



Artix™ Mainframe

Release Notes

Version 5.1, December 2007

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Product Information

Standards compliance

Artix Mainframe complies with the following specifications:

- The W3C specification for SOAP 1.1
- The W3C specification for HTTP 1.0 and HTTP 1.1
- The W3C specification for WSDL 1.1
- The Web Services Interoperability Organization specification, Basic Profile Version 1.0.
- The OASIS Web Services Security UsernameToken Profile 1.0 specification for credentials checking in SOAP headers.

- The HTTP tunnel CONNECT specification, as outlined in RFC 2817, for secure client proxy support.
-

Supported software

The following software versions are supported for use with this release of Artix:

- Microsoft .NET Framework 2.0
 - BEA WebLogic 9.2 MP1
 - Orbix 6.3
 - IBM WebSphere MQ 5.3 SP12
-

Supported platforms and compilers

Artix Mainframe 5.1 includes support for the following new software:

- z/OS V1.9
- CICS TS V3.2
- Enterprise PL/I V3.6.0

The following platforms and compilers have been removed in this release:

- z/OS V1.6

This version of z/OS is no longer supported by IBM. It is replaced in this release by z/OS 1.7, z/OS 1.8, and z/OS 1.9.

- Enterprise COBOL V3.3.1

This compiler is no longer supported by IBM. It is replaced in this release by the Enterprise COBOL V3.4.1 compiler.

- Enterprise PL/I V3.3.0

This compiler is no longer supported by IBM. It is replaced in this release by the Enterprise PL/I V3.4.0, Enterprise PL/I V3.5.0 and Enterprise PL/I V3.6.0 compilers.

For more information, see the *Supported Products and Platforms* page on the IONA web site at:

http://www.iona.com/products/prod_comp_java_plat.htm.

Features

New in release 5.1

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New Features in 5.1

Automatic buffering of IMS data

In previous releases of Artix Mainframe, the ability to send more than 32K of data into IMS was only made possible by changing your application source code. For all z/OS client and IMS server applications created from WSDL, COBOL and PL/I segmentation helpers are provided to handle the sending and receiving of multiple segments to and from IMS. Therefore, you no longer need to maintain custom segmentation code. For PL/I applications, this feature also adopts an unaligned PL/I data format.

Support for unbounded data types

With Artix Mainframe 5.1, there is no longer a need to declare up-front the size of PL/I and COBOL data types. For all z/OS client and IMS server applications created from WSDL, support has been added to allow the size of strings to be determined and allocated automatically at runtime. The benefits of this are that it helps to reduce payload size and therefore improve performance. This option is disabled by default, to maintain backwards compatibility with previously generated code. This feature can be enabled via the Automatic Buffering field in the Advanced Properties window of Artix Designer during project creation.

Improved support for transaction names

Artix Mainframe now provides support for handling IMS transaction names other than seven bytes in length. This is handled automatically via a new copybook and include file routine at runtime.

Support for CEETDLI in COBOL and PL/I applications

The CEETDLI interface is now supported for COBOL and PL/I applications. This routine is a newer version provided by L/E and replaces the legacy versions previously provided by IBM. With automatic buffering, the generated segmentation helpers will handle all necessary calls to CEETDLI.

Support for 100-character PL/I data names

Artix Mainframe 5.1 introduces some new features in support of Enterprise PL/I applications. At present, this covers support for 100-character PL/I data names which are editable in Artix Designer.

Ability to customize keyword and reserved word prefixes

Artix Mainframe 5.1 now provides the ability to change the prefix to names generated by default for PL/I keywords and COBOL reserved words.

New XML System Services pluggable parser

In z/OS 1.7 and higher versions, IBM provides callable services that are known collectively as XML System Services. These callable services can be used to parse XML data. IBM intends that the TCB processing of these callable services is to be offloaded from the central processor to a zAAP (zSeries Application Assist Processor). The Artix Mainframe transformer service and DB2 gateway service can be configured to use XML System Services for some XML parsing.

Support for DB2 stored procedures and parsing result sets

It is possible to code a cursor "with hold" in a DB2 stored procedure. This means that a result set is returned from the stored procedure on completion. In this release of Artix Mainframe, the DB2 gateway service can now return this result set to the client.

Enable performance logging to a data set or JES2 SYSOUT

The performance logging management subsystem can be used to integrate Artix Mainframe applications with enterprise management systems or custom-made solutions. This release enhances this support by providing the capability to log performance data to an MVS data set or to JES2 SYSOUT, which might be useful for integrating Artix Mainframe with your automated operations solution.

Improved usability in FTP Site Browser

The FTP Site Browser in Artix Designer has been greatly enhanced in this release to improve its overall usability. While it offers the same functionality as before, it is now much easier to navigate through directory structures.

Additional project validation

If a project is being created that might result in uncompileable code (that is, if it would result in generated code that is nested more than the compiler allows), Artix Mainframe 5.1 now alerts the user to this fact, to prevent the creation of such a project.

New terse container option

A new feature was added in Artix Mainframe 5.0 to reduce the number of nested levels in generated code. An option has been added to Artix Designer and the command-line utilities to allow the user to choose whether or not this feature should be used when generating code for their applications. Additionally, the feature has been extended to COBOL applications in this release. For COBOL, the option is disabled by default. For PL/I, the option is enabled by default, because of the low number of nested levels supported by the PL/I compiler.

Improved browser support

The Artix Mainframe transformer service and DB2 gateway service provide a services navigation and WSDL publishing capability that can be accessed via a Web browser. In Artix Mainframe 5.1, the navigation feature has been enhanced to improve the overall user experience when browsing available services and associated WSDL contracts.

WSDL publication

Artix Mainframe now allows you to disable the publication of WSDL from the transformer service. This is of benefit to customers when moving the transformer service to a production environment.

Features in 5.0

**Exceeding the CICS 32K
COMMAREA limit**

Traditionally, CICS applications were coded to use communication areas (COMMAREAs) to exchange data. At the time this technology was created back in the 1970s, 32K was more memory than any computer had, so it was physically impossible to pass more than 32K of data between programs. However, over the years, as new technology emerged, 32K has become extremely small and more and more applications need to pass larger quantities of data.

This release of Artix utilises a new CICS feature that provides an improved method of transferring data between programs, in amounts that far exceed the 32KB limit that applies to COMMAREAs, to provide support for handling CICS web service requests and replies greater than 32K. With Artix Mainframe 5.0, the size of the data being passed to and from CICS applications is no longer an issue.

C++ SDK

The main focus of the Artix Mainframe product continues to revolve around providing Web services development support for the traditional z/OS programming languages (that is, COBOL and PL/I). To help some of IONA's existing customers to transition from Orbix to Artix, IONA is providing some of the CORBA C++ development capabilities of Orbix in a separate C++ software development kit that ships with Artix Mainframe 5.0. The Artix Mainframe C++ SDK will install and co-exist with the traditional Artix Mainframe product.

New versioning utility

A new batch utility is provided in Artix Mainframe 5.0 that provides information about the software levels of the various programs and DLLs that make up the Artix Mainframe product. This information can be used in conjunction with IONA Customer Support to identify the service level of an installed product.

Enhancements to SOAP support

Artix Mainframe 5.0 provides support for user exceptions in CICS and IMS Web services created from IDL.

Enhancements to IMS support

In previous releases of Artix Mainframe, a single TPIPE was used for all asynchronous requests, which meant that only one asynchronous request could flow through an OTMA "pipe" at any one time. While this worked fine under normal circumstances, it proved to be a problem under high load. Consequently, Artix Mainframe 5.0 now provides support for generating unique OTMA TPIPE names for asynchronous requests.

Enhancements to language support

The following enhancements have been made to language support:

- Support for sending strings containing only spaces from a CICS or IMS PL/I-based Web service.
Previously, all PL/I strings had their trailing spaces stripped, so a string containing only spaces was converted to a zero-length string. This release implements support for the PL/I var char, thus allowing a string to be defined containing any number of spaces.
- Support for COBOL Level 88
When creating a Web service or CORBA application from COBOL, Artix Mainframe 5.0 now provides support for capturing COBOL level 88 names and their values. This information is published in subsequently generated IDL as constants.

Enhancements to Artix Designer

The following enhancements have been made to Artix Designer:

- The WSDL validator has been enhanced to provide improved highlighting of problem areas in WSDL.
- The FTP Site Browser has been enhanced so that it now saves previously entered data for subsequent potential re-use. This dramatically improves the usability of the Deploy, Export As and Import WSDL, IDL & copybook screens.

Features in 4.2

Support for Mainframe Web service clients using SOAP over WebSphere MQ

Artix 4.2 for z/OS introduces support for batch, CICS and IMS Web service clients to use the WebSphere MQ transport as an alternative to HTTP/HTTPS when sending SOAP requests from the transformer service to remote Web services.

Enhancements to SOAP support

Artix 4.2 for z/OS provides the following SOAP support enhancements:

- Support for SOAP 1.1 user faults for CICS and IMS Web services created from WSDL.
- Support for servers and clients running on z/OS to issue oneway requests. WSDL operations that define only an input message (no output message and no user faults) are oneway operations. Servers running in CICS or IMS can support oneway requests from distributed clients running on other platforms. Similarly, clients running in CICS or IMS can issue oneway requests to distributed servers on other platforms, by calling the new `WS1WAY` API.
- Support for `xsd:choice` and `xsd:NCName` types.

Enterprise Management System integration

This release enables Artix for z/OS applications to integrate with Enterprise Management Systems (EMS) using the performance logging feature. This feature can also be used in isolation as part of a custom-made management solution where potentially no EMS is involved. The remote logger capability allows the logging data collected by the Artix for z/OS applications to be pushed to an endpoint running remotely, on the same host where the EMS has been deployed. This allows mainframe endpoints to be monitored without requiring the EMS software to actually be deployed on z/OS itself.

**Integration with the
AmberPoint Proxy service**

Artix 4.2 for z/OS supports integration with the AmberPoint SOA management system via the AmberPoint proxy service. AmberPoint enables fine-grained control of services deployed in your SOA network, thus allowing you to manage and monitor your endpoints for health and availability.

**Demonstration added for
Kerberos integration**

Artix 4.2 for z/OS now supplies a demonstration that illustrates Kerberos support.

CORBA URL resolvers added

To facilitate the creation of z/OS-based Artix CORBA clients from IDL, various URL resolvers have been added in Artix 4.2 for z/OS. URL resolvers allow the target CORBA service to be specified via a well defined URL rather than as an IOR. They therefore provide an additional layer of abstraction between the service being executed and its physical location.

Specifically, Artix 4.2 for z/OS now includes the following URL resolvers:

<code>corbaloc:rir</code>	Locate CORBA service via IOR specified in configuration.
<code>corbaloc:iiop</code>	Locate CORBA service registered with a CORBA locator.
<code>corbaname:</code>	Locate CORBA service registered with a CORBA Naming Service.
<code>itmfaloc:</code>	Locate CORBA service deployed to an IONA service, such as the Artix for z/OS transformer service or the Orbix Mainframe CICS or IMS adapter.
<code>itfileloc:</code>	Locate CORBA service via IOR specified to file.

Varying string support for PL/I

Artix Designer now supports the mapping of WSDL types to a varying string for mainframe Web services projects from WSDL for the purposes of creating a PL/I application.

Features in 4.1

**Expose mainframe DB2
applications as Web services**

Previous releases of Artix for z/OS allowed you to expose CICS and IMS applications as Web services. Release 4.1 completes the picture by adding the ability to expose DB2 applications as Web services, using any of the transports supported by Artix.

Release 4.1 provides Web service endpoint connectivity to expose DB2 SQL statements as Web service operations. Artix Designer is used to communicate with the DB2 server running on the mainframe and all updates from Artix Designer are reflected immediately in the WSDL that the DB2 gateway exposes.

Support for creating mainframe Web service batch clients

Release 4.1 provides support for COBOL or PL/I Web service client applications to run as mainframe batch programs. Batch clients communicate with the Artix transformer service using either APPC or cross-memory communication.

Create mainframe CORBA clients from IDL

The support currently provided in Artix to create mainframe Web service clients from a WSDL file has been extended in release 4.1 to allow the creation of CICS and IMS, COBOL and PL/I CORBA clients from an IDL file.

These clients can call services running either on the mainframe itself or on off-host, mid-tier systems. The CICS or IMS clients use APPC to communicate with the transformer service running on z/OS, which in turn uses IIOp to communicate with the CORBA service running elsewhere. As before, all COBOL and PL/I clients are fully integrated with the mainframe's security software.

Artix Designer can now be used to open an IDL file and view the generated COBOL or PL/I input and output in a tree-like structure. The generated copybooks or include files can then be transferred seamlessly to the mainframe, where they can be easily incorporated into CORBA applications.

Improved access to mainframe artifacts in Eclipse

Release 4.1 provides more control in Artix Designer when uploading artifacts to the mainframe via FTP. For example, you can now specify file names and can define FTP access by way of connections. This release also lets you import copybooks from the mainframe directly into Artix Designer using FTP. Artix Designer was enhanced to allow the creation of Eclipse projects from previously created deployment descriptors.

Orchestration of mainframe Web services

Release 4.1 includes documentation that shows how to orchestrate two or more mainframe Web services using the Artix Orchestration add-on package.

New command-line utilities

New command-line utilities were added in Artix 4.1 to aid in the development of mainframe CORBA clients. The existing command-line utilities have been augmented with the `idltopli` and `idltocobol` utilities, which can be used as an alternative to Artix Designer when creating z/OS Web services applications from IDL.

Artix Designer supported on Solaris

Release 4.1 fully supports installing and running Artix Designer on Solaris as well as Linux and Windows.

Features in 4.0

Eclipse-based Artix Designer

With Artix 4.0 comes an all-new Artix Designer that has been redesigned to take advantage of the industry leading Eclipse tools framework. This has not only seen significant improvements to the look and feel and general usability of the product, but also affords users a more integrated environment. Artix Designer can thus be used alongside the rich and diverse set of plug-ins available to the Eclipse platform, to more quickly see projects through from design to implementation.

New command-line utilities

There are a number of new command-line utilities in Artix 4.0 to aid in the development and deployment of Web service applications on the mainframe. The existing `wsdltopli` and `wsdltocobol` utilities have been augmented with the:

- `coboltovrgeinfo` utility which can be used as an alternative to Artix Designer for the purposes of generating deployment descriptor files and IDL from the COBOL copybook(s) for an existing CICS or IMS application.
- `transformerstore` utility which can be used as an alternative to Artix Designer for the purposes of deploying generated deployment descriptor files to the z/OS host where the Artix transformer service is running. It also allows you to remove already deployed files from z/OS, and to display a list of deployed files.

Support for SOAP over MQ

Artix 4.0 introduces support for Web service clients to use the Websphere MQ transport as an alternative to HTTP when sending SOAP requests to the transformer service.

PL/I-based Web service authoring capabilities

Building on from the support provided in Artix 3.0 to create COBOL Web services in CICS or IMS, using WSDL as a starting point, this release of Artix will allow the creation of new PL/I-based Web services in CICS or IMS also. As with COBOL, the Artix Designer and command-line utilities can now generate PL/I code based on a WSDL contract, and this code can be used to implement the PL/I-based Web service in CICS or IMS on the mainframe.

Cross memory communication for mainframe Web service clients

In Artix 3.0, CICS or IMS clients could use APPC as the protocol for communication between the transformer service and CICS or IMS running on z/OS. With Artix 4.0, the transformer service can alternatively use cross memory communication to communicate with IMS or CICS when running in client mode.

Registration with the Artix Locator

In Artix 4.0, the transformer service in server mode can now be configured to automatically register deployed Web service endpoints with an Artix locator running off-host.

Exposing MFS-based IMS applications as individual screens

In addition to exposing BMS-based CICS applications as Web services, Artix 4.0 for z/OS now exposes existing MFS-based IMS applications as Web services or CORBA objects, without the need for any code changes to these applications. Artix for z/OS supports both conversational and non-conversational IMS transactions.

Client-side security features

The following security-related features are now supported:

- Proxy support—Artix for z/OS clients can be programmed to instruct the transformer service to route outbound requests via an HTTP proxy server, which will then forward the requests to the target Web service.
- Secure Web tunnel support—To access secure Web services on the Internet, Web clients will typically be required to route requests through the firewall via a proxy server. In situations where the proxy server is not SSL-aware, the tunnel connection specification was developed in RFC 2817 to enable secure communications between the two parties via the proxy. With Artix 4.x, the transformer service can be configured to use the CONNECT tunneling mechanism to enable Artix for z/OS clients to route HTTPS requests through a proxy server that has been configured to support this protocol.
- HTTP Basic Authentication Support—Artix for z/OS clients can be programmed to instruct the transformer service to encode HTTP Basic Authentication credentials (username/password) in the HTTP request. Clients may also specify authentication credentials intended for a proxy server in situations where a proxy is involved, and where the proxy credentials are different from those required by the target Web service.

Features in 3.0

Artix Designer and command-line utilities

The all-new Artix Designer and wsdltocobol command-line utility play an integral, central role in the provision of the many major features of this release. The UI can now import COBOL copybooks, WSDL files or XML for a BMS project; generate deployment descriptor files and COBOL copybooks from the imported data; and automatically transfer the generated files to the mainframe. It also allows the user to determine how mappings should take place between WSDL contracts and COBOL data structures, and vice versa. The command-line utilities can also be used as an alternative to the graphical interface to generate deployment descriptor files and COBOL copybooks. More details about specific features can be found below.

Web service authoring capabilities

This release of Artix will allow the creation of new Web services in CICS or IMS, using WSDL as a starting point. The powerful new UI and command-line utilities can generate COBOL code based on a WSDL contract, and this code can be used to implement the Web service in CICS or IMS on the mainframe. This new feature will allow the creation of mainframe Web services with well-defined interfaces or contracts. In addition, new Web services can be created without the need for special server-side programming techniques and APIs.

Mainframe Web service client support

The support currently provided in Artix, to access existing CICS or IMS resources as Web services, has been extended to allow CICS or IMS COBOL and PL/I programs to act as clients in a Web services application running off-host. These CICS or IMS clients will use APPC to communicate with the transformer service running on z/OS, which in turn will use SOAP/HTTP to communicate with the Web service running elsewhere. All COBOL and PL/I clients will be fully integrated with the mainframe's security software. The designer tool can also now be used to open a WSDL file and view the generated COBOL or PL/I input and output in a tree-like structure. The generated copybooks or include files can then be transferred seamlessly to the mainframe where they can be easily incorporated into Web services applications.

Exposing BMS-based CICS applications as individual screens

It is widely acknowledged that a large proportion of CICS applications are screen-based applications that have been developed using BMS. Artix 3.0 allows these screen-based applications to be exposed as Web services.

Improved SOAP encoding support and WS-I compliance

Artix 2.0 supported the generation of RPC-Soap encoded WSDL. Artix 3.0 extends this to provide support for the generation of RPC-Literal encoded WSDL and DOC-Literal encoded WSDL. The generated WSDL is fully compliant with the encoding rules detailed in the WS-I Basic Profile, version 1.0, draft proposal, as proposed by the Web services interoperability organization (<http://ws-i.org/Profiles/Basic/2003-05/BasicProfile-1.0-WGAD.htm>).

Integration with the IONA security service

Artix 3.0 fully integrates with the IONA Security Service running off-host. This allows mainframe applications to be included in an iS2 environment, and to propagate and validate security tokens with iS2.

Kerberos security service support

Artix 3.0 supports the validation of Kerberos tokens sent to it from off-host Web services clients, using either RACF itself or an off-host iS2 server.

Expose existing CICS and IMS applications as CORBA objects

Building on from the support provided in Artix 2.0 to expose existing mainframe applications as Web services to the network, Artix 3.0 allows you to expose existing mainframe applications as CORBA objects. In addition you can now have the same mainframe application being accessed by CORBA clients and Web services clients simultaneously without any code changes required.

Features in 2.0

Expose existing COBOL CICS and IMS applications as Web services

Artix provides a simple, intuitive process for exposing existing mainframe applications as Web services to the network. Specifically, it allows existing CICS programs and IMS transactions to be exposed as Web services, without the need for any code changes to those CICS or IMS applications. It therefore provides a powerful mechanism for the rapid integration of network components, allowing mainframe components to participate fully in the business flow.

SAF plug-In

This plug-in provides optional UsernameToken-based access control. A server can accept or reject incoming requests based on a user name in a UsernameToken profile in the request header. The value is treated as a z/OS 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.

Note: This same UsernameToken can be used along with a Password as described for “Known Problems” on page 4.

TLS plug-In

This 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 Artix *Installation Guide for z/OS*.

WTO announce plug-In

For external monitoring and automation purposes, the following messages can be written when an Artix service starts up and later ends on z/OS:

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

These messages can be enabled without code changes, by configuring the orb_plugins list for the service 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: <ul style="list-style-type: none"> • 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:

```
+ORXL209I IT_ATLI2_SOAP Register SOAP endpoint for service: cicsraw
+ORXL203I IT_ATLI2_IP Listener on 10.2.100.3.26051 created
+ORXL200I IT_MFA MFA subsystem container ready
+ORXL102I IT_CORE ORB iona_services.cicsa running
```

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

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

Restrictions

Artix Designer

The following restrictions apply to Artix Designer:

1. Artix Designer requires that copybooks do not contain control characters, such as tabs.
2. Artix Designer assumes that an IMS COBOL program is designed so that the header portion is separate from the input and output message areas.

For example:

```
01 INPUT-MSG.
   03 IN-LL                PICTURE S9(03) COMP.
   03 IN-ZZ                PICTURE S9(03) COMP.
   03 IN-TRANCODE         PICTURE X(09) .
COPY CUSTIN.

01 OUTPUT-AREA.
   03 OUT-LL              PICTURE S9(03) COMP VALUE +500.
   03 OUT-ZZ              PICTURE S9(03) COMP VALUE +0.
COPY CUSTOUT.
```

If the IMS header portion is included in the copybook instead of in the application, as shown in the preceding example, Artix Designer treats the header as a parameter of the request. If a customer application has the header within the copybook, the header portion must be removed or commented out for use in Artix Designer, so that the header does not form part of the message request.

3. Artix Designer supports the importing of copybooks, but not copybooks that contain COPY statements.

WSDL

The following service definition restrictions apply to Artix Mainframe 5.1:

- Only SOAP endpoints are supported.
- A portType should be associated with only one SOAP binding.
- A SOAP binding should be associated with only one SOAP port.
- A SOAP port should be associated with only one service.
- A service should contain only one SOAP port.

In addition, the following restrictions are also applicable:

1. WSDL Type Support—Some XSD types are not supported in this release. A full list of the types supported can be found in the Artix Mainframe *Creating New z/OS Applications from WSDL* guide.
2. Element Qualification—Artix Mainframe uses the `elementFormDefault="qualified"` attribute in the WSDL that it publishes for literal contracts. For WSDL-first applications, interoperability issues might arise if this attribute is not set in the originating WSDL contract with which the original application is built.
3. WS-I compliance—All WSDL contracts must be compliant with the WS-I Basic Profile specification. Web services products such as Artix provide a schema validation tool that can be used to verify conformance prior to using your WSDL with Artix Designer.
4. Wrapped document style—All document literal contracts must conform to the specifications for the “wrapped” document style. Artix Designer and the command-line utilities will reject non-wrapped contracts at design time.
5. Deploying services and the SAF plug-in—Although the SAF plug-in is designed to allow a server to accept or reject incoming requests based on a user name in the request header, this functionality is not currently available when deploying a project to the transformer service from Artix Designer.

Transformer

The following restrictions apply to the Artix Mainframe transformer service:

1. Round-trip timeout support—Artix Mainframe clients are designed to be able to timeout when performing outbound invocations. Such timeouts include APPC conversation timeout, connection establishment timeout, and a round-trip timeout. Currently, round-trip timeouts are not supported over HTTP. However, you may use the following configuration variables to set message-send and message-receive timeouts on a transformer instance basis to achieve round-trip timeout behaviour:

```
policies:http:send_timeout = "500"; # msec  
policies:http:receive_timeout = "800"; # msec
```

Currently, these values may not be set on a per IMS/CICS client basis.

2. HTTP Basic Authentication and .NET—Currently, the Artix Mainframe server-side stack only supports HTTP Basic authentication in a limited fashion; that is, in situations where the HTTP Authorization header is sent within each HTTP request. Interoperability problems will occur with Web service clients, such as .NET, that do not send the header in the initial HTTP message, and instead expect the server side to reply with a challenge response.

IDL types

There is a limitation on the IDL types supported when creating mainframe CORBA clients from IDL. For more detail, please see the Artix *Creating New z/OS Applications from IDL* guide.

Unbounded type support

The unbounded type support for PL/I is currently only available with the Enterprise PL/I compiler.

Known Problems

In this section

This section describes the known problems with the following components:

UNIX and Windows Components	page 25
z/OS Component	page 28

UNIX and Windows Components

COBOL VALUE clauses

COBOL VALUE clauses are not currently supported by Artix Designer. If a VALUE item exists in a copybook, it is parsed but does not appear in Artix Designer. This will be fixed in a future release.

Numeric edit characters

The full range of numeric edit characters in COBOL PICTURE clauses are not yet supported by Artix Designer. The supported characters include Z, comma, and dot. However, CR, DB, and so on are not yet supported. For example:

```
01 MYRECORD.  
   03 MYEDITFIELD    PICTURE CR9999.
```

This will be fixed in a future release.

Truncation

If a large number is being marshalled into a COBOL type that cannot hold the value, the number might be truncated. To prevent truncation, COBOL types should be mapped to WSDL types of sufficient size.

COMPUTATIONAL, BINARY, and COMPUTATIONAL-4 types

Artix Designer displays all COMPUTATIONAL, BINARY, and COMPUTATIONAL-4 numeric-defined data items as BINARY in the COBOL type field of Artix Designer. For example, consider the following data items:

```
...PICTURE 9(4) COMPUTATIONAL.  
...PICTURE 9(4) COMPUTATIONAL-4.  
...PICTURE 9(4) BINARY.
```

All the preceding example data items are displayed as ...PICTURE 9(4) BINARY in the COBOL type field of Artix Designer.

Single and double-precision numbers

The use of single and double precision numbers (that is, COMP-1, COMP-2, and WSDL float/double) in a Web services mapping might result in loss of precision during marshalling.

MFS projects display field data in COBOL terms

When viewing MFS projects from the Artix Designer, source data is shown as if it were COBOL data, rather than as MFS fields. This will be fixed in a future release.

Non-validating nature of BMS/MFS project wizards

When creating a BMS or MFS project from the Artix Designer Project Wizard, the input files requested (brgemap and brgeinfo) are not validated to ensure that the environment tag specified in them matches that expected from the project wizard.

In cases where these are mismatched, the Mapping view in the Eclipse workbench might fail to display the project, and errors will be thrown to the log.

Constants are not visible from Artix Designer

Projects containing constants may be loaded into Artix Designer, but the constants will not be visible from the Mapping or z/OS Properties views. This affects MFS projects where the transaction name is represented as a constant.

Default and constant values for WSDL elements

Artix Designer does not correctly handle default and constant values for WSDL elements.

Removing deployed files from z/OS

Currently, it is only possible to remove deployment descriptor files from z/OS via the transformerstore command-line utility. IONA is investigating the possibility of supporting such a feature in Artix Designer in a future release.

.NET provides no support for oneway requests with WebSphere MQ

.NET provides support for IBM WebSphere MQ 5.3 by using the "maOr" patch. This patch enables two-way message support between .NET clients or servers and z/OS clients or servers, but it does not support oneway requests for .NET clients or servers. This means that oneway requests for .NET clients or servers are restricted to HTTP only.

Note: Oneway requests for .NET clients or servers are supported over HTTP.

Internet Explorer 7 produces error for default certificates

Internet Explorer 7 imposes stricter certificate checks than previous versions. When using Internet Explorer 7, if a user attempts to browse a secure transformer service, using default certificates, the following error is raised:

Certificate was generated for a different web site.

This problem occurs because the hostname field of the demonstration certificate is set to the name of the host from which the RACF certificate was generated.

Note: To work around this issue, select the "Continue to Website (Not Recommended)" option listed when browsing the initial page.

CORBA Repository ID changes not validated

When using Artix Designer to create a z/OS Web services project from an existing application, CORBA type names can be modified by changing the value of the associated CORBA Repository ID field. Any such updates are not validated. Therefore, it is possible in some circumstances that the resulting IDL will be invalid.

IDL-first details display schema types in Mapping view

When source contract details are enabled in the Mapping view for a z/OS Web services project from IDL, the IDL contract is displayed in terms of equivalent schema types rather than the original IDL types.

FTP browser in Artix Designer

The FTP browser enables files on the mainframe to be browsed and transferred to the local machine within the Eclipse IDE. If there are VSAM files in the directory that Artix Designer is trying to read, it causes Artix Designer to fail.

Internal Web browser in Artix Designer

Artix Designer has a built-in Web browser that can be opened via the **Window > Show View > Other > General > Internal Web Browser** menu option. This browser does not currently work on 64-bit Linux machines. If you are a 64-bit Linux user and following the mainframe cheat sheets supplied with Artix Designer, please open your own Web browser instead if the mainframe cheat sheet you are following prompts you to open the internal Web browser.

Unbounded type mappings without automatic buffering support

When creating mainframe projects from WSDL that do not use the new automatic buffering support feature, users are still allowed to select unbounded type mappings. Take care when updating your mapping types until this is corrected.

Problem running transformerstore undeploy with concatenated PDS files

When the transformer service is using concatenated PDS members for deployment descriptor files, any attempt to remove an already deployed service via the `transformerstore` command-line utility will fail. The transformer service will issue message IEC153I indicating the PDS concatenation cannot be opened for input. If PDS concatenation is not used, deployed services can then be successfully removed using `transformerstore`.

z/OS Component

SAF plug-in authorization exception causing transformer service shutdown problems

The SAF plug-in is an optional plug-in that is used for fine-grained authorization checking. Using the credentials passed on a client request, the SAF plug-in will determine if a client is authorized to access a particular service. It has been observed that if the SAF plug-in throws an authorization exception during request processing, this will later cause the transformer service to hang when a graceful shutdown is attempted. In this situation, the CANCEL command will be required to stop the transformer service (the STOP command will not suffice).

WSDL-first CICS projects do not validate buffer size

When creating a z/OS Web services project from WSDL, the resulting COBOL data areas to be used are not validated to ensure that they do not exceed the maximum COMMAREA size.

Problems running the MFS conversational demonstration

The MFS conversational demonstration does not currently work with IMS 8.1 with OTMA. It does work with APPC and with IMS 9.1. IONA is currently investigating this issue.

Problem with performance logging subsystem

There are problems with the current implementation of the performance logging request logger plug-in that prevent it from working as designed. A patch will be made available immediately following the release of Artix Mainframe 5.1. Please contact support@iona.com for more details.

XML Toolkit requirement

The XML Toolkit is currently referenced in the STEPLIB of `artixh1q.PROCLIB(ORXG)` for all jobs. If you do not have it installed, you will receive a JCL error upon executing any of the Artix Mainframe components. In the next release of Artix Mainframe this will be commented out by default. In the meantime, if you do not have this installed and you do not need to run the ARXVERSN utility, update `artixh1q.PROCLIB(ORXG)` as follows:

```
//* DD DISP=SHR,DSN=&XMLLOAD
```

Fixed Bugs and Enhancements

Summary of bug fixes and enhancements in release 5.1

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

Table 1: *Bugs Fixed and Enhancements Implemented in version 5.1*

Bug ID	Description
71694	The <code>wsdltocobol</code> utility generates incorrect warning messages when exceeding 8 level dimensions on arrays.
71693	Enable the enterprise performance logging management subsystem to be configured to use a DD card, so that logs can be directed to a JES2 log data set.

Table 1: *Bugs Fixed and Enhancements Implemented in version 5.1*

Bug ID	Description
71692	Please include a sample LE time zone setting in ARTXVARS.
71691	Please add the restrictions for fractionDigits to the <i>Creating New z/OS Applications from WSDL</i> guide.
71690	DB2 gateway service should convert DB2 timestamps to ISO timestamps for SOAP.
71655	Marshalling problem occurs when optional fields of a WSDL contract are not sent.
71640	In a mainframe project from WSDL, the element names "short" and "long" are prefixed with an underscore to avoid name clashes with underlying languages, which causes mapping problems.
71635	Stale object reference is cached when using a corbaname for WSINVKE.
71604	Artix Designer cannot display BIM files when the SOAP address in a WSDL contract has XML errors.
71565	Segment dump is truncated if IMS sends a response to the transformer service which is greater than the value for plugins:ims_otma:mq_length.
71561	Artix Mainframe sends a malformed request if the IDL operation contains unions that are used as "optional" parameters.
71557	Artix Designer and the command-line utilities incorrectly append <code>_f</code> to reserved keyword element names (for example, date, time, dateTime).
71556	A marshalling exception (STREAM_EXHAUSTED) occurs when an "empty" union is returned from a CORBA server.
71524	Enhance Artix Mainframe to support segmented IMS messages in PL/I.

Table 1: *Bugs Fixed and Enhancements Implemented in version 5.1*

Bug ID	Description
71518	Artix Mainframe Installation Guide does not list the IXM4C54 definition side deck as a prerequisite.
71494	Abend occurs when the logging is dynamically changed to INFO_LOW, and INFO_LOW was not originally set.
71470	Provide support to allow the size of strings to be determined and allocated automatically at runtime.
71455	Provide logging for when a U0119 abend occurs when the transformer service needs to allocate more buffer space.
71447	Enhance Artix Mainframe to allow the name-length-limit to be user editable in Artix Designer.
71439	Provide support for using PL/I strings later than 32K.
71428	Create a warning or error message if the generated PL/I structures are too complex for the compiler.
71421	Enhance Artix Mainframe to allow users to customize name changes of PL/I reserved keywords in Artix Designer.
71415	Performance problems with Artix Mainframe deployment as the number of deployed services increases.
71414	Artix Designer reports a successful deployment even though deployment has been disabled for the transformer service.
71412	Elements missing from generated PL/I structures.
71408	Deployment overlays special element, ParameterModifier.
71404	Enhance the error reporting for invalid IDL files when creating mainframe projects from IDL in Artix Designer.
71383	Enhance Artix Mainframe to handle IMS transactions with names other than 7 bytes in length.
71344	Add support for DB2 stored procedures and parsing result sets.

Table 1: *Bugs Fixed and Enhancements Implemented in version 5.1*

Bug ID	Description
71341	Add an alternative to the static limits currently imposed on PL/I bounded types.
71331	Transformer service leaks when throwing system exceptions.
70735	Add support for non-aligned PL/I programs.

Summary of bug fixes and enhancements in release 5.0

Table 2 shows the customer-reported bugs fixed and enhancements implemented in version 5.0.

Table 2: *Bugs Fixed and Enhancements Implemented in version 5.0*

Bug ID	Description
71423	Exception occurs when you try to import an IDL file that defines exceptions containing unions.
71417	Documentation states that Artix Mainframe supports xsd:hexBinary types and does not support xsd:base64binary types. It should be the other way around.
71393	Reverse the order of the SDSNEXIT and SDSNLOAD libraries in the STEPLIB or JOBLIB to enable use of the DSNAOINI JCL member to set the MVSDEFAULTSSID= value.
71391	Enumerated types being passed incorrectly to CICS.
71390	Cannot export files for a project that was created by importing an existing .bim file.
71389	Transformer service does not read concatenated BRGEINFO and BRGEMAP data sets correctly.
71371	Invalid PL/I code generated for user faults.
71358	Transformer service crashes when incorrect results are returned while using HTTPS.

Table 2: *Bugs Fixed and Enhancements Implemented in version 5.0*

Bug ID	Description
71322	Modify Artix Mainframe to allow 500 status code in the soap HTTP header to be returned.
71318	Artix Designer will only export COBOL copybooks for either the first operation or all operations.
71312	If the password is set as part of the principal string, it needs to be stripped off if <code>use_client_password</code> is set to false
71291	Add support for messages greater than 32K into CICS
71280	Change default strip trailing spaces to true
71224	Name Service shuts down with a SOC1 abend when an IBM JDK ORB (packaged with WebSphere) client invokes on it.
71204	The <code>imsraw</code> implementation does not populate the reason string for <code>transactionFailed</code> when IMS is unavailable.
71192	Artix Designer creates some PL/I members with names that are too long.
71191	Artix Designer generates some PL/I code that includes hyphen (that is, "-") characters. The resulting PL/I code must be changed before it can compile.
71171	Enhancement request to generate unique t-pipe names when using <code>otma_async</code> .
71150	Provide user exceptions support for PL/I IMS clients created via a mainframe Web services project from IDL.
71138	Enhancement request to format the Artix transformer's byte information more consistently with the client transformer.
71134	Add C++ development support to Artix Mainframe.
71132	Need to be able to use the user name contained in the <code>GIOP::Current</code> object even if <code>use_client_principal</code> is disabled.

Table 2: *Bugs Fixed and Enhancements Implemented in version 5.0*

Bug ID	Description
71117	Enhancement for Artix designer to retain value from the 88 levels for the *.bim file.
71116	Enhancement request to be able to send empty (0-length) bounded strings from PL/I programs.
71103	Add a separate versioning utility to Artix Mainframe that prints out the version number.
71080	Connection caching in client mode for IIOP requests is incorrect.
70742	When validating an unwrapped WSDL file, the message that is not support should also provide suggestions on how to fix the WSDL.
70737	Transformer service crashes in HTTPS mode if segmenting a large output message from IMS.
70732	Artix Designer should allow selection and update of multiple mappings and properties.
69491	Provide a PDK to Artix Mainframe to allow customers to write SOAP interceptors.

Summary of bug fixes in release 4.2 (UI update 1)

[Table 3](#) shows the customer-reported bugs fixed in version 4.2 (UI update 1).

Table 3: *Bugs Fixed in version 4.2 (UI update 1)*

Bug ID	Description
71274	Problems when editing the default size of unbounded sequences or unbounded strings in a z/OS project from WSDL that contains fault information.
71214	Artix Designer produces a stack overflow error when you try to import WSDL containing recursive types.

Table 3: *Bugs Fixed in version 4.2 (UI update 1)*

Bug ID	Description
71213	Modify copybook generation to avoid generating periods in column 73.
71212	Modify WSDL and CORBA validators to detect recursive types.
71211	Modify copybook generation to avoid exceeding level 48.
71142	z/OS properties view in Artix Designer does not allow you to rename Union field names for PL/I.
71069	When exporting files to z/OS, and a previous export has already been performed for the project, Artix Designer should default the details that were previously entered on the FTP to Remote Host panel.

Summary of bug fixes in release 4.2

Table 4 shows the customer-reported bugs fixed in version 4.2.

Table 4: *Bugs Fixed in version 4.2*

Bug ID	Description
71162	IMS transformer service aborts when <code>use_client_principal</code> is enabled but the client does not send its username and password.
71156	Document what kind of exception will occur if WSTIME or the cross memory/APPC timeout kicks in.
71144	Issue with PL/I unions offsets in z/OS projects from IDL.
71137	Some customer-supplied IDL generates compilable but invalid code.
71115	Cannot set "strip trailing spaces" to false in a z/OS project from IDL for a PL/I Artix CORBA client.

Table 4: *Bugs Fixed in version 4.2*

Bug ID	Description
71114	Artix for z/OS documentation does not mention that the client transformer needs to be run on the same LPAR as IMS when using cross memory communication.
71100	Invalid dataset name used in the IMS typetest compile JCL.
71085	When updating a corbaloc in a z/OS project from IDL in Artix Designer, the CPU overhead dramatically increases.
71082	When running in client mode with cross memory communication, the transformer service loops when an initialization error is encountered.
71079	The \$SECOND job is incorrectly documented in the Artix <i>Installation Guide for z/OS</i> .
71078	On editing a DB2 service description, the new URL does not take effect until Artix Designer is restarted.
71077	When deploying services to z/OS, provide the opportunity to re-enter a password if an error is encountered.
71020	Issue with altering mappings in z/OS projects from an existing resource.
71016	When creating a new FTP connection for a z/OS project, Artix Designer incorrectly asks for a port number.
71012	Artix Designer generates invalid PL/I code in a z/OS project from IDL for a PL/I Artix CORBA client.
71011	Enhancement request for Artix Designer to generate comments for unions in PL/I.
70936	Add support for xsd:NCName
70933	Cannot use a corbaname URL as an endpoint for an MVS client.
70924	The DB2 Services description field in Artix Designer cannot be edited.

Table 4: *Bugs Fixed in version 4.2*

Bug ID	Description
70923	Add DB2-specific details in the ARTXVARS procedure so that systems programmers have to update only one file.
70922	Reserved word list for COBOL is missing some entries.
70919	Enhance the Artix <i>Installation Guide for z/OS</i> regarding ODBC requirements.
70916	Namespace issue that can occur when complexType name is identical to element name.
70915	xsd:extensions are not being handled properly in Artix for z/OS.
70914	Artix Designer does not allow selection of strip trailing spaces for some string fields.
70912	Provide ability in Artix Designer to set maximum string size and sequence size so that 80-byte strings and 10-byte strings can be overridden when creating new projects.
70901	COBOL generators do not handle strings greater than 160 characters.
70897	Artix Designer embeds the local path to an IOR file instead of the IOR itself when creating a COBOL copybook from an IDL file.
70859	Provide a mechanism for determining the Artix version being used.
70765	Provide support for requests from z/OS to use SOAP over WebSphere MQ.
70764	Provide support for oneway SOAP requests using either HTTP/HTTPS or WebSphere MQ.
70733	Invalid native endpoint (trans/prog) may result in s0c4 abend.
70695	Add support for xsd:choice.

Table 4: *Bugs Fixed in version 4.2*

Bug ID	Description
70500	Provide support for user exceptions in IMS and CICS servers.
70499	Enhancement request to provide support for user exceptions in IMS and CICS clients.
70471	Provide mainframe monitoring capabilities.
69933	Supply imsrw and cicsrw IDL with Artix for z/OS.

Summary of bug fixes in release 4.1

Table 5 shows the customer-reported bugs fixed in version 4.1.

Table 5: *Bugs Fixed in version 4.1*

Bug ID	Description
70810	Offhost tools do not properly map xsd:decimal to COBOL types.
70793	Can't import WSDL into Artix Mainframe or core Artix project.
70792	COBOL generated code where the value clause results in a new line is off by one column.
70790	Marshalling error for unwrapped sequence (duplicate tag in message).
70753	Editing field lengths in UI is not reflected in brgeinfo offsets for WSDL-First PL/I applications.
70752	WSDL-first PL/I offsets are not always generated in brgeinfo.
70751	WSDL-first PL/I clients with operation names greater than 31 characters are truncated in the Operation List.
70750	PL/I include file generates uncomparable code (indentation problem).

Table 5: *Bugs Fixed in version 4.1*

Bug ID	Description
70749	PL/I Include file generates uncomparable code (maximum logical nesting level exceeded).
70748	The Artix transformer abends (oc4) when dealing with SOAP responses with large data to .NET clients when using SOAP over WebSphereMQ.
70747	WSDL-first: Incorrect documentation regarding client-code generation.
70745	ArtixMF transformer crashed when using PortType name for the WSDL URL instead of Service name.
70744	ArtixMF transformer: exceeding sequence bounds can cause transformer to OC4.
70743	Long URL going beyond column 72 in generated PL/I include file is incorrect.
70741	Artix for z/OS documentation does not list xsd:Integer as supported PL/I type, even though it is supported.
70740	Sequence bounds exception occurs when PL/I client talks to the .NET server with very specific WSDL operation.
70738	If an IMS buffer is not split at the end of a type within the buffer for a multi-segment message, the IMS transformer does not process the buffer.
70730	Immediate updates of a second field may fail. Inconsistent behaviour.
70729	The transformer security requirements to gain access to the context in a WebSphere MQ header was not documented.
70727	wsdltopli and wsdltocobol generates non-segment-friendly offsets for IMS.
70580	Please add support for xsd:Enumeration (corba enums).

Summary of bug fixes in release 4.0

Table 6 shows the customer-reported bugs fixed in release 4.0

Table 6: *Bugs Fixed in version 4.0*

Bug ID	Description
70421	FTP error with Artix Designer.
70372	Specifying an invalid hostname causes the transformer service in client mode to abend.
70369	Error deploying a project from Artix Designer if it contains a void return type.
70345	Artix for z/OS does not handle numeric display types correctly.
70331	Licenses produced for Artix 3.0.1 for z/OS will not work correctly.
70049	Typo in type mapping information file generated by Artix Designer.
70047	Artix Designer leaves trailing spaces on operation names.
70028	The transformer service should expose both scoped and non-scoped raw interfaces.
69890	Artix Designer returns parsing error when WSDL contains a complexType that contains a sequence or a choice with a minOccurs!=1 & maxOccurs!=1.
69819	Add back in the dummy structure around input and output parameters that was removed in Artix 3.0.
69818	The order of xmlns:tns and xmlns:xsd1 should be swapped in the WSDL generated by the transformer service.
69812	XMLSPY 2005 R3 reports target namespace issue with import definitions.
69777	Change the mapname for redefines nodes to remove the colon.

Table 6: *Bugs Fixed in version 4.0*

Bug ID	Description
69776	Using an IP address instead of a hostname results in error IT_HTTP:CANNOT_CREATE_LISTENER.
69772	Add support for COBOL picture edit patterns and right justification clauses.
69770	Three issues with Artix Designer: <ul style="list-style-type: none"> • Deleting an operation seems to cause problems. • Changing the properties of a deeply nested element causes screen refresh problems. • Unable to update some attributes on fields that are marked as required.
69751	Artix Designer deployment dialog does not allow special characters in the password field.
69749	Artix for z/OS has a dependency on Kerberos being installed on the mainframe.
69633	Please update \$FIRST job to not use duplicate DD names for BRGEINFO and BRGEMAP.
69551	Change the text of an error message.
69474	Artix for z/OS should have an option to register its deployed Web service endpoints with the Artix locator.
69460	Artix for z/OS clients should use session timeout in SAML messages for the cache timeout.
69452	CORBA binding to the SecurityService requires the CSI client interceptor.
69449	Off-host Web service clients must use the WSDL published by the transformer service for compilation.
69439	Entering a capitalized URL to retrieve WSDL from the transformer service causes corrupt HTTP headers.
69386	When running services in other locales than IBM-1047, the logging writes IBM-1047 instead of proper character set.

Summary of bug fixes in release 3.0

Table 7 shows the customer-reported bugs fixed in release 3.0

Table 7: *Bugs Fixed in version 3.0*

Bug ID	Description
69490	Change the logging behavior to indicate that default settings are being used.
69473	Display timestamps is printing extra information.
69471	Unbounded sequences are becoming bounded in WSDL produced by Artix.
69468	Changing Root context is difficult to use.
69451	Change transformer to strip off trailing spaces at the end of a string.
69450	Special characters e.g. german umlaut causing .NET clients to crash.
69448	WSE credentials are checked despite the namespace associated with them.
69443	Remove IONA Security Header information which is irrelevant in .NET clients which use WSE.
69441	Comment cards in the mapping file cause syntax errors when transformer starts up.
69440	Update JCL to use symbolic references for CEE libraries.
69438	Transformer abends if a bad keyring is supplied.
69025	Customer demo abends if transaction name length other than 7 characters is used.
68879	Enhance the IMS/CICS transformer services to pick up all members of the PDS specified in MFAMAPS.
68493	Transformer is not converting off-host principals to EBCDIC correctly.

Configuration Changes

In this section

This section discusses certain configuration changes you might need to make in the Artix configuration file, to enable specific functionality.

Disabling WSDL publication

If you want to disable the publication of WSDL files from the transformer service, you may now do so via the following configuration setting:

```
policies:soap:wSDL_publishing:enabled = "true";
```

Browser navigation

The `policies:soap:browser_navigation:enabled` configuration item has been deprecated. All browser navigation is controlled via the following configuration item.:

```
policies:http:browser_navigation:enabled = "false";
```

Note: The secure version of this configuration item is

```
policies:https:browser_navigation:enabled.
```

CONNECT tunneling mechanism

The following configuration settings are no longer required:

- `plugins:atli2_tls:underlying_transport:initial_reference_name`
- `plugins:atli2_ip_tunnel:proxy_addr`

These values are now specified via the soaploc mechanism in your Web consumer.

Sample Code

In this section

Artix Mainframe includes many samples that demonstrate the various features and components of the product.

For more information about the off-host samples that are provided, see the *InstallDir/mainframe/samples/index.html* file in your Artix installation on Windows or UNIX.

For more information about the on-host samples that are provided, see the following datasets in your Artix Mainframe installation on z/OS:

- *artixhlq.DEMOS.CBL.README*
- *artixhlq.DEMOS.CICS.CBL.README*
- *artixhlq.DEMOS.CICS.PLI.README*
- *artixhlq.DEMOS.IMS.README*
- *artixhlq.DEMOS.IMS.CBL.README*
- *artixhlq.DEMOS.IMS.PLI.README*
- *artixhlq.DEMOS.PLI.README*

Upgrading from Artix Mainframe 5.0

Migrating Deployed Services

If you are upgrading from Artix Mainframe 5.0, note the following:

- In version 5.1, Artix Designer can open workspaces created with version 5.0.
- In version 5.1, the transformer service can open deployment descriptor files (that is, *brgemap* and *brgeinfo*) created with version 5.0.

To configure Artix Mainframe 5.1 to use a set of services deployed via version 5.0, the only requirement is that the transformer service in version 5.1 uses the same deployment store as version 5.0. If you are using the supplied configuration domain, you can set this by editing the JCL that is used to start the transformer service to which the deployment descriptor files are being migrated.

Before you submit the relevant JCL, update it so that the DD statements for BRGEINFO and BRGEMAPS at the bottom of the file refer to the previous deployment store. For example:

```
/* Mapping files for demos and other Artix programs.  
//BRGEINFO DD DISP=SHR,DS=⟨⟨OLD-DEPLOYMENT⟩⟩.BRGEINFO  
//BRGEMAPS DD DISP=SHR,DSN=⟨⟨OLD-DEPLOYMENT⟩⟩.BRGEMAP  
//ITDOMAIN DD DSN=&ARTIXCFG (&DOMAIN) ,DISP=SHR
```

Alternatively, in Artix Mainframe 5.1, you may open a workspace created via version 5.0, update the mappings (if necessary) and redeploy the application as required.

Note: Before upgrading to version 5.1, you should make a copy of your deployment store. This is because your deployment descriptor files and Eclipse workspaces cannot be used with previous versions of the product once they have been upgraded to version 5.1.

Migrating Configuration Files

Even though the sample configuration files are compatible between Artix Mainframe 5.0 and 5.1, IONA recommends that you use the latest AXINTRNL file with your configuration when migrating to version 5.1.

Upgrading from Artix 4.x for z/OS

If you are upgrading from any 4.x version of Artix for z/OS, you must do the following:

1. Uninstall all components (that is, z/OS, Windows and UNIX) of Artix 4.x for z/OS.
2. Install Artix Mainframe 5.1
3. Acquire and install new licences. If you have not received your new licenses please contact your IONA representative.

Note: Artix Mainframe 5.1 can open workspaces created with Artix 4.x for z/OS.

Migrating Deployed Services

The Artix Mainframe 5.1 transformer service can open deployment descriptor files (that is, brgemap and brgeinfo) created with Artix 4.x for z/OS. To configure Artix Mainframe 5.1 to use a set of services deployed via Artix 4.x for z/OS, the only requirement is that the transformer service in version 5.1 uses the same deployment store as the earlier version.

If you are using the supplied configuration domain, you can set this by editing the JCL that is used to start the transformer service to which the deployment descriptor files are being migrated. Before you submit the relevant JCL, update it so that the DD statements for `BRGEINFO` and `BRGEMAPS` at the bottom of the file refer to the previous deployment store. For example:

```
/* Mapping files for demos and other Artix programs.
//BRGEINFO DD DISP=SHR,DS=«<OLD-DEPLOYMENT>>.BRGEINFO
//BRGEMAPS DD DISP=SHR,DSN=«<OLD-DEPLOYMENT>>.BRGEMAP
//ITDOMAIN DD DSN=&ARTIXCFG (&DOMAIN) ,DISP=SHR
```

Alternatively, in Artix Mainframe 5.1, you may open a workspace created via Artix 4.x for z/OS, update the mappings (if necessary) and redeploy the application as required.

Note: Before upgrading to version 5.1, you should make a copy of your deployment store. This is because your deployment descriptor files and Eclipse workspaces cannot be used with Artix 4.x for z/OS once they have been upgraded to version 5.1.

Migrating Configuration Files

Even though the sample configuration files are compatible between Artix Mainframe 5.1 and Artix 4.x for z/OS, IONA recommends that you use the latest AXINTRNL file with your configuration when migrating to version 5.1.

Upgrading from Artix 3.0 for z/OS or Artix Mainframe 2.0

If you are upgrading from Artix 3.0 for z/OS or Artix Mainframe 2.0, you must do the following:

1. Uninstall all components (that is, z/OS, Windows and UNIX) of Artix 3.0 for z/OS or Artix Mainframe 2.0.
2. Install Artix Mainframe 5.1
3. Acquire and install new licences. If you have not received your new licenses please contact your IONA representative.
4. Recreate any existing projects, because the Artix Mainframe 5.1 project format is not compatible with Artix 3.0 for z/OS and Artix Mainframe 2.0 project formats.

For Further Assistance

If you have any questions or comments about Artix Mainframe, please contact IONA customer support at <http://www.iona.com/support/contact/> or support@iona.com.

When contacting customer support regarding a specific problem, 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. It would be extremely helpful to maximize the logging within your system. For further details of how to do this, see [“Configuration Changes” on page 43](#).

Other Resources

- [IONA Knowledge Base articles](http://www.iona.com/support/knowledge_base/index.xml) (http://www.iona.com/support/knowledge_base/index.xml) provide a database of practical advice on specific development issues, contributed by IONA developers, support specialists, and customers.
- [IONA University](http://www.iona.com/info/services/ps/) (<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/) (<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.
- The [IONA Documentation library](http://www.iona.com/support/docs/index.xml) (<http://www.iona.com/support/docs/index.xml>) contains the latest documentation on all products. Technical documentation relating to Artix Mainframe is available at:
<http://www.iona.com/support/docs/artix/mainframe/5.1/>.