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Orbix 6.3.6 Release Notes

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# Orbix 6.3.6 Release Notes

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# **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

## **Platforms and Compilers**

For the latest information on supported platforms and compilers, see the Orbix Supported Platforms page.

## **New Features**

Orbix 6.3.6 includes the following new features:

- HTTPs transport support for Orbix/WS
- Actional Integration for Orbix/WS
- IPv6 Support for Orbix/WS
- OpenSSL security toolkit
- Java 7 support

## HTTPs transport support for Orbix/WS

Orbix 6.3.6 adds support for the SOAP/HTTPs binding/transport in the Orbix/WS component. CORBA, SOAP/HTTP, and SOAP/HTTPs bindings/transports are now supported by the Orbix/WS feature.

There are several ways to enable use of the HTTPs transport.

You may specify the https: prefix in the URL stored in the location attribute of the soap:address element, as in the following example:

You may force use of HTTPS even if the http: prefix is specified in the location attribute by setting the plugins:at\_http:client:use\_secure\_sockets = "true" on the client side and the plugins:at\_http:server:use\_secure\_sockets = "true" on the server side in the configuration.

Orbix 6.3.6 Release Notes New Features

The following examples show additional settings that can be configured directly in the Orbix/WS WSDL:

```
<port binding="tns:HelloWorldPortBinding" name="HelloWorldPort">
    <soap:address location="https://localhost:55012"/>
    <http-conf:client
    UseSecureSockets="true"
    TrustedRootCertificates="../certificates/openssl/x509/ca/cacert.p12"
    ClientCertificate="../certificates/openssl/x509/certs/client_cert.p12"
    ClientPrivateKeyPassword="ClientPrivKeyPass"/>
</port>
```

```
<port binding="tns:HelloWorldPortBinding" name="HelloWorldPort">
    <soap:address location="https://localhost:55012"/>
    <http-conf:server
        UseSecureSockets="true"
        ServerCertificate="../certificates/openss1/x509/certs/server_cert.p12"
        ServerPrivateKeyPassword="ServerPrivKeyPass"
        TrustedRootCertificates="../certificates/openss1/x509/ca/cacert.p12"/>
</port>
```

You may also modify the following variables in the plugins:at\_http namespace to configure the HTTPS transport:

```
plugins:at_http:client:client_certificate
plugins:at_http:client:client_private_key_password
plugins:at_http:client:trusted_root_certificates
plugins:at_http:server:server_certificate
plugins:at_http:server:server_private_key_password
plugins:at_http:server:trusted_root_certificates
```

## **Actional Integration for Orbix/WS**

The Actional integration feature has been enhanced in this Orbix release. You can now use Actional to monitor your Orbix/WS endpoints using the CORBA, SOAP/HTTP and SOAP/HTTPs bindings/transports, in addition to monitoring standard non-Orbix/WS enabled clients and servers.

To enable Actional monitoring of Orbix/WS endpoints, the "corba\_context" and "actional" plugins need to be added to the orb\_plugins list, i.e.:

Orbix 6.3.6 Release Notes New Features

You must specify Actional interceptor to the request-level interceptor lists by adding the following configuration variables:

```
# Add actional to the client interceptors chain.
binding:artix:client_request_interceptor_list= "actional";
binding:artix:client_message_interceptor_list= "actional";
# Add actional to server interceptors chain.
binding:artix:server_request_interceptor_list= "actional";
binding:artix:server_message_interceptor_list= "actional";
```

Please note that the "actional" Orbix/WS monitoring plugin cannot be used in conjunction with the "orbmon" CORBA monitoring plugin.

Orbix 6.3.6 incorporates Actional C SDK version 8.2.3 and Actional Java SDK version 8.2.3 to enable seamless Actional monitoring across Orbix and Artix products over CORBA, SOAP/HTTP, and SOAP/HTTPs.

Please note that Actional 8.2.3 SDK introduces a change in behaviour in the reporting of the operation name of the NSGO mapping. This will result in the rediscovery of existing service operations. If your existing policies targets are using a specific operation, these targets will need to be updated correspondingly in the Actional Management Server.

For additional details, see the Orbix Management Guide.

## IPv6 Support for Orbix/WS

Orbix 6.3.6 adds IPv6 support to the Orbix/WS feature. CORBA, SOAP/HTTP, and SOAP/HTTPs bindings/transports now support IPv6.

To enable IPv6 support in the Orbix/WS component, please refer to the documentation to configure IPv6 in the Orbix runtime.

## OpenSSL security toolkit

Orbix 6.3.6 incorporates OpenSSL security toolkit version 1.0.1c and adds support for Transport Layer Security v1.2 (TLSv1.2).

By default, Orbix 6.3.6 will use the highest protocol in the [TLSv1.2, SSLv3] range. In order to use "TLS\_V1\_2", the key used to sign the certificate must be greater than 512 bits.

Attempting to use TLSv1.2 with a certificate signed by a key of size 512 bits or smaller will result in a runtime error.

If the certificate in use was signed with a key of size 512 bits or smaller, "TLS\_V1" or lower must be used:

policies:iiop\_tls:mechanism\_policy:protocol\_version = ["TLS\_V1", "SSL\_V3"];

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

In previous Orbix releases, the runtime could be configured to use either the Baltimore security toolkit or OpenSSL for C++, and the Baltimore security toolkit or Java JSSE/JCA for Java.

In Orbix 6.3.6, the OpenSSL toolkit is the default and only TLS toolkit for C++, and the Java JSSE/JCA toolkit is the default and only TLS toolkit for Java. Support for the Baltimore toolkit has been removed.

## Java 7 support

Orbix 6.3.6 supports Java 7 on all platforms, with the exception of HP-UX PA-RISC.

## **Migration from Previous Versions**

To upgrade to Orbix 6.3.6 from existing Orbix 6.3.x installations:

- Back up existing installations before you upgrade to Orbix 6.3.6.
- Go to the Orbix 6.3.x directory and run the Orbix 6.3.6 installer. The Orbix installer overwrites the existing version.
- If your existing Orbix deployment is configured to use the Baltimore security toolkit or the Baltimore-based Key Distribution Mechanism, refer to the instructions in Migrating away from Baltimore security toolkit page 6..

**Note:** There is no need to change any configuration unless you want to use new features such as Actional integration or the Orbix/Web service component.

For 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://communities.progress.com/pcom/docs/DOC-105909.

## Migrating away from Baltimore security toolkit

# Migration from Baltimore security toolkit deployments to OpenSSL/JSSE security toolkit deployments

If your existing Orbix deployment was configured to use the Baltimore security toolkit, the following configuration variables will need to be modified:

```
# Baltimore security toolkit
initial_references:IT_TLS_Toolkit:plugin = "baltimore_toolkit";
policies:mechanism_policy:protocol_version = ["TLS_V1", "SSL_V3"];
plugins:atli2_tls:use_jsse_tk = "false";
```

To enable the use of the OpenSSL security toolkit and the Java JSSE/JCA security toolkit, the relevant configuration variables must be changed to the following values:

```
# OpenSSL and JSSE security tookit
initial_references:IT_TLS_Toolkit:plugin = "openssl_toolkit";
policies:mechanism_policy:protocol_version = ["TLS_V1_2", "SSL_V3"];
plugins:atli2_tls:use_jsse_tk = "true";
```

# Migration of Key Distribution Mechanism (KDM) to use OpenSSL

The deprecated Baltimore security toolkit has been removed in Orbix 6.3.6. When upgrading previous Orbix installation to Orbix 6.3.6, domains which use the Baltimore based Key Distribution Mechanism will need to migrate to the OpenSSL based Key Distribution Mechanism.

If your domain does not use the KDM or you are using a 64-bit Orbix installation on Windows, then you do not need to take any manual steps to upgrade to Orbix 6.3.6 and you can disregard the rest of this section.

You can determine whether your pre-6.3.6 Orbix deployment is using a Baltimore-based KDM by checking the value of the plugins:kdm:shlib\_name and plugins:kdm\_store:shlib\_name variables:

#### **Baltimore-based KDM:**

```
plugins:kdm:shlib_name = "it_kdm_server"
plugins:kdm_store:shlib_name = "it_kdm_store_pss_r"
```

#### **OpenSSL-based KDM:**

```
plugins:kdm:shlib_name = "it_kdm_server_openssl"
plugins:kdm_store:shlib_name = "it_kdm_store_pss_r_openssl"
```

To migrate your Baltimore-based KDM database to the OpenSSL-based KDM format, you will need to follow these steps:

- Prior to upgrading to Orbix 6.3.6, use the itadmin tool in your existing Orbix installation to gain a list of the existing KDM database entries. There are two types of entry, orbname/passphrase pairs and checksums.
  - → To get the list of orbnames that you will need to re-enter the passphrase for in the OpenSSL-based KDM database, use the command:

```
itadmin kdm_adm list
```

→ To get a list of the checksums that you will need to re-enter in the OpenSSL-based KDM database, use the command:

```
itadmin checksum list
```

- Keep a record of this data. Have the passphrase associated with each orbname ready.
- Upgrade to Orbix 6.3.6 following the instructions in the *Installation Guide*.
- After upgrading to 6.3.6, the KDM database will need to be backed up and
  moved to a different location, in order for the locator to start up correctly. If the
  KDM database is not moved, attempting to start the locator will result in an
  IT\_KDM: KDM\_DATABASE\_CORRUPT error.

The KDM database file can be found at this location:

```
$DATA_DIRECTORY/<domain-name>/dbs/locator_priv/IT_KDM_StoreImpl
_KDMDataHomeImpl_1_0
```

In a default installation of Orbix, this database file will be:

```
$IT_PRODUCT_DIR/var/<domain-name>/dbs/locator_priv/IT_KDM_Store
Impl_KDMDataHomeImpl_1_0
```

Orbix 6.3.6 Release Notes Known Issues

After moving the Baltimore-based KDM database file, you will be able to start
the locator and re-populate the OpenSSL-bsed KDM database with the
configuration data collected in an earlier step by using the itadmin tool.

For further details and examples of how to manage passphrases and checksums using the itadmin tool and the KDM, please refer to *Chapter 14 Automatic Activation of Secure Servers* in the Orbix security guide.

## **Known Issues**

Orbix 6.3.6 includes the following known issues:

- Deployment problem on Windows 7 or Windows 2008 R2 virtual machine on VMWare
- client\_address\_mode\_policy on Windows Vista/Windows 7
- Actional integration
- Instrumented CFR domain without security service
- Spaces in install path and itant
- Orbix Java services on Linux with 64-bit JDK
- Secure CFR domain with replicated services

# Deployment problem on Windows 7 or Windows 2008 R2 virtual machine on VMWare

You might encounter an intermittent failure to deploy services on virtual machines with only 1 CPU. This problem does not occur when the virtual machine has 2 or more CPUs.

## client\_address\_mode\_policy on Windows Vista/Windows 7

Errors occur on Windows Vista or Windows 7 when using the policies:iiop:client\_address\_mode\_policy:local\_hostname configuration variable.

When policies:iiop:client\_address\_mode\_policy:local\_hostname is set to "localhost", the client ORB resolves the IP address and binds it to 127.0.0.1.

If the address published by the server is the actual hostname or numeric IP of the server, then the connection fails and the system displays an error message "Network is unreachable" with a Winsock error value 10057.

Orbix 6.3.6 Release Notes Known Issues

If policies:iiop:client\_address\_mode\_policy:local\_hostname is set to 10.X.X.X or the actual hostname and if the address published by the server is 127.0.0.1, the connection fails and the system displays an error message "Cannot assign requested address" with a Winsock error value 10049.

To resolve the problem, you must set the policies:iiop:client\_address\_mode\_policy:local\_hostname configuration variable to the address published by the server.

## **Actional integration**

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 <code>enable\_actional.tcl</code> 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, might have an issue when some instrumented services (for example, the naming service or node daemon) are started.

The following error might be reported during service startup:

```
IT_Core:ON_POSSIBLE_SERVER_BINDING
```

Windows platforms may report this error as a system exception 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

Orbix 6.3.6 Release Notes Known Issues

#### 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
```

## Spaces in install path and itant

If your Orbix installation path contains spaces, and you use the itant tool to build the Java demos, the following message might 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 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, after you have installed 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 have to remove CFR replicas in a secure CFR-based domain, please contact Orbix technical support.

# **Bugs Fixed/Enhancements**

The following table lists bugs fixed and enhancements implemented in Orbix 6.3.6:

Bug	Description	
ORB-2139	Provide a code hook to load a secure custom passphrase for the private certificate which does not show up in clear text in the configuration or password file.	
ORB-2136	logging enhancement in giop snoop	
ORB-2137	global configuration added Max Events and Max Retries	
ORB-2115	logging enhancement	
ORB-2009	Issue with IDL compiler and -l parameter	
ORB-2113	dangling connections can be left after ORB shutdown and destroy	
ORB-2114	Notification Timeout not removing event from channel	
ORB-1907	Erroneous Java GIOP-snoop output	
ORB-2097	mfa_adapter version number fix	
PATCH-278	Add Orbix/WS support for Windows VC8 64-bit	
PATCH-280	Add Orbix/WS support for Windows VC9 64-bit	
PATCH-281	Add Orbix/WS support for Windows VC10 64-bit	
ORB-2107	Fix logic in treating negative sign "-" for negative fixed types	
ORB-2087	Issue with itconfigure deploy in gui mode	
ORB-2082	Permissions problem with xerces shlib on hp-ux cios	
ORB-2083	ORB-2083 Cannot deploy Orbix domain on an IPv6 only machine on HP 11.3	
ORB-2077	Add Orbix/WS support to Windows VC10 32-bit kit	
ORB-2068	Fix for java per request load balancing	
ORB-1908	Java not able to handle configuration includes if absolute path not specified	

Orbix 6.3.6 Release Notes Other Resources

## Other Resources

The following additional resources are available:

 The most up-to-date versions of Orbix technical documentation are available at: http://communities.progress.com/pcom/docs/DOC-105909

- 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 at:
  - http://web.progress.com/orbix/orbix-support.html
- Contact Orbix technical support at: http://web.progress.com/orbix/orbix-support.html

Orbix 6.3.6 Release Notes Other Resources

Orbix 6.3.6 Release Notes Other Resources