. All bugs are cross platform unless otherwise stated. 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 problem reports (PR) as reported by customers.

- **Synopsis**

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

The following bugs were fixed in OrbixSSL Java 3.3.1:

Incident ID	Synopsis
53945	In OrbixSSL for JAVA, a client cannot connect securely to a manually launched server.
57643	OrbixSSL handshake fails when Applet is trying to bind to server using HTTPS Tunnelling through Wonderwall

Known Problems, Workarounds, and Tips

This section summarizes known issues, workarounds and tips for OrbixSSL Java 3.3.1.

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
```

Baltimore J/SSL Toolkit

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 3.3.1

This section describes OrbixOTS 3.3.1.

New Features

No new features have been added in this release.

New and Modified APIs

OrbixOTS 3.3.1 is binary compatible with OrbixOTS 3.3, and so no new APIs have been added nor existing ones modified.

Functionality Removed

OrbixOTS 3.3.1 is binary compatible with OrbixOTS 3.3, and so no functionality has been removed.

Bugs Fixed

No bugs were fixed in this release.

Known Problems, Workarounds, and Tips

This section describes the known issues and suggested workarounds for OrbixOTS 3.3.1.

Licencing Error on NT

OTS Servers clients and utilities when executed give the following error;

```
s1744: Licensing Error - General Error.
```

This is a bug with Orbix Installer and will be fixed in forthcoming release.

The Workaround is to license these Dynamic Link Libraries `libEncinaServerOrbixM33C.dll` and `libEncinaClientOrbixM33c.dll` using the license utility in the `bin` directory. The license key remains the same as that used during installation.

OTS 3.3.1 Certiifcation

OTS 3.3.1 is not certified for Solaris 2.6 with Oracle 8.1.6 because of the following problem.

Oracle ProC Compiler Utility Core Dumps

Oracle ProC compiler utility core dumps during compilation.

Apparent Purify Errors Indicate Leakage

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

Transient Ports Break Recovery

Recoverable servers participating in a transaction should take care to ensure that their object references include the daemon port rather than their transient port. This is important in the event that the recoverable server goes down and the 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 http://www.iona.com.

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