



Artix™

Release Notes

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Artix 4.1

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New Features

The following features have been added in Artix 4.1:

- [RMI Transport Support](#)
- [MC4J](#)
- [Support for Java 5.0](#)
- [Newly Supported Compiler](#)
- [WS-RM Persistence](#)
- [WS-Addressing Enhancements](#)
- [Tagged and Fixed Binding Improvements](#)
- [SOAP 1.2 Support](#)
- [Artix Designer](#)
- [Artix Security](#)
- [WSDL to C++ Mapping](#)

RMI Transport Support

Artix 4.1 provides native communication and binding support for EJB client and server components using Remote Method Invocation (RMI). See [Writing Artix Contracts](#) for details.

MC4J

Artix provides out-of-the-box support for the MC4J Java Management Extensions (JMX) console, allowing developers to monitor and manage Artix C++ and Java endpoints. See [Managing Artix Solutions with JMX](#) for details.

Support for Java 5.0

Artix supports the latest version of the Java platform, Java 5.0. IONA encourages customers to start the migration process to Java 5.0 ahead of the next major release of Artix in 2007.

Newly Supported Compiler

Artix now supports the Sun C++ Compiler 5.8, which is part of Sun ONE Studio 11, on both 32-bit and 64-bit Solaris platforms.

WS-RM Persistence

Quality of Service in Artix C++ is enhanced by the addition of WS-RM Persistence. In the event of a crash, the state of RM endpoints is persisted, thus enabling them to resume sending and receiving messages once they are reincarnated. See [Configuring and Deploying Artix Solutions](#) for details.

WS-Addressing Enhancements

Artix' support for WS-Addressing has been enhanced as follows:

- Artix supports the `wsaw:ServiceName` element as defined in the WSDL Binding specification
- Support has been added for the `wsdl:wsdlLocation` attribute, as defined in the W3C WSDL Instance specification
- The format for message exchange patterns now complies with the WS-Addressing specification.

For details, see [Developing Artix Applications in C++](#).

Tagged and Fixed Binding Improvements

The tagged binding has been extended to support a larger and more flexible set of delimiters. The fixed binding has been extended to support a more discrete justification specification. See [Writing Artix Contracts](#) for details.

SOAP 1.2 Support

Artix continues to improve interoperability with support for SOAP 1.2. See [Writing Artix Contracts](#) for details.

Artix Designer

The following features have been added to Artix Designer. See the online help for details:

- [Content-based routing](#)
- [Security support](#)
- [Code generation output changes](#)
- [Shareable launch configurations and preferences](#)
- [WS-RM support](#)
- [New z/OS project types](#)
- [Eclipse 3.2 support](#)
- [Solaris support](#)

Content-based routing You can now create content-based routes in Artix Designer.

Security support Artix Designer enables you to create CORBA and SOAP-based projects with the configuration needed to support communication over secure transports (HTTPS or TLS), as well as authentication and authorization using the Artix Security Service.

Code generation output changes You can now configure the folder structure for any code generated from the Artix Tools window to suit your development organization's requirements.

Shareable launch configurations and preferences You can now share Artix Tools launch configurations and Artix Designer preferences with other team members and make them visible to version control systems.

WS-RM support You can now enable Web Services Reliable Messaging in your Artix Designer applications.

New z/OS project types You can create z/OS web services projects from DB2, deployment descriptors, and IDL in Artix 4.1.

Eclipse 3.2 support Artix Designer 4.1 supports the latest version of the Eclipse platform, version 3.2.

Solaris support Artix Designer ships as part of the Artix 4.1 installation kit for Solaris.

Artix Security

The following features are new in Artix Security. See the [Artix Security Guide](#) for details:

- [Partial message protection for SOAP messages](#)
- [Configuration enhancements](#)
- [SSL support for container administration tool](#)
- [WS-Security mustUnderstand header support](#)
- [Password hashing](#)
- [OpenSSL utility](#)

Partial message protection for SOAP messages This major new feature allows the signing and encryption of individual SOAP messages in conformance with the WS-Security (WSS) 1.0 specification.

Configuration enhancements You can now specify the following using Artix configuration:

- WSS usernames and passwords for authentication of SOAP messages
- HTTP usernames and passwords for basic authentication of HTTP requests

Previously, you had to set these authentication credentials using the Artix APIs.

SSL support for container administration tool The `it_container_admin` utility can now use the `-port` flag in conjunction with an SSL enabled port. The supplied port value is used to contact the secure WSDL publish endpoint. In

previous releases secure access by `it_container_admin` to the WSDL publish port was only supported when using the secure URL option. See the "Deploying WSDL Publish in a Container" section of the [Security Guide](#).

WS-Security mustUnderstand header support The Artix runtime now rejects requests where the message contains a WSS SOAP header that has `mustUnderstand="1"` as a SOAP attribute and contains security elements that are not specifically processed by the Artix runtime. You can turn off this behavior by setting the `policies:soap:security:enforce_must_understand` configuration variable to `false`. The default value is `true`.

Password hashing The iSF file adapter now supports password hashing. A new `it_pw_hash` utility allows you to convert plaintext passwords to more secure hashed passwords, using the SHA-1 hashing algorithm.

The `it_pw_hash` utility allows you to:

- Convert all passwords to hashes
- Convert a single password to a hash
- Reset a password hash

Usernames and passwords from previous releases still work in Artix 4.1.

Note: If you convert a plaintext password to a hashed password, you cannot convert back to plaintext again. If you forget the password, you need to have it recreated.

OpenSSL utility To make SSL diagnostics and certificate/key creation more convenient, the OpenSSL Project's command-line utility `openssl`¹ is now bundled with Artix.

WSDL to C++ Mapping

The WSDL to C++ mapping is now an official Object Management Group (OMG) specification. The specification is available from the OMG site at: <http://www.omg.org/cgi-bin/doc?mars/06-06-38>.

1. © 1998-2006, The OpenSSL Project. The OpenSSL utility includes cryptographic software written by Eric Young (eay@cryptsoft.com). For more information on The OpenSSL Project, see <http://www.openssl.org>.

Migration Notes

Users upgrading from Artix 4.0 to version 4.1 should note the following:

Endpoint Reference Compatibility

The endpoint references published by Artix 4.1 comply with the W3C WS-Addressing specification. To ensure backward compatibility with the proprietary Artix 4.0 endpoint reference format, you must set the `bus:non_compliant_epr_format` configuration variable to `true`.

See the “Reference Compatibility” section in the [Artix Configuration Reference](#) guide for details.

Deprecated C++ APIs

The following constructor and assignment operators in the Reference class (`it_bus/reference.h`) are deprecated in Artix 4.1:

- `Reference(const WS_Addressing::EndpointReferenceType& epr);`
- `Reference & operator=(const WS_Addressing::EndpointReferenceType & rhs);`

These will be removed from the product in Artix 5.0.

WS-RM Changes

The memory ownership of `WSRMConfigurationContext` and `WSAConfigurationContext` objects has changed in Artix 4.1.

In Artix 4.0, the responsibility for deleting these objects was with the user, but in Artix 4.1 the Artix runtime takes care of deleting them. The `advanced/ws-rm` demo reflects this new behavior.

Documentation Updates

The following books have been updated in Artix 4.1:

- [Getting Started with Artix](#)
- [Writing Artix Contracts](#)
- [Artix Designer Online Help](#)
- [Developing Artix Applications in Java](#)
- [Configuring and Deploying Artix Solutions](#)
- [Managing Artix Solutions with JMX](#)

- [Artix Router Guide](#)
- [Artix Locator Guide](#)
- [Artix Session Manager Guide](#)
- [Artix Security Guide](#)
- [Artix AmberPoint Integration Guide](#)
- [Artix BMC Patrol Integration Guide](#)
- [Artix Configuration Reference](#)
- [Artix Command Line Reference](#)
- [Artix Glossary](#)

Getting Started with Artix

The following changes have been made to this book:

- Clarification of the roles of the Artix for z/OS and Artix Orchestration subsystems in the Introduction chapter
- Reorganized and clarified the Artix Designer tutorial

Writing Artix Contracts

The following changes were made to this book:

- Moved the routing information to a new Artix Router Guide
- Added SOAP 1.2 information
- Added RMI binding information
- Updated fixed binding section
- Added references to Artix Designer

Artix Designer Online Help

The Artix Designer online help has been updated to include details on:

- Content-based routing
- Security support
- Code generation output changes
- Shareable launch configurations and preferences
- WS-RM support
- New z/OS project types

Developing Artix Applications in Java

This guide now includes instructions for using Artix Designer where appropriate.

Configuring and Deploying Artix Solutions

The following information has been added to this book:

- WS-RM acknowledgement, delivery policies, threading, and persistence
- WS-Addressing 2005 Message Exchange Pattern
- XML-based log4J logging
- Additional logging subsystems
- XSLT message part names (for content-based routing)
- Managing containers using Artix Designer
- HTTP and HTTPS trace logging
- Debugging an Artix plug-in deployed in a container

Managing Artix Solutions with JMX

This is a new book explaining how to manage Artix services using Java Management Extensions. It comprises material previously documented in *Configuring and Deploying Artix Solutions* and new material on how to use the MC4J management console.

Artix Router Guide

This is a new book containing the information on the router from *Writing Artix Contracts* and *Configuring and Deploying Artix Solutions*.

Artix Locator Guide

This book was updated to include:

- New discussion of SOAP 1.2 support
- Discussion of new configuration variable to allow an Artix 4.1 locator service to accept connections from Artix 4.0 and 3.0 clients
- New discussion of locator-enabling client and server using Artix Designer
- New chapter discusses using the locator service from a non-Artix client

Artix Session Manager Guide

This book now includes details on the following:

- SOAP 1.2 support
- Migration information on how to maintain backward compatibility with Artix 4.0 and 3.0.x

Artix Security Guide

Details on the following features have been added to this book:

- Partial message protection for SOAP messages
- SSL support for container administration tool
- Password hashing
- OpenSSL utility
- WS-Security mustUnderstand header support
- New `principal_sponsor:wsse:*` and `principal_sponsor:https:*` variables

Artix AmberPoint Integration Guide

This is a new book explaining how to integrate Artix services with the AmberPoint SOA Management System.

Artix BMC Patrol Integration Guide

A section has been added on extending to a production environment.

Artix Configuration Reference

This book was updated to include:

- Request-level collocation
- SOAP validation
- WS-RM acknowledgement, delivery policies, threading, and persistence
- RMI plug-in and registry settings
- WS-Addressing 2005 Message Exchange Pattern
- XSLT message part names (for content-based routing)
- HTTP and HTTPS trace logging
- JVM options

Artix Command Line Reference

This book was updated to reflect the addition of SOAP 1.2 and the RMI binding.

Artix Glossary

New terms have been defined, with special attention to Artix Orchestration terminology.

Known Issues

The following are known issues in Artix 4.1:

- [Installation](#)
- [Artix Designer](#)
- [Artix Security](#)
- [Demos](#)

Installation

Artix 4.1 cannot be installed into directory paths containing spaces.

Artix Designer

The following are known issues in Artix Designer's security support:

- [Generating containers](#)
- [Container administration](#)
- [Authorization fails on secure CORBA server](#)
- [Invalid secure router start script](#)

Generating containers You must use a project template when creating a secure container. There are issues with generating a secure container from scratch using the Artix Tools window.

Container administration Secure containers do not display in the Artix Container Admin perspective.

Authorization fails on secure CORBA server Authorization on a secure CORBA server created in Artix Designer fails because the CORBA repository ID in the WSDL is not translated into a valid interface name in the action-role mapping file.

To workaroud, edit the mapping file so that the interface name matches the value of the `repositoryID` attribute in the `corba:binding` WSDL element. For example, the following WSDL snippet:

```
<corba:binding repositoryID="IDL:Simple/SimpleObject:1.0"/>
```

should translate as follows in the mapping file:

```
<interface>
  <name>IDL:Simple/SimpleObject:1.0</name>
  ..
</interface>
```

Invalid secure router start script The start script generated for a secure router is invalid and launches an insecure router. To workaroud, edit the `-ORBname` flag in the start script to reference the appropriate `router` scope in the `artix.cfg` file. For example, for a CORBA to SOAP router, change the following line in the start script:

```
start it_container -ORBname IT_Routing -publish
```

to

```
start it_container -ORBname IT_Routing.router.corba_soap -publish
```

Artix Security

The following are known issues with Artix Security:

- [JVM problem on 64-bit Linux](#)
- [OpenSSL utility](#)

JVM problem on 64-bit Linux The Artix Security Service does not run on 64-bit Linux using the following JVMs:

- 32-bit version 1.4.2_04
- 32- and 64-bit version 1.5 32

To ensure that the Security Service works on 64-bit Linux, use the 32-bit JVM version 1.4.2_06.

OpenSSL utility The OpenSSL utility bundled with Artix 4.1 does not run on Windows.

Demos

There are known issues with the following Artix 4.1 demos:

- [High Availability Persistent Servers](#)
- [Shared Library and WSRM](#)

High Availability Persistent Servers The `advanced/high_availability_persistent_servers` demo does not work on 64-bit Linux. To work around, source the Artix environment, then run the following command:

```
export LD_LIBRARY_PATH=$IT_PRODUCT_DIR/shlib/lib64/:$LD_LIBRARY_PATH
```

Shared Library and WSRM On Solaris, the `advanced/shared_library` and `advanced/wsrn` demos require a bash shell context. To run these demos on Solaris, you must prepend `bash` in front of each demo command. For example:

```
bash ./run_cxx_server
bash ./run_cxx_client
```

Fixed Bugs

The following bugs have been closed in Artix 4.1:

Table 1: *Bugs Fixed in Artix 4.1*

Bug #	Description
69790	HTTP—Basic authenticating header to be returned on authentication failure
70135	Delegated SSO token is rejected in CSI interceptor if no saml response is attached to service context
70138	Tagged binding alias bug

Table 1: *Bugs Fixed in Artix 4.1 (Continued)*

Bug #	Description
70220	All Artix environment variables should have an equivalent command line parameter to override.
70262	Justification needed at a field level in fixed binding
70380	Add the ability to set WS-Security credentials via configuration in Artix
70381	wsse:UsernameToken/wsse:Password element in WSSE UsernameToken element should specify Type attribute as required by WS-I Basic Security Profile (v1.0)
70383	SOAP header contains duplicate id attributes for username and password when passing WSSE credentials. Artix 3.x.
70405	Unable to use HTTPS as a second port in a service with the locator
70420	Memory leak in Artix Locator demo server
70448	Artix currently ignores the mustUnderstand attribute if set in the WSSE header of incoming requests.
70452	wsdl_publish and secure ports
70478	Artix to throw WS-Security compliant SOAP faults for security exceptions
70511	Artix 4.0 produces stub code that will not compile for valid WSDL
70518	Artix GUI fails to process certain WSDL documents
70519	Artix Java server using ISF, HTTPS with a Java handler causes a JVM crash.
70523	C++ code generation error with customer WSDL: code does not compile
70526	Incorrect ORBname parameter in Artix 3.0.3 demos\security\single_signon java demo

Table 1: *Bugs Fixed in Artix 4.1 (Continued)*

Bug #	Description
70527	<code>wSDLtoJava</code> fails - XML Schema does <i>not</i> require that a type be defined before it is used
70529	Recursion bug for anonymous complex types
70532	Artix 3.0.3 throws <code>NullPointerException</code> when MTOSI header is missing non-mandatory attribute
70533	Artix fails to parse SOAP message if expected <code>xsd:integer</code> type contains white spaces
70534	Artix C++ 3.x, 4.x, illegal string format when deserializing type: <code>xs:positiveInteger</code>
70539	Setting the <code>plugins:wSDL_publish:processor="standard"</code> , has an impact of the operation of the routing plug-in which it shouldn't have
70541	<code>wSDLtoC++</code> generating code that doesn't compile
70548	Artix 4.0 logging (server side) does not log response hex dump
70551	SOAP msg too long causes exception
70559	Artix 3.x, 4.x should warn users if the word "id" is used for an attribute.
70574	SSO is switched off by default
70575	Artix Java classes for elements of the name <code>type</code> will not compile
70582	Support for native (not SOAP-based) communication and binding support for EJB client and server components using RMI/IIOP
70589	<code>SOAPHeaderElementImpl</code> setting <code>mustUnderstand</code> to <code>true</code> vs <code>1</code> and <code>false</code> vs <code>0</code>
70590	Access violation when routing SOAP/HTTP to XML/HTTP

Table 1: *Bugs Fixed in Artix 4.1 (Continued)*

Bug #	Description
70595	Xerces-c 2.4 has buffer management problem with valid XML documents with excessive namespace attributes
70603	Tagged binding behaves inconsistently with nillable types
70605	Feature request to log JMS header information to Artix log file
70606	Patch 70529 breaks access to <code>BusSecurity</code> context object in server
70607	Interop problem with SOAP for CICS 1.2
70608	<code>wSDL2cpp</code> generated code missing some variable declarations
70609	<code>wSDL2cpp</code> generated code missing some variable declarations
70610	Java code gen for schema type called "Type" fails
70612	<code>wSDLtojava</code> generates incorrect Java code
70621	<code>it_container_admin</code> wrongly deploys a misconfigured route
70630	The Artix servlet class (<code>com.iona.jbus.servlet.ArtixServlet</code>) does not set the Content-Type in the HTTP header for outgoing return messages
70641	Artix Runtime patch for UI (Eclipse) update
70643	Artix J2EE Connector initialization failure with WebLogic on Solaris
70644	Problem mapping URI to CORBA binding in Artix 4.0 Java
70652	Request to enhance HTTP in Artix to support <code>CLIENT_ADDRESS_CONTEXT</code>
70654	HTTP reply code handling not working for GET
70658	Enhancement to encrypt passwords for Artix IS2 file adapter
70671	Failed to deploy two artix C++ servers into one container

Table 1: *Bugs Fixed in Artix 4.1 (Continued)*

Bug #	Description
70672	Artix HTTP client transport does not always honor <code>ReceiveTimeout</code> in <code>http-conf:client</code> WSDL extensor
70675	Artix 4.0 <code>wSDLtojava</code> compiler generates uncompileable code
70677	Instantiating proxies in different threads expose race conditions during WSDL parsing
70689	JVM core dump in Artix 4.0 native code when CORBA reference is returned from CORBA server
70698	The <code>com.iona.jbus.types.SequenceTypeHandler</code> class in Artix 4.0 GA causes a <code>NullPointerException</code>
70699	The <code>SAAJUtils.writeSOAPElement(SOAPElement, Writer, boolean)</code> function is generating an invalid XML
70700	The <code>com.iona.jbus.types.ComplexTypeHandler</code> class causes an NPE
70702	Generated code does not compile
70721	WSA reference properties not entirely returned to WebSphere
70786	No WS-AT prepare/commit flows when using the router and the recoverable transaction coordinator
70811	Incorrect handling of <code>formatType</code> in MQ
70850	<code>http-conf.xsd</code> is incorrect for keep-alives
70851	Why not ship OpenSSL utility with Artix?
70852	<code>NullPointerException</code> parsing FpML schemas
70853	Artix support for schema substitution groups produces uncompileable code
70876	Remove double base-64 encoding of ISF Kerberos Tokens

Reporting Problems

Contact customer support at <http://www.iona.com/support/contact/>

Other Resources

If you need further help please use the following resources:

- [Artix TechZone](http://www.iona.com/devcenter/artix) (<http://www.iona.com/devcenter/artix>) is a free online forum where IONA developers, your peers and other professionals come to share tips on Artix Web Services development. Visit the Artix TechZone today to start making the most of your Artix development experience.
- [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 Professional Services](http://www.iona.com/info/services/consulting/) (<http://www.iona.com/info/services/consulting/>) provide product expertise and consulting solutions that empower end-users, system integrators and software vendors with the knowledge to fully leverage IONA products. Together, IONA consultants and products equip you with a single platform for integrating and developing extremely reliable, scalable, and secure e-Business systems.
- [IONA Security Mailing List](mailto:security-alert@iona.com) (security-alert@iona.com): The mailing list provides security updates associated with all IONA products. To receive security updates from IONA send mail to listserver@iona.com with no subject and the body text `subscribe security-alert youremail`.

Note: Please do not post queries to this e-mail alias; it has been set up only to notify you of security alerts.

- [Online Documentation](http://www.iona.com/support/docs/index.xml) (<http://www.iona.com/support/docs/index.xml>): The latest updates to the Artix documentation are posted on-line.
- [Knowledge base articles](http://www.iona.com/support/index.xml) (<http://www.iona.com/support/index.xml>): A database that contains practical advice on specific development issues, contributed by IONA developers, support specialists, and customers.