Orbix Mainframe 6.0

Release Notes

In this document

This document contains the following sections:

Product Information

Orbix Mainframe 6.0 is an implementation of the Common Object Request Broker Architecture (CORBA) for OS/390 and OS/390 UNIX System Services. It complies with the following Object Management Group (OMG) standards:

- CORBA 2.4
- GIOP 1.2, 1.1, and 1.0
- C++ Language Mapping (formal/99-07-41)

More information on Orbix Mainframe, including all the latest documentation updates for Orbix Mainframe and other platforms, can be found on the IONA Technologies web site at: `http://www.iona.com/support/docs/index.xml`.

Differences between the OS/390 product and the other products are noted in this document.

New in This Release

The new features in Orbix Mainframe 6.0 can be summarized as follows:

- Integrated with IONA Security Service (running off-host) and CORBA Secure Interoperability (CSIv2L0). See "iS2 Integration" on page 6.
- Management plug-in that supports the development of custom instrumentation for managed CORBA servers and CICS or IMS adapters in combination with an off-host administration GUI console. See "Orbix Management" on page 6.
- Enhanced logging with a WTO plugin, which allows you to log detailed event messages to the operator console. See "WTO Event Log Stream Plug-In" on page 10.
- Support for IMS LTERM-field setting by clients. See "LTERM Propagation" on page 13.
- New improved deployment for multiple domain configurations and customers using the non-default-locale. See "Improved Support for Multiple Configuration Domains and Non-Default Locales" on page 13.
- New improved on-host and off-host load balancing and fault tolerance options. See "Improved Support for Load Balancing and Fault Tolerance" on page 14.
- Core internationalization support to work in non-English and multi-byte locales. See "Summary of Bug Fixes in Version 6.0" on page 17.
- Support for conversational IMS transactions. See "OTMA Conversational Support" on page 14.

Restrictions

This section discusses the following topics:

Features Unavailable in Orbix Mainframe

Orbix Mainframe 6.0 includes much of the functionality available in Orbix 6.0 on other platforms. Programming and administrative information for those platforms generally applies to OS/390 UNIX System Services also. However, the following items are not yet available:

Feature	Comment
Configuration Repository (CFR)	No CFR service is provided. Only file-based configuration domains are supported in this release. A remote CFR cannot be used to share configuration information with other platforms.
C++/Java Code generation toolkit	IDLgen tool is not provided.
itconfigure utility	Not provided.
System log stream	The `system_log_stream` plug-in is not provided. However, the `wto_log_stream` plug-in can be used to issue event messages to the console log.
Activator	This installation contains an OS/390 UNIX System Services activator but no OS/390 activator.
TLS	TLS on OS/390 requires IBM's System SSL software. Instructions are provided that explain how to generate certificates using RACF, for use with the product demonstrations.
Events	Not provided.
Notification	Not provided.
Trader	Not provided.
Multicast transport	Not provided.
Shared memory transport	Not provided.
Management service	Not provided. See "Orbix Management" on page 6 for more information.
Security service	Not provided. See "iS2 Integration" on page 6 for more information.
Firewall Proxy Service	Not provided.
JMS notification bridge	Not provided.

OS/390 Restrictions

The following OS/390 restrictions apply:

Functional Area	Comment

Text files	Text files containing IDL, configuration, licences, and IOR files might contain data that is too long to fit within the record length of a particular data set. In such cases, Orbix Mainframe 6.0 uses a continuation column format similar to that used by the MVS Assembler:
	`IOR:000000000000001949444c3a457874656e6465645479706554657374 3a312e30000\`
	`0000000000001000000000000007e000102000000000d36332e36352e3133332e353600\`
	`0007520000001b3a3e0231310c0000000004000246000041c6080000000000000000000\`
	`0000003000000000000000800000000049545f4100000001000000 1c0000000010020417\`
	`0000000100010001000101000000000100010109000000060000000600000000000011`
	For fixed-record-length data sets, the last eight columns of a record (that is, columns 72–80, which might contain JCL sequence numbers inserted by the ISPF editor) are ignored, and column 71 is used as a continuation column. If this is blank, the data on the line logically ends at its last non-blank character. If the column is not blank, the data on the line is considered to continue in the first column of the next record. So, in the preceding example of a stringified object reference in a `LRECL=80` data set, the string is considered to be one long line consisting of `IOR:` followed by 348 hexadecimal digits. The backslashes used in the continuation column are not part of the reference.
	This applies only to `RECFM=FB` data sets. VB data sets are also supported for text files and the data in columns 72–80 is not ignored.
	A utility program, `orxcopy`, is provided to copy and format records between data sets and HFS files, or between data sets of different record lengths or types. This can be run as follows from the OS/390 UNIX System Services shell:
	`orxcopy asp60.cfg "//'TEST.CONFIG(DEFAULT@)'"`
	`orxcopy "//'TEST.DEMO.IORS(TYPETEST)'" typetest_objref.txt`
	You can also run this utility in batch, using sample JCL provided in the `ORXCOPY` member of `HLQ.ORBIX60.JCL`.

Functional Area	Comment

Environment variables	Environment variables documented in Appendix D of the *Orbix Administrator's Guide* apply on OS/390. However, these variables are usually checked only after certain DD cards, and can contain PDS names as well as path names. For example:
	Locating IDL configuration file:
	1. Check the `IT_IDL_CONFIG_FILE` environment variable. On OS/390, this can point to a data set:
	`$ export IT_IDL_CONFIG_FILE="//HLQ.ORBIX60.CONFIG(IDL)"`
	2. Check the `IT_IDL_CONFIG_PATH` environment variable. On OS/390, this list can include a data set:
	`$ export IT_IDL_CONFIG_PATH="/tmp/my.cfg://HLQ.ORBIX60.CONFIG(IDL)"`
	3. Check `DD:ITCONFIG(IDL)`. This is OS/390-specific.
	4. Check *`it-product-dir`*`/asp/6.0/etc/idl.cfg`, where *`it-product-dir`* is the value of environment variable, `IT_PRODUCT_DIR`, or defaults (on OS/390) to `/opt/iona`.

Floating point format	Only the native 390 format of Floating Point is supported.
`stdout/stderr` messages	Most messages written to `stdout` or `stderr` by the Orbix utilities (for example, `itadmin`, IDL compiler, and so on) or by the `local_log_stream` plug-in are not yet locale-sensitive, and will come out in IBM-1047. The primary effect of this is unexpected characters where brackets or braces should be.
NFS-mounted HFS	External attributes are not honored for HFS files that have been NFS-mounted on OS/390. Therefore, if you wish to run IONA services (for example, locator, activator, node daemon, and so on), you must ensure that your HFS is locally mounted.
C++ development	Orbix Mainframe 6.0 requires the IBM z/OS V1.2 ANSI C++ compiler for C++ development. This poses an issue when Orbix Mainframe is run on OS/390 V2R10 because the ANSI C++ compiler is not available on this platform. If C++ applications are required for Orbix Mainframe running on OS/390 V2R10, use the following approach: • Compile and link the C++ applications on z/OS 1.2 or z/OS 1.4 using the ANSI C++ compiler • Use the TARGET(OSV2R10) and NORTTI C++ compiler flags. By default, the demos are built with these options enabled. • Copy the C++ application to OS/390 V2R10

The itadmin Tool

The `itadmin` tool provided on OS/390 supports a subset of the full functionality provided on other Orbix 6.0 platforms. This can be used as a command-line utility or in a command shell, but not from Tcl scripts or in transactions. The `itadmin` tool can also be run in batch mode using the sample JCL provided in `HLQ.ORBIX60.JCL(ORXADMIN)`.

Orbix Management

Orbix Mainframe provides full support for the Orbix Management API and thus enables you to instrument servers running on the mainframe. This includes instrumentation of all servers at the ORB level, and an additional instrumentation for the Naming Service. Because the IONA Administrator Management Service is not provided with Orbix Mainframe, this service must be running on an off-host Orbix deployment and must be contactable by the managed servers on the mainframe.

See the *Mainframe Management User's Guide* for more details on IONA Administrator, managing Orbix Mainframe services from another platform, and instrumenting your own servers using the C++ Management API.

See the *Management User's Guide* in the Orbix library at `http://www.iona.com/support/docs/e2a/asp/6.0/admin.xml` for more details on the use of the off-host components of IONA Administrator.

iS2 Integration

Orbix Mainframe provides restricted support for integration with the IONA Security Framework (ISF); this allows Orbix Mainframe to interoperate within a secure iS2-enabled location domain.

Since the iS2 Security Service is not provided with Orbix Mainframe, this service must be running on an off-host Orbix deployment and must be contactable by the Orbix Mainframe applications.

The main restriction in Orbix Mainframe 6.0 is that the IONA realm/role authorization functionality is not supported. See the *Mainframe Security Guide* for more information.

OS/390-Specific Features

This section discusses the following OS/390-specific features:

Codeset Negotiation

Orbix supports codeset negotiation as specified in CORBA 2.3.1/1.3.7.

Orbix Mainframe adds support for negotiating EBCDIC codeset IBM-1047 for character data, so unnecessary conversions can be avoided between OS/390 clients and servers. Wide character data is also supported, but the native OS/390 wchar format cannot be used as a transmission codeset. Orbix Mainframe always converts wide character data to one of the supported representations (UCS-2, UCS-4, UTF-16) for transmission.

SAF Plug-In

This Orbix Mainframe plug-in provides optional Principal-based access control, similar to that found in the Orbix 2.3 for OS/390 products. A server can accept or reject incoming requests based on a `CORBA::Principal` value in the request header. The value is treated as an OS/390 user ID and access is checked against an operation-specific SAF profile name. Access can therefore be controlled on a per-operation basis, or (using generic profiles) on a per-server basis. More detail can be found in `HLQ.ORBIX60.DOC(SAF)`.

TLS Plug-In

This Orbix Mainframe plug-in enables TLS applications to use a PKI system for authenticating each side of a TLS connection. For more details, see the SSL Prerequisites section in the *Mainframe Installation Guide*.

IMS and CICS Server Adapters

The IMS server adapter and CICS server adapter components of Orbix Mainframe provide a simple way to integrate distributed CORBA and EJB clients on various platforms with existing and new IMS and CICS transactions running on OS/390. These server adapters enable you to develop and deploy Orbix COBOL and PL/I servers in IMS and CICS. The server adapters can execute in an OS/390 or OS/390 UNIX System Services address space. You can use the server adapters to integrate IMS and CICS servers with distributed CORBA clients running on various platforms. They also facilitate the integration of existing IMS and CICS transactions, not developed using Orbix, with distributed CORBA clients, without the need for changes to the existing programs.

The IMS server adapter can be configured to use either OTMA or APPC to communicate with IMS. Similarly, the CICS server adapter can be configured to use APPC or EXCI to communicate with CICS. Both server adapters also provide distributed transactional support using OTS and RRS. The server adapters can also be run using the TLS plug-in shipped with Orbix Mainframe, to provide SSL-secured communication with client applications.

While providing the same functionality as previous versions of the IMS and CICS server adapters, this version has been rewritten and incorporates significant performance improvements over previous versions. If you are migrating from a previous version, see the following user manuals:

- *IMS Adapters Administrator's Guide*
- *CICS Adapters Administrator's Guide*

IMS and CICS Client Support

This support allows an IMS or CICS transaction to act as a CORBA client and communicate with a CORBA server. This is enabled by deploying the Orbix Mainframe client adapter on OS/390 or OS/390 UNIX System Services, and an Orbix Mainframe IFR server.

The Orbix Mainframe client program running inside IMS or CICS uses IONA's custom-built IMS/CICS micro-kernel runtime. This supports APPC client calls to the client adapter, which then forwards these client requests as GIOP messages over IIOP to the target server. The server can be implemented in C++, Java, COBOL, or PL/I, and it can run in OS/390 batch, inside IMS or CICS, or on another host platform.

The client adapter uses APPC to communicate with IMS or CICS. Like the server adapters, the client adapters can also be run using the TLS plug-in shipped with the Orbix Mainframe, to provide SSL-secured communication with client applications. For more detailed information see the *IMS Adapters Administrator's Guide* and the *CICS Adapters Administrator's Guide*.

GIOP Principal Support

In addition to the facilities already available to transmit a GIOP user principal with a request in GIOP 1.0 and GIOP 1.1, support has been added in this release to transmit a principal via GIOP 1.2, using a service context. This is enabled by setting the configuration variable `policies:giop:interop:policy:enable_principal_service_context` to `"true"`. The service context ID used can be selected with the configuration variable `policies:giop:interop_policy:principal_service_context_id`, if the default service context ID `0x49545F44` is not correct for your environment. This support enables components like the client adapter, IMS server adapter, and CICS server adapter to send and receive principals over GIOP 1.2. It is no longer necessary for these components to set the GIOP version to 1.1 if both the client and server can use a service context to send and receive the principal.

A facility to obtain the principal from a current variable has also been added. This current is called the GIOP current and the principal can be obtained in both binary and text format. The portable interceptor demonstration described in both the *IMS Adapters Administrator's Guide* and the *CICS Adapters Administrator's Guide* demonstrates how this can be used.

itmfaloc

A new plug-in, `itmfaloc`, is now shipped with Orbix Mainframe. This is a URL resolver that allows an itmfaloc URL to be used instead of a stringified interoperable object reference (IOR). This facilitates the task of locating IMS and CICS adapter objects. Using an itmfaloc URL is similar to calling `itadmin mfa resolve`, but an itmfaloc URL exposes this functionality to Orbix applications directly. Any Orbix Mainframe application can use itmfaloc URLs. Also, any Orbix Mainframe utilities (such as `itadmin`) can use itmfaloc URLs. See the *IMS Adapters Administrator's Guide* and the *CICS Adapters Administrator's Guide* for more details on the operation of itmfaloc URLs.

Type Information Store

Orbix Mainframe 6.0 allows IMS and CICS adapters to use either the IFR or the type information store to obtain interface details dynamically. The type information store is a new file-based mechanism. You can have the Orbix IDL compiler generate type information files that the adapter then uses to marshal and unmarshal types on-the-wire. Type information files are an alternative to using the IFR. The use of type information files allows the adapter to run in standalone mode. It also addresses potential versioning issues with IDL.

WTO Announce Plug-In

For external monitoring and automation purposes, the following messages can be written when an Orbix Mainframe server starts up and later ends on OS/390:

```
+ORX2001I ORB orbname STARTED (app-id)
+ORX2002I ORB orbname ENDED (app-id)
```

These messages can be enabled in any server without code changes, by configuring the `orb_plugins` list for the server to include the name `wto_announce`.

WTO Event Log Stream Plug-In

The WTO Event Log Stream enables all event log messages to be directed to the operator console; this log stream can be used with the `local_log_stream`, which is used to write messages to stdout/stderr.

The format of the WTO message is as follows:

```
"ORXL[event_id][severity_code]" "subsystem" "text"
```

The components of the WTO message can be explained as follows:

event_id	The event ID.
severity_code	The severity of the event being logged. Valid values are: • I— information message • W— warning message • S— error message • E— fatal error message
subsystem	Identifies the component from which the event originated.
text	Event details, textual information describing the event.

The following are examples of WTO messages:

```
+ORXL020I IT_LOCATOR  Locator daemon started, domain name:
   default_domain.location
+ORXL031I IT_LOCATOR  Locator daemon stopped, domain name:
   default_domain.location
```

Due to the WTO 126-character limit per message, the Orbix event message might be truncated.

These messages can be enabled in any server, without code changes, by configuring the orb_plugins list for the server to include the name `wto_log_stream`, and by configuring the event_log:filters list as necessary.

Operator STOP Command

Orbix servers can use the `IT_TerminationHandler` programming interface to handle signals and stop cleanly. On OS/390, such servers can be stopped using the UNIX shell command, `kill`, or using the operator command `STOP`; for example:

```
P EXTSRV,A=0040
```

COBOL and PL/I Build JCL

The procedures supplied for building COBOL and PL/I servers and clients have changed since they were first released in IONA Mainframe Integrator 2.0. Further updates have been added to the PL/I build procedures since Orbix Mainframe 5.1 was released. To ensure that your PL/I programs compile and link correctly with subsequent versions, you must replace any JCL that you have stored in non-IONA libraries with the latest shipped JCL.

Binary Compatibility

Orbix Mainframe 6.0 represents a major version upgrade. Binary compatibility has been broken with respect to the following items:

- C++/COBOL/PLI development: the DLL version numbers have been incremented in this release. For C++, the IDL code generation and C++ include files have also been changed. IONA therefore recommends a full recompile and relink of all existing applications being migrated to Orbix Mainframe 6.0.
- Configuration: a number of configuration items have changed in this release, meaning that an existing ASP 5.x configuration file will not work in an Orbix 6.0 domain. See the *Mainframe Migration and Upgrade Guide* for more information.

PL/I Server Implementation

The PL/I server accessor module (*idlmembernameZ*) was eliminated in release 5.0.1 of Orbix Mainframe. The code previously in this member is now in the server implementation instead. As a result, you will be required to make some minor additions to PL/I source code. For full details of the required changes, see the *Mainframe Migration and Upgrade Guide*.

ORBARGS DD Statement

Orbix Mainframe makes extensive use of the JCL "PARM" keyword. The PARM has a limit of 100 characters of data. Any PARM setting with more than 100 characters of data will cause a JCL error.

If the PARM contains "-ORB" arguments, such as "`-ORBname iona_utilities.cicsa`", then the PARM data can be shortened by moving the "-ORB" arguments from the PARM to a file pointed to by the ORBARGS DD statement. This may resolve the excessive PARM length JCL error. The following is a JCL example:

```
//REG   EXEC PROC=ADMIN
//PARM='mfa resolve Simple/SimpleObject > DD:IOR'
//IOR DD DSN=&ORBIX..DEMOS.IORS(SIMPLE),DISP=SHR
//ORBARGS DD *
-ORBname iona_utilities.cicsa
/*
```

The "-ORBname iona_utilities.cicsa" does not have to appear in the PPARM symbolic parameter of the ORXADMIN procedure, where "PPARM" forms part of the data in the PARM. This saves 29 characters of PARM data.

The following rules apply when using the ORBARGS DD name:

- Use it only for arguments of the form -ORB*xxx yyy*. Do not use it for other arguments.
- Code only one -ORBxxx argument per line.
- Up to a maximum of 16 lines can be coded.
- Each line must be of the form -ORB*xxx yyy*, where *xxx* represents the -ORB argument, and *yyy* represents the value for that argument.
- If multiple lines are coded, an invalidly coded line invalidates all others.
- If the same argument is coded both in the RPARM and ORBARGS, the RPARM takes precedence.
- ORBARGS can be used with DD * or with DD DSN= pointing to a fixed block data set with a logical record length of 80 bytes.

LTERM Propagation

The OTMA IMS server adapter can propagate into IMS a logical terminal (LTERM) field that originates from the client application. It can also subsequently return the LTERM value obtained from IMS back to the client.

Improved Support for Multiple Configuration Domains and Non-Default Locales

Improvements have been made in the following areas:

- Support for deploying in a non-default locale (that is, a locale other than IBM-1047).
- Support for deploying multiple configuration domains.
- Support for running Orbix Mainframe services in non-default locales and within multiple configuration domains.

Improved Support for Load Balancing and Fault Tolerance

Improvements have been made in the following areas:

- Refactored node daemon and process monitoring—The node daemon has been refactored in Orbix 6.*x*, to remove the need for "ping" messages between the node daemon and the servers being monitored. This in turn has greatly enhanced process monitoring of high-availability components.
- ATLI2—The inclusion of this next-generation transport layer provides much greater scalability and throughput at the network level. More consistent and reliable connection handling code means faster detection of remote host failure for high-availability components.

OTMA Conversational Support

The IMS adapter component of Orbix Mainframe now provides a facility to run conversational transactions, using the OTMA plug-in. See the *IMS Adapters Administrator's Guide* for more information.

Known Problems

The following are the list of current known problems for Orbix Mainframe 6.0:

Functional Area	Comment
Arrays in IDL	Some C++ code generated by the IDL compiler for IDL arrays might not compile on some releases of OS/390. As a result of IBM APARs PQ53934 (OS/3902.9) and PQ53936 (OS/390 2.10), IBM will update their documentation to reflect the way the IDL compiler handles templates.
TCP/IP	Orbix Mainframe servers will perform a graceful shutdown if the TCP/IP stack fails unexpectedly. The servers must be manually restarted to resume service after the stack becomes available. Also, servers are limited to approximately 2000 concurrent TCP/IP connections, and might not deal properly with new incoming connections above that limit. Until this is fixed, it can be mitigated by setting configuration variable: `plugins:iiop:incoming_connections:hard_limit = "2000";`
`wchar`/`wstring` in COBOL and PL/I	COBOL and PL/I programs using IDL types `wchar` and `wstring` might get unexpected results. This will be fixed in a future release.

Functional Area	Comment
Client Principal value in COBOL and PL/I	COBOL and PL/I servers running in batch mode cannot retrieve the client principal if present. This value is set to blanks.
Management information	This version of the IMS/CICS adapter mapping client read statistics operation does not return values for the total number of client connections and the total number of exceptions. These values are returned as zero. This functionality may be added in a future release.
Object references	Object references are supported in COBOL and PL/I client programs running inside IMS or CICS. Server-side object references are currently not supported in COBOL and PL/I server programs running inside IMS or CICS. This means that the IDL interfaces implemented in such servers must contain neither the IDL `object` keyword nor an interface name in any IDL operation arguments/return values.
Fixed type support in CICS/IMS	IMS and CICS applications using fixed types might get unexpected results. This will be fixed in a future release. (Issue # 66445).

Security plug-in demo	On both native OS/390 and UNIX System Services, the security plug-in demo requires updates to the Orbix Mainframe configuration. These updates are commented out in the configuration file by default, so they must be uncommented, to successfully run the demo. Simply uncommenting the `orb_plugins` variable is not sufficient. For a TLS configuration, the following settings are required:
	`orb_plugins=["iiop_profile", "giop", "iiop", "iiop_tls",`
	`"local_log_stream", "ots", "demo_sec", "portable_interceptor",`
	`"wto_announce"];`
	For a non-TLS configuration, the following settings are required:
	`orb_plugins=["iiop_profile", "giop", "iiop",`
	`"local_log_stream", "ots", "demo_sec", "portable_interceptor",`
	`"wto_announce"];`

UNIX System Services security plug-in demo	The UNIX System Services security plug-in demo in directory *`/orbix_install_dir/asp/6.0/demos/corba/pdk/security_pi`* will only build when a make command is issued in that directory. The demo is not common across all platforms, so the makefile in the parent directory does not build this demo.

Functional Area	Comment
TYPETEST demos	When the ITLOCALE and CPPLCALE settings in PDS `HLQ.ORBIX60.PROCS(ORXVARS)` have a value assigned to them, the TYPETEST demos in the following locations may fail on a JCL error, as they exceed the 100 character PARM limit. • `HLQ.ORBIX60.DEMOS.CPP.BLD.JCL(TYPETECA)` • `HLQ.ORBIX60.DEMOS.CPP.BLD.JCL(TYPETECL)` • `HLQ.ORBIX60.DEMOS.CPP.BLD.JCL(TYPETESV)`
IFR cache file	The server adapters' "ifr:cache" setting must be configured to point to a UNIX System Services file pathname. This feature does not work correctly if a regular OS/390 data set is used. This will be fixed in a future release.
ITDOMAIN DD	The `ITDOMAIN` DD statement can be used to specify the configuration domain, but cannot be used in JCL that updates settings in the configuration as it may conflict with a service currently running and using the `ITDOMAIN` DD statement. An error opening the configuration file will occur. To avoid this issue, use an `ORBARGS` DD statement in place of the `ITDOMAIN` DD statement. The `ORBARGS` DD points to a file that contains a `-ORB`*`domain_name`* statement specifying the configuration domain. An example of this is shown in `HLQ.ORBIX60.JCL(DEPLOY2)`. To enhance usability, most of the Orbix Mainframe JCL makes use of the `ITDOMAIN` DD statement. This DD statement currently points to `&ORBIX..CONFIG`. If you wish to use your own copy of a configuration by changing the `&ORBIXCFG` variable in PDS `HLQ.PROC(ORXVARS)`, you must change the `ITDOMAIN` DD statement in your JCL to point to `&ORBIXCFG` instead.
Close connection log messages	Orbix Mainframe servers will issue IT_ATLI2_IP warning messages if the TCP/IP socket is closed unexpectedly on the client side. This can occur if the client crashes, but it could also occur if the client application does not close its connection properly before it shuts down. This is the case with some other ORB implementations. Secure Orbix Mainframe servers may issue an IT_ATLI_TLS error message when the client side shuts down the TLS connection. This will happen if the client is an Orbix 6.1 application, and is due to a bug in the IBM System SSL gsk_secure_soc_read() API which is used by the Orbix Mainframe TLS implementation. **Note:** All warning and error messages displayed in these cases are benign.

Functional Area	Comment
iS2 log message	When an Orbix Mainframe iS2 application is configured to send a GSSUP establish context token and event logging is enabled for the IT_CSI subsystem, the user name and domain name will be printed in the UTF-8 encoding, and thus will be unreadable on the mainframe.

Fixed Bugs

This section discusses the following topics:

Summary of Bug Fixes in Version 6.0

Table 1 shows the customer-reported bugs fixed in version 6.0.

Table 1: *Bugs Fixed in version 6.0 (Sheet 1 of 4)*

Bug ID	Description
65203	Create WTO log stream to help automate system monitoring.
66308	Orbix 2000 Services running on a dynamic VIPA may loop if the DVIPA is deactivated.
66916	COBOL and PL/I IDL compiler now accept a parameter to specify where copybooks and include files will be written.
66919	PSS/DB replication does not work.
67514	PL/I include files generate a put skip list with the concatenation symbols || used, which may lead to code page issues.
67661	IMS Adapter and itadmin do not communicate with services on another platform that are fully secure.
67704	IMS/CICS adapters will not prepare with German PageCode.
67708	COBOL and PL/I applications using unions might get unexpected results.
67713	IMS/CICS adapters do not support _is_a.

Table 1: *Bugs Fixed in version 6.0 (Sheet 2 of 4)*

Bug ID	Description
67714	Allow prepare jobs to accept the umask flag to specify directory permissions.
67747	Deploy/deployt job does not work when using a different locale.
67749	Locale conversion jobs (`ICONV`) in the `$SECOND` member fail with `RC 12`.
67751	Allow itadmin to stop IMS adapter.
67754	PL/I unions mapping for boolean discriminators and enum discriminators create an incorrect storage value.
67801	If you specify many IDL parameters, you may get `IEF6421 EXCESSIVE PARAMETER LENGTH IN THE PARM FIELD`.
67829	Add client-side object reference support for CICS and IMS Orbix applications.
67832	"EXCESSIVE PARAMETER LENGTH IN THE PARM FIELD" message when passing additional information in the RPARM JCL symbolic.
67840	IFR does not return attributes/operations of base interfaces when calling `describe_interface` on a child interface.
67864	itadmin mfa list shows mappings for interfaces that aren't available in the IFR.
67865	PL/I IDL compiler does not generate user exceptions correctly if they contain structures.
67873	PL/I inout sequences are corrupted if an input sequence is also sent and the SEQGET occurs after the inout has been allocated.
67878	Allow the IONA services to use a specified port when using indirect persistence.
67887	Change existing IMSHLQ symbolic variable to IMSRES variable to allow complete substitution of the IMS RESLIB.
67896	IMS 7 modified default behavior for OTMA C/I when returning segment sizes longer than those provided.
67906	iS/2 functionality to be incorporated into Orbix Mainframe 6.0.
67971	Enhance the IDL compiler to generate dynamic addressing for CICS Server implementations.
68015	Allow HFS files in native IDL compile jobs.
68023	Remove _isPosixOn() check inside of the NART code.

Table 1: *Bugs Fixed in version 6.0 (Sheet 3 of 4)*

Bug ID	Description
68037	Please update IMS Adapter documentation to include PDS names to APF-authorize when using client principal.
68043	Ship minor code files.
68045	Input stream not locale aware for SYSIN file streams.
68063	IORDUMP in native does not read cards from DD cards.
68075	OBJGTID - API shouldn't be used in IMS or CICS.
68092	Allow customers to use scoped or unscoped versions of IMSRAW and CICSRAW.
68156	Documentation for COAERR is missing a key part in its example code.
68165	Allow CICS Adapter to be configurable whether CICS is running or not.
68222	ASP 5.1 hangs when running prepare for a TLS-enabled Naming Service.
68227	TLS bug in Orbix 5.1 allows client to connect securely without providing a certificate.
68235	Enhance the IMS Adapter to check for 0 length input data being sent to IMS.
68266	Enhance the IMS adapter to allow convserational support over OTMA.
68283	The PL/I IDL compiler generates incompatible code with -TIMSx option, if x is greater than 0.
68290	Please enhance the documentation for the CICS Adapter support for CICSRAW over APPC.
68362	IMS/CICS Client Adapter sends a corrupted Any containing a struct containing strings.
12000140	IDL compiler / ORXIDL does not accept -ORBDomain_name
12000734	Modify the dataset naming standards to allow for 19 character high level qualifiers.
12000752	`ORXCFGMD` proc in `DEPLOY` JCLs should allow passing of PPARM parameters for advanced configurations such as multiple domain setups.
12000753	`DEPLOY1` and `DEPLOYT` JCL should provide a way to define the include path other than FILEDOMA, which is the default behavior.
12000759	ORXPLISC, ORXPLCSC procedures should use the &CEE symbolic variable.
12000760	ORXPLICC, ORXPLCCC procedures should use the &CEE symbolic variable.

Table 1: *Bugs Fixed in version 6.0 (Sheet 4 of 4)*

Bug ID	Description
12000786	The IMS Adapter does not seem to process requests that are fully secure.
12000806	Add the ORBTIME functionality to IMS clients.

Summary of Bug Fixes in Version 5.1

Table 2 shows the customer-reported bugs fixed in version 5.1.

Table 2: *Bugs Fixed in version 5.1 (Sheet 1 of 2)*

Bug ID	Description
65132	OS/390-specific: Orbix 2000 2.0 will not run in locales with muti-byte character encodings.
66079	Please allow JCL for itadmin to accept in-stream parameters longer than 80 characters.
66089	IDL PL/I generator does not create entries for typecodes in the mapping file.
66286	Multi-dimension Orbix 2000 PL/I arrays are not marshalled properly.
66350	No mapping file gets generated if -O and -M flags are used together with the PL/I generator in native OS/390.
66418	Allow ORXADMIN to accept a filename on the mfa resolve <interface> command in the SYSIN data set on OS/390.
66481	PL/I clients and servers abend with S22C.
67045	Unbounded sequences - COAPUT failure when initial maximum exceeded - possible length problem.
67236	IDL COBOL compiler does not terminate declaration correctly.
67268	POD performance enhancement for Orbix Mainframe IMS adapter.
67269	Enhancement with regards to Orbix IMS performance.
67340	IDL backend for PL/I and COBOL gives RC 0 when a specified mapping file does not exist.

Table 2: *Bugs Fixed in version 5.1 (Sheet 2 of 2)*

Bug ID	Description
67343	IDL interface called "service" is not processed correctly by the COBOL backend. IDL compiler needs to be changed to note that "Service" is a reserved word in COBOL. For the purposes of COBOL and PL/I generation, the Orbix IDL compiler has been been updated to cater for the the reserved word list pertaining to Enterprise COBOL, COBOL for OS/390, Enterprise PL/I, and PL/I for OS/390 compilers.
67346	Please update HLQ.ASP50.PROCS(ORXLKIMS) to use a symbolic reference for the IMS libraries.
67361	Add objrel calls to PL/I and to COBOL / PL/I generators.
67376	The usage of anys within structures and sequences are causing a problem in COBOL. Could be alignment related.
67397	COBOL any types fail when populated with a structure that contains more than 3 strings and the any itself is inside a structure within a sequence.
67410	Orbix 2.3 COBOL and PL/I used to allow a length of 0 for STRSET. Orbix no longer does. This causes a failure in the code.
67447	Add IMS Drain feature to adapter to refresh security environment in OTMA connections.
67609	Orbix Mainframe does not allow fully secure locators and node daemons.
12000138	Please enhance the help list to include module name for the mfa plug-in.
12000580	Adapter gateways (IMS and CICS) should provide a way to export their references to a naming service on startup.

Summary of Bug Fixes in Version 5.0.1

Table 3 shows the customer-reported bugs fixed in version 5.0.1.

Table 3: *Bugs Fixed in version 5.0.1 (Sheet 1 of 2)*

Bug ID	Description
65390	The IDL COBOL & PL/I compiler generated uncompilable output for IDL that contained diamond inheritance. This was caused by the generation of duplicate procedure names in both compilers, and by a bug in the comment generator in the PL/I backend.

Table 3: *Bugs Fixed in version 5.0.1 (Sheet 2 of 2)*

Bug ID	Description
65476	Too much PL/I code being generated with the new Orbix IDL compiler for PL/I. The size of the generated *idlmembername*X copybook has now been substantially reduced.
65545	Changes to the value in `plugins:ims_appc:ims_or_cics_destination_name` are ignored. All connection requests are still made to the default destination name, `ORBIXIMS`. The shipped variable has been changed to `plugins:ims_appc:ims_destination_name = "ORBIXIMS";`
66855	PL/I backend (IDL compiler) crashes sometimes when generating server implementation.
67056	When no mapping option is used, the 4 character hashes generated to cater for long names in the COBOL copybooks changes. This is because of a bug in the COBOL plug-in for the IDL Compiler. As a result, changes were made to the shipped demos to reflect the new hash value. For example, Simple demo `SIMPLE-SIMPLEOBJECT-70FE ARGS` changed to `SIMPLE-SIMPLEOBJECT-DCD9-ARGS`.
67064	Orbix 5.0 COBOL client fails with Protection Exception when it passes a sequence of anys to a server.
12000143	*Mainframe Installation Guide* does not state which libraries are to be added to the IMS MPP region.
12000147	Orbix 5.0 PL/I and COBOL build demo JCL ships with a UNIT=VIO that is not defined at all customer locations.

Summary of Bug Fixes in Version 5.0

Table 4 shows the customer-reported bugs fixed in version 5.0.

Table 4: *Bugs Fixed in version 5.0*

Bug ID	Description
66326	Cannot start the IFR in direct persistence mode.
66092	The PL/I back-end no longer generates an interface parameter in the server implementation member (the *idlmembername*`I` member), nor does it add calls to retrieve the interface name from the `reqinfo` structure in the server accessor member (the *idlmembername*`Z` member). The select member (the *idlmembername*`D` member) has also been updated appropriately. This generation now matches what was done by `genpli` in Orbix 2.3.*x*.

Table 4: *Bugs Fixed in version 5.0*

Bug ID	Description
66089	The mapping member now generates entries for any typedefs listed in the interface, in addition to what it generated before.
65927	IFR server core dumps if the search item is a scoped name which is not in the IFR
65637	Change in the supplied `CORBA` COBOL copybook in `HLQ.ASP51.INCLUDE.COPYLIB`, to make the `01 ORBIX-STATUS-INFORMATION` data item, `EXTERNAL`, accessible to the server implementation, and therefore `ORBSTAT` does not need to be called in the implementation.
65680	Inherited constants are now listed only under the interface where they are declared and not also in the interface's constant structures for which they are inherited. This is because an interface that inherits another interface's constants may redefine the constants—and if the generated structure contained both its own constants and its inherited constants, a naming conflict would occur.
65460	Re-registering a type (other than an interface) causes the IFR to be left in a corrupted state.

Note: PL/I sequences of structs containing sequences are generated correctly using Orbix 2000, Orbix 5.x, and Orbix 6.0.

Orbix 2.3.*x*'s `genpli` used the typedef name for the innermost sequence name in this case, while the PL/I backend correctly uses the sequence variable name defined in the struct that contains the sequence.

Reporting Problems

Contact customer support at `http://www.iona.com/support/contact/` or `support@iona.com`.

When contacting customer support, please try to provide as many details as possible about the problem, including details of when it first started to occur, a test case (if possible), all related logs, and any applicable SVC dumps or CEEDUMPs.

Sample Code

There are a number of demonstrations provided in your installation. Information on building and running these demonstrations is provided in the following locations:

- `HLQ.ORBIX60.DEMOS.CICS.COBOL.README`
- `HLQ.ORBIX60.DEMOS.CICS.PLI.README`
- `HLQ.ORBIX60.DEMOS.COBOL.README`
- `HLQ.ORBIX60.DEMOS.CPP.README`
- `HLQ.ORBIX60.DEMOS.IMS.COBOL.README`
- `HLQ.ORBIX60.DEMOS.IMS.PLI.README`
- `HLQ.ORBIX60.DEMOS.PLI.README`
- *`install-dir`*`/asp/6.0/demos/README.txt`

Other Resources

- IONA University `http://www.iona.com/info/services/ps/` delivers practical and insightful courses that cover technical and product issues as well as standards-based best practices gleaned from real-world projects.
- IONA Global Services `http://www.iona.com/info/services/global/` provide product expertise and consulting solutions that empower end-users, system integrators and software vendors with the knowledge to fully leverage Orbix. Together, IONA consultants and Orbix equip you with a single platform for integrating and developing extremely reliable, scalable and secure e-Business systems.
- Technical documentation relating to Orbix Mainframe is available at `http://www.iona.com/support/docs/orbix/mainframe/6.0/index.xml`. This site contains the most up-to-date versions of the documentation.
- The IONA Knowledge Base `http://www.iona.com/support/knowledge_base/index.xml` is a database of articles that contain practical advice on specific development issues, contributed by IONA developers, support specialists, and customers.