Orbix 6.3.4 Release Notes

In this document
The Orbix 6.3.4 release notes include the following:

CORBA Compliance

Orbix 6.3 complies with the following specifications:

- CORBA 2.6.
- GIOP 1.2 (default), 1.1, and 1.0
- C++ Language Mapping (formal/99-07-41)
- IDL-to-Java Language Mapping (formal/99-07-53)
- Object transaction service (OTS) 1.1 and 1.2

Supported Platforms and Compilers

This section lists the changes to supported platforms and compilers in Orbix 6.3.4.

New platforms and compilers

Orbix 6.3.4 includes support for the following new platforms and compilers:

- JDK 1.6 on all platforms
- Visual Studio 2008 (32 and 64-bit) on Windows XP
- Visual Studio 2008 (32 and 64-bit) on Windows 2003 Server
- Visual Studio 2008 (32 and 64-bit) on Windows Vista
- Visual Studio 2008 (32 and 64-bit) on Windows 2008 Server
- AIX 5.3 XL 9 (32 and 64-bit)
- AIX 6.1 XL 9 (32 and 64-bit)
- AIX 6.1 XL 10 (32 and 64-bit)

Removed platforms and compilers

Orbix 6.3.4 has removed support for the following platforms and compilers:

- JDK 1.4.2
- SUSE Linux Enterprise 9
- Red Hat Enterprise Linux 3
- IBM AIX 5.2 XL 7
- IBM AIX 5.2 XL 8
- GCC 3.2

Deprecated platforms and compilers

Orbix 6.3.4 is the last release to support the following deprecated platforms and compilers:

- Windows 2003 Server
- Red Hat Enterprise Linux 4
- Solaris 9 SPARC
- HP-UX 11i v1 (11.11)
- Visual Studio 6
- Sun Studio 8 on Solaris 8

- JDK 1.5
- Orbix COMet

For more details on the platforms and compilers that Orbix 6.3.4 supports, see the Orbix Platform Support web page:

http://web.progress.com/orbix/supported_platforms.html

New Features

Orbix 6.3.4 includes the following new features:

- Actional integration
- OpenSSL toolkit
- VMware virtualization support

Actional integration

Orbix 6.3.4 supports integration with Actional 8.0.x. This enables Orbix 6.3 applications and domain services to be monitored using Actional SOA management tools. Orbix 6.3.4 supports integration of both Orbix Java and Orbix C++ applications with Actional.

Actional integration is enabled using Orbix configuration settings; no code changes are necessary. For more details, see the Orbix Actional Integration Guide.

OpenSSL toolkit

Orbix 6.3.4 now supports the OpenSSL toolkit on all platforms. In previous versions of Orbix, TLS communication for C++ applications was performed using either the third-party Baltimore toolkit on all platforms including Windows, or SChannel (MS-CAPI) on Windows only.

In Orbix 6.3.4, the Baltimore toolkit is still the default TLS toolkit. However, Baltimore is now deprecated, and will be removed in a future release when OpenSSL will be the default. See also "OpenSSL 0.9.8i" on page 11.

For more details on Orbix security features, see the Orbix Security Guide.

VMware virtualization support

Selected platforms supported by Orbix 6.3.4 have been tested and certified against VMware to provide virtualization support with the leading industry vendor. This allows developers to maintain isolated development environments, and enables test administrators to scale on reduced hardware. It also permits production deployments on fewer hardware resources, or even in grid or cloud-based environments. For more details on virtualization support, see the Orbix Installation Guide.

Migrating from Previous Versions

The upgrade path to Orbix 6.3.4 is straightforward, especially for existing Orbix 6.3.x installations:

- Existing installations should be backed up prior to upgrading in case of catastrophic failure (power, disk, and so on) during Orbix 6.3.4 installation.
- The Orbix 6.3.4 installer should be pointed at your existing Orbix 6.3.x directory and will automatically overwrite the existing version.
- Configuration does not need to change if you do not wish to use new features such as Actional integration.
- If you are using Windows VC6 or VC71, you must update your application makefiles (see "Windows include and lib directories" on page 7).

For more details on installing Orbix 6.3.x service packs, see the Orbix Installation Guide. For details on migrating from earlier Orbix versions, see the Migration and Upgrade documentation on http://web.progress.com/orbix/support/6.3.4/.

Known Issues

Orbix 6.3.4 includes the following known issues:

- IBM JDK 6 on AIX 5.3
- Actional integration
- Instrumented CFR domain without security service
- Orbix domain services on Windows
- Windows include and lib directories
- Spaces in install path and itant
- Orbix Java services on Linux with 64-bit JDK

- Secure CFR domain with replicated services
- Orbix COMet development environment

IBM JDK 6 on AIX 5.3

For Orbix 6.3.4 to work correctly with IBM Java 6 on AIX 5.3, you must do the following:

1. Ensure your IBM JDK 6 version is at least SR 5.
2. Specify the IBM JSSE toolkit instead of Baltimore (the default) using the following Orbix configuration setting:

```
plugins:atli2_tls:use_jsse_tk = "true";
```

Note: You must change from Baltimore to IBM JSSE because Baltimore is not supported with Java 6 on AIX.

The IBM JSSE provides almost equivalent functionality as Baltimore, with only the following known issues:

- Multi-certificate authentication only uses the latest certificate supplied
- Certificate validator overrides do not work

For more details on Orbix security configuration, see the Orbix Security Guide.

Actional integration

Orbix and Actional integration is not supported with Microsoft Windows Visual C++ 6.0.

Note: Microsoft Visual C++ 6.0 support is deprecated in this release and will be removed in the next release.

By default, the CORBA Telecom Logging services are not instrumented when you enable Actional integration with the **Orbix Configuration** tool. However, integration with these services can be configured using the enable_actional.tcl script. Integration between Orbix performance logging and Actional is not supported. See also Instrumented CFR domain without security service.

Instrumented CFR domain without security service

A configuration repository-based domain that has been fully instrumented with Actional, but does not include an Orbix security service, may have an issue when some instrumented services are started (for example, the naming service or node daemon).

The following error may be reported during service startup:

```
IT_Core:ON_POSSIBLE_SERVER_BINDING
```

Windows platforms may report this error as a system exception in a message box during service startup. This issue is due to a bug in the configuration generation tool, and will be fixed in a patch. Please contact your Technical Support representative for download details of this patch.

As a workaround, use the following command to fix your domain configuration for each affected service. When this command is run, the service will start successfully:

```
itadmin InstallDir/asp/6.3/bin/enable_actional.tcl
    iona_services.Service.Hostname
```

For example:

```
itadmin InstallDir/asp/6.3/bin/enable_actional.tcl
    iona_services.node_daemon.my_host_name
itadmin InstallDir/asp/6.3/bin/enable_actional.tcl
    iona_services.naming.my_host_name
```

Orbix domain services on Windows

On Windows with VC6/VC71/VC8, Orbix domain services now run with `Vc7/CRT` instead of `Vc6/CRT`. Orbix domain services include the configuration repository, locator daemon, naming service, and so on.

Windows include and lib directories

On Windows with VC6/VC71/VC8, the Orbix `include` and `lib` directories have changed because VC71 is the default C++ compiler in Orbix 6.3.4. VC6 support is deprecated in this release and will be removed in the next release.

If you are upgrading from Orbix 6.3.3, you must update your makefiles to accommodate this change:

- If you are using VC6 with Orbix 6.3.3, when upgrading to Orbix 6.3.4, update your application makefiles to point to *InstallDir*`\asp\6.3\include\vc60` and *InstallDir*`\asp\6.3\lib\vc60`.

- If you are using VC71 with 6.3.3, when upgrading to Orbix 6.3.4, update your application makefiles to point to *InstallDir*`\asp\6.3\include` and *InstallDir*`\asp\6.3\lib`.

Spaces in install path and itant

If you install Orbix into a path that contains spaces, and use the `itant` tool to build the Java demos, the following message may appear in the console output:

```
C:\Program%20Files\Progress\Orbix\asp\6.3\demos\corba\demo.xml could
   not be found
```

This is a benign message and can be ignored. The Java demos still build successfully.

Orbix Java services on Linux with 64-bit JDK

On Linux, with a 64-bit JDK, you must also install a 32-bit JDK to use Orbix Java services (for example, management, security, and trader services). This is because Orbix Java services run in a 32-bit JVM. For example, when you have installed your 32-bit JDK, you can set up your environment as follows:

```
export JAVA_HOME_32=~/jdk1.6.0_16
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:$JAVA_HOME_32/jre/lib/i386/server
```

Secure CFR domain with replicated services

In a secure configuration repository (CFR)-based domain with replicated Orbix services, CFR replica sets can not be automatically shrunk. This issue does not occur in an insecure CFR-based domain. If you need to remove CFR replicas in a secure CFR-based domain, please contact Orbix technical support.

Orbix COMet development environment

Orbix COMet is supported with Microsoft Visual C++ 6.0 only. Orbix 6.3.4 also supports Visual C++ 7.1, Visual C++ 8.0, and Visual C++ 9.0. However, Orbix COMet does not support these newer compiler versions, and works with Visual C++ 6.0 only.

Note: Orbix COMet and Microsoft Visual C++ 6.0 support are both deprecated in this release and will be removed in the next release.

Bugs Fixed

The following bugs have been fixed in Orbix 6.3.4:

Bug	Description
71372	`itadmin` commands hang with `ssh` session on AIX 5.3
71701	Orbix 64-bit applications on HP-UX are outputting a negative timestamp in their log files
71709	CPU spin on `POLLERR` for STSO file descriptors when SSL is used
71879	Can not register a node daemon running on a linked insecure domain to a locator running on a insecure/secure domain
71938	Memory growth with CORBA timeout when using bi-directional IIOP
72036	`itadmin ns` commands hang in a replicated domain
72085	Log level severity is too high for reporting the failure to resolve `IT_CorbaSSO_TLS_Manager`
72108	Secure Orbix 6.3.3 client can not bind to an Orbix 6.2.1 IOR

Bug	Description
72115	`org.omg.CORBA.BAD_TYPECODE` when using the `extract()` method from the generated helper class
72121	`itadmin process stop` command not clearing locator cache
72124	Slave CFR that has not contacted a master replica crashes when a write request is sent to it
72128	Memory leak in configuration repository
72156	Orbix server dumps core in `recv_reply`
72163	`itadmin cfr` commands use credentials from the boot ORB instead of from the application ORB
ORB-1330	Unhandled exception in notification service when adding a filter to a subscription
ORB-1344	Orbix TLS Java client will not timeout if invoking upon an Orbix 6.3.3 Java server whose POA manager has not been activated
ORB-1385	Memory corruption when using unbounded and bounded sequences of certain fixed sized types
ORB-1401	Locator and CFR intermittently core dump on startup in a replicated domain with more than four replicas only when the security service is also replicated
ORB-1405	`string too long CORBA::MARSHAL` exception thrown intermittently when unmarshalling complex structure
ORB-1415	Orbix 6.3.3 TLS-secured servers using 100% CPU
ORB-1421 ORB-1479	Callback connection race condition leads to stale connections
ORB-1429	`allocbuf()`/`freebuf()` not calling constructor/destructor for each element of certain IDL sequences
ORB-1557	`itadmin process modify -startupmode disable` not working for replicated Java and C++ servers

Enhancements

The following enhancements have been made in Orbix 6.3.4:

- Secure CFR domain
- OpenSSL 0.9.8i

Secure CFR domain

In Orbix 6.3.4, when you create a secure or a semi-secure configuration repository-based domain, the following configuration domain files are generated:

insecure-*Domain*.cfg	Contains boilerplate configuration and default settings for the boot ORB. Should not be used directly in a secure CFR domain, but can be used in a semi-secure CFR domain. Included in the secure-*Domain*.cfg file.
secure-*Domain*.cfg	Used by all services and clients (except Orbix security service and CFR) to bootstrap the application ORB configuration. Includes insecure-*Domain*.cfg and specifies credentials needed to connect to the CFR and download application configuration data.
cfr-*Domain*.cfg	Used only by the Orbix security service and CFR service, and contains configuration details for both services.

These replace the files that were generated in previous versions of Orbix.

In Orbix 6.3.4, the following scripts are also generated when you create a secure or a semi-secure CFR domain:

secure-*Domain*_env	Enables access to secure services.
insecure-*Domain*_env	Enables access to insecure services only.

In previous versions of Orbix, only a single *Domain*_env script was generated to enable access to all services in a domain. However, this created difficultly when using command-line tools because you needed to specify the CFR configuration scope to communicate with the CFR.

For further details on using a secure configuration repository-based domain, see the Secure CFR Domain section in the Orbix Security Guide.

OpenSSL 0.9.8i

Orbix 6.3.4 supports OpenSSL version 0.9.8i. This includes a different format for security certificate names than those previously used by Orbix. OpenSSL 0.9.8i uses the `emailAddress` string instead of the `Email` string used in previous versions of Orbix. For example, the return of a get name call in Orbix 6.3.4 is:

```
C=US, ST=Massachusetts, O=ABigBank -- no warranty -- demo purposes,
OU=Demonstration Section -- no warranty --, CN=Abigbank Accounts
Server/emailAddress=server@abigbank.com
```

In previous versions of Orbix, the format of the security certificate name was:

```
C=US, ST=Massachusetts, O=ABigBank -- no warranty -- demo purposes,
OU=Demonstration Section -- no warranty --, CN=Abigbank Accounts
Server/Email=server@abigbank.com
```

Previous versions of Orbix updated the OpenSSL-based format to maintain binary compatibility with earlier versions. However, Orbix 6.3.4 uses the same security certificate name format as OpenSSL 0.9.8.i.

Other Resources

The following additional resources are available:

- The most up-to-date versions of Orbix technical documentation are available from:

  http://web.progress.com/orbix/support/6.3.4/

- The Orbix Knowledge Base is a database of articles that contain practical advice on specific development issues, contributed by developers, support specialists, and customers. This is available from:
  http://web.progress.com/orbix/orbix-support.html

- Contact Orbix technical support at:

  http://web.progress.com/orbix/orbix-support.html