Artix™ ESB

Release Notes

Version 5.1, December 2007

Making Software Work Together™

Contents

Artix ESB 5.1

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New Features

The following features are new in Artix ESB 5.1:

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- Artix Designer Enhancements
- UDDI Support
- Support for Microsoft Visual Studio 2005
- Spring Container Enhancements
- idl2wsdl Enhancements
- WSDL Publishing Support in Tomcat
- Artix Java Samples Support Spring Container
- SSH FTP Support

JAX-WS 2.0 TCK Testing

The Artix Java Runtime has been tested against the JAX-WS 2.0 Technology Compatibility Kit (TCK) to ensure that it complies with the JAX-WS 2.0 specification. Our TCK testing shows a 100-percent pass rate when running JAX-WS services on Apache Tomcat.

New Artix Java Router

A new Java router, based on Apache Camel, is included in Artix ESB 5.1. It allows you to implement a range of enterprise application integration and message-oriented middleware design patterns, as defined in the book Enterprise Integration Patterns. For details, see Getting Started with Artix Java Router.

Artix Designer Enhancements

The following features are new in Artix Designer 5.1. See the online help for details:

Artix Data Services integration A new project type has been added that allows you to integrate Artix ESB with IONA Artix Data Services. You can use the Artix Data Services Client project to create JAXB wrappers around the Java classes generated by Artix Data Services, so that they can be consumed by other Web services. The project also generates a sample client that you can package and run against the legacy service.

Support for Artix Java samples You can now import more than half of the Artix Java samples as projects into Artix Designer and run them from within Eclipse.

Run Spring container and Tomcat from within Designer You can now launch the Artix Spring container or an Apache Tomcat server from the Eclipse Servers view, allowing you to create, deploy, and run your JAX-WS services within Artix Designer.

Automatic migration of Artix Designer 5.0 projects to 5.1 When you open an Artix Designer 5.0 project in this release, the project is migrated to version 5.1 automatically.

> **Note:** You will no longer be able to open the project in Artix Designer 5.0 once the migration has occurred.

Improved CORBA support for Artix Java runtime A JAX-WS version of the CORBA Web Services project has been added in this release.

WSDL validation enabled by default In the Artix Designer preferences panel, the **Validate WSDL against schemas** option is enabled by default in this release.

UDDI Support

You can now run Universal Description Discovery and Integration (UDDI) 2.0 as a service within Artix ESB.

In addition, a new UDDI client-side resolver enables Artix clients to automatically discover service contracts in UDDI without writing UDDI-specific code.

For working examples, see the jUDDI and UDDI Client samples under the `ArtixInstallDir\java\samples\uddi` directory.

Support for Microsoft Visual Studio 2005

The Artix ESB C++ runtime now supports Microsoft Visual Studio 2005 (VC 8.0) on Windows 2003 (32-bit). Remember to run the `artix_env` script with the `-compiler vc80` flag to set up your Artix environment for this version of Visual Studio.

Spring Container Enhancements

A number of enhancements have been made to the Artix Spring container, including the following:

- The `spring_container stop` command now works with multiple containers.
- Improved error messages when the container fails to start.
- Better handling of incorrect JAX-WS endpoint addresses.
- Improved formatting of `spring_container -h` output.
- Improved memory management when running multiple applications.
- The Spring container interface now returns a list of services for a given application, not just a list of applications.

idl2wsdl Enhancements

The following enhancements have been made to the `artix idl2wsdl` tool:

- Support for mapping IDL modules to schema namespaces
- Support for inheritance

WSDL Publishing Support in Tomcat

The Artix WSDL publishing service is now supported when deploying a service to Apache Tomcat. To enable WSDL publishing, set the `deployedinContainer` variable to `true` in the service's Artix Java configuration file.

Artix Java Samples Support Spring Container

You can now deploy most Artix Java samples to a Spring Container from the command line, where appropriate.

SSH FTP Support

The Artix FTP transport has been enhanced to allow it to talk to a Secure Shell (SSH) server. This allows Artix 5.1 endpoints to use the SSH server as a secure intermediary persistent datastore.

Supported Standards

Artix 5.1 supports the following XML and Web services specifications:

XML

- XML Namespaces 1.0
- XML Schema 1.0
- XPath 1.0
- XQuery 1.0
- XML Information Set

Messaging

- SOAP 1.1/1.2
- MTOM SOAP 1.2, 01-2005
- WS-Addressing 08-2004

Metadata
- WS-Policy 1.2, 04-2006
- WS-PolicyAssertions (partial)
- WS-PolicyAttachment (partial)
- UDDI v2

Security
- WS-Security 1.1 with SAML, Kerberos, X.509 profiles
- XML Signature 02-2002
- XML Encryption 12-2002
- WS-Trust 1.3
- SAML 1.1, 2.0 Token Profiles

Reliable Messaging
- WS-ReliableMessaging 1.1

Web Services Interoperability
- WS-I Basic Profile 1.1
- Simple SOAP Binding Profile

Business Processes
- WS-BPEL 1.1, 2.0

Transactions
- WS-AtomicTransaction (C++/JAX-RPC runtime only)

Updating Artix Designer

To ensure that Artix Designer is always up-to-date with the latest Artix 5.1 patch releases:

1. In Artix Designer, select **Help|Software Updates|Find and Install**. The Install/Update wizard launches.

2. In the Feature Updates panel, select **Search for new features to install**, then click **Next**.

3. In the Update Sites to Visit panel, click the **New Remote Site** button.

4. Enter the following details in the New Update Site dialog box:
   - **Name**: Artix Designer
   - **URL**: `http://www.iona.com/downloads/artix/eclipse/5.1`

5. Click **OK**.

6. Select the **Artix Designer** checkbox and clear all other boxes in the Sites to Include section.

7. Check the **Ignore Features** checkbox and click **Finish**.

   Eclipse contacts the specified URL and returns with a list of available Eclipse plug-ins at that site.

8. In the Search Results panel, check the **Show the latest version** checkbox. Select the checkboxes beside all the IONA Artix Plug-in entries, then click **Next**.

9. Accept the license agreement and click **Next**.

10. In the Installation panel, confirm the target installation location and click **Finish** to start the installation.

After downloading the updated plug-ins, relaunch Artix Designer.

We recommend that you select a new workspace after relaunching. If you want to continue using the same workspace, first delete the `LocalRepository` folder under the workspace folder in your file system. A new local repository will be created for you when you next create an Artix Designer project.

You should also check that your Artix Designer installation details were not overwritten by the update process by selecting **Window|Preferences** and then selecting **Artix Designer**.

Documentation Updates

The Artix ESB 5.1 documentation is available at

http://www.iona.com/support/docs/artix/5.1/

The following books have been updated in this release:

- Installation Guide
- Artix Java Router Getting Started
- Artix Java Router Deployment Guide
- Artix Designer Online Help
- Artix Command Reference
- Developing Artix Applications with JAX-WS
- Developing Artix Applications with JavaScript
- Building Service Oriented Architectures with Artix
- Writing Artix Contracts
- Artix Bindings and Transports, C++ Runtime
- Artix Bindings and Transports, Java Runtime
- Using the Artix Library

Known Issues

The following are known issues in Artix ESB 5.1:

- Installer
- Artix Java Runtime
- Artix Designer
- WSDLGen
- Samples

Installer

The following are known issues with the installer and uninstaller programs:

Installing in GUI mode on X-Windows When installing in GUI mode on Linux or UNIX systems, the installation fails if you have not set the DISPLAY environment variable.

Uninstaller does not remove some files The uninstaller program does not remove a number of WSDLGen-related files and directories under `cxx_java`. You need to remove these manually once the uninstaller has finished.

Artix Java Runtime

The following is a known issues with the Artix Java runtime:

TCP port not released after service removed from Spring container When you undeploy a JAX-WS service from a Spring container, the TCP port is not released. You need to stop and restart the container to release the port.

Artix Designer

The following are known issues in Artix Designer:

JAX-WS Database project problem with latest MySQL JDBC driver When creating a JAX-WS Database Web services project using a MySQL 5.1.5 JDBC driver, you can add the driver JAR file, but you cannot browse for the driver class file. To workaround. use an earlier version of the MySQL JDBC driver.

ActiveMQ missing from JAX-WS project classpath Applications or services that use the Artix JMS broker will fail because the Apache ActiveMQ library is missing from the project classpath.

To workaround:

1. Select the JAX-WS project.
2. Select **File | Properties**.
3. In the Properties dialog box, select **Java Build Path**.
4. Click the **Libraries** tab.
5. Click the **Add External JARs** button.
6. In the JAR Selection dialog, browse to the following location on your hard drive:

   ArtixInstallDir/java/lib/activemq/activemq/fuse-4.1.2.5
7. Select the `apache-activemq-fuse-4.1.2.5.jar` file and click **Open**.

   Eclipse will rebuild your projects.

Running the Artix Security Service throws log4j error When you start the Artix security service by selecting **Run > External Tools > External Tools**, a stack trace appears in the Artix ISF Server window that begins as follows:

```
log4j:ERROR setFile(null,true) call failed.
java.io.FileNotFoundException: target\activemq-test.log
    (The system cannot find the path specified)
```

The error is harmless. To workaround:

1. Switch to the Navigator view.

2. Expand the following folders:

   .artix > it_isf.servicemanager*ServiceName*_isf_container > etc > security

3. Open the `security.cfg` file.

4. Locate the `plugins:java_server:system_properties` variable and add the following values:

```
"com.iona.common.log4j.Log4JUtils.filename=ArtixInstallDir\cxx_java\etc\log4j.properties",
"log4j.configuration=ArtixInstallDir\cxx_java\etc\log4j.properties"
```

5. Save the `security.cfg` file.

CORBA JAX-WS project creation failure Creating a JAX-WS CORBA Web services project fails if you select the **Map modules to namespaces** option for an IDL that does not contain any modules.

WSDL First projects cannot import WSDL from URL Importing WSDL from a URL while creating a JAX-WS WSDL First project fails. To workaround, create an empty JAX-WS project and import the WSDL by selecting **File | New WSDL from URL**.

Java First interface restrictions The following Java interfaces are not supported in JAX-WS Java First projects:

- Interfaces with method signatures that throw exceptions.
- Interfaces that use `java.util.Vector` as a return type, or as a parameter in a method declaration.

If you create a Java First project based on an unsupported interface, the generated WSDL is still JAX-WS compliant. You can then use the WSDL as the source for a WSDL First project.

Java First type restrictions Java First projects support the following basic types:

- int
- long
- double
- float
- String
- User-defined types that use the above types in their method declaration

The following types are unsupported:

- array
- java.lang
- java.util

If you create a Java First project based on code that includes unsupported types, the generated WSDL is still JAX-WS compliant. You can then run `artix wsdl2java` to generate Java code based on this WSDL.

JAR created by JAX-WS packaging on Windows cannot be deleted When you package a JAX-WS service on Windows for deploying to the Artix Spring container or Apache Tomcat, a JAR file is generated as part of the packaging process. You cannot delete this file without closing and reopening the project or, failing that, restarting Artix Designer.

Installation directory on Windows Artix Designer fails to launch on Windows if Artix is installed in a directory beginning with the letter "u". This is an issue with Eclipse, which sees the `\u` character combination as indicating a Unicode character.

Trouble parsing comments Artix Designer sometimes misparses text files with particular combinations of inline comments (which start with `//`) and c-style comments (which start with `/*` and end with `*/`). This issue affects Getting Started With Artix—specifically, the Java First tutorial and its Java interface file, `HelloWorld.java`. Although the interface file is grammatically correct, it contains a combination of the two kinds of comments that Artix Designer misparses, raising an error.

To work around this:

1. Save the original `HelloWorld.java` file (which resides at `ArtixInstallDir\java\samples\basic\java_first_jaxws\src\demo\hw \server`) to `HelloWorldOriginal.java` or a similar name.

2.   Create a `HelloWorld.java` file by copying-and-pasting the following text:

```
/**
 * Licensed to the Apache Software Foundation (ASF) under one
 * or more contributor license agreements. See the NOTICE file
 * distributed with this work for additional information
 * regarding copyright ownership. The ASF licenses this file
 * to you under the Apache License, Version 2.0 (the
 * "License"); you may not use this file except in compliance
 * with the License. You may obtain a copy of the License at
 *
 * http://www.apache.org/licenses/LICENSE-2.0
 *
 * Unless required by applicable law or agreed to in writing,
 * software distributed under the License is distributed on an
 * "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY
 * KIND, either express or implied. See the License for the
 * specific language governing permissions and limitations
 * under the License.
 */

package demo.hw.server;

import javax.jws.WebService;

public interface HelloWorld {
    String sayHi(String text);
}
```

3.   Save the file and exit the text editor.
4.   Use the newly-created file instead of the original.

WSDLGen

The following are known issues with WSDLGen:

Type and portType naming clash causes compilation error Generating code based on a WSDL file containing `type` and `portType` elements with the same name results in a compilation error. To workaround, ensure that there are no such naming clashes in your WSDL before running WSDLGen.

Unsupported XML Schema types Not all XML Schema types are supported in WSDLGen. For details of the unsupported types in the C++ and Java runtimes, see the WSDLGen Guide.

Samples

The following are known issues in the Artix ESB 5.1 samples:

Locator (C++ runtime) The start script for the .NET 2005 client is missing from the C++ runtime Locator sample (`cxx_java\samples\advanced\locator`).

To workaround:

1. In the `bin` directory, open the `run_dotnet_client.bat` file.

2. Change the following line:

    ```
    cd ..\dotnet\client
    ```

    to

    ```
    cd ..\dotnet2\client
    ```

3. Save the file as `run_dotnet2_client.bat`.

CORBA Bank (Java runtime) There are two known issues with the Java runtime CORBA Bank sample (`java\samples\corba\bank`) on Windows:

*   The server fails with a NullPointerException when deployed to the Spring container if the Artix installation directory contains multiple back-slashes (for example, `C:\IONA\artix_5.1` as opposed to `C:\artix_5.1`). To workaround, edit the `java\samples\corba\bank\etc\spring.xml` and replace all backlashes in the `jaxws:endpoint address` attribute with forward-slashes.

*   The server displays a "connection reset" log warning when the client exits. You can ignore this warning.

Fixed Bugs

The following bugs have been closed in Artix ESB 5.1:

Table 1: *Bugs Fixed in Artix ESB 5.1*

Bug #	Description
71249	Artix Designer and WSDLGen TypeError
71355	`wsdltojava` raises NullPointerException on invalid WSDL

Table 1: *Bugs Fixed in Artix ESB 5.1 (Continued)*

Bug #	Description
71383	Enhance Artix to handle IMS txn lengths other than 7 bytes
71410	`getPort` is not very performant in Artix 5.0
71421	Allow name change of PL/I reserved keywords in Designer
71432	Artix throws NullPointerException when CORBA `addr_list` is misconfigured in the `domain.cfg`
71447	Request to make the name-length-limit user-editable in the Artix Designer
71450	Node locked licenses need to be issued with lower case `hnid` (hostname) in `licenses.txt`
71457	Artix Java: SOAP headers copied from input to output
71460	A temporary file is created when using SOAP with attachments
71467	Modify Artix 4.2 to allow 500 status code in the SOAP HTTP header to be returned.
71472	WSDL queries handled incorrectly
71473	`<jms:client messageType="binary">` does not retrieve message as "BytesMessage"
71481	Artix 4.2: SOAP validation problem
71482	Import demos does not work for standalone Eclipse with Artix Designer feature added
71496	MQ transport should improve the information put into the logs
71537	Logical WSDL files can be parsed, but only with warnings suppressed
71550	Generate `@WebService` annotation with `wsdllocation` parameter to be set

Table 1: *Bugs Fixed in Artix ESB 5.1 (Continued)*

Bug #	Description
71585	Document how to specify a custom HTTP header name-value pair in the connection to a HTTP proxy
71589	IDL such as `typedef sequence<octet,20>` eventually causes problems for WSDLGen.
71589	CORBA binding has a problem with empty string sequences
71589	Artix 5.0 `idl2wsdl` has a problem with IDL containing arrays
71612	WSDL query to default servant delegate returns WSDL with wrong address
71613	Wrong queue used by server making outgoing request
71621	Problem with message handlers and three-tier system.
71628	Artix Designer 5.0 Java code generation issue
71642	Artix 4.2 `it_container` crashes if `"log4j_log_stream"`, `"java"`, `"locator_client"` and `"wsrm"` plug-ins are specified
71669	Partial Message Protection - Artix 5.0 JAX-WS
71671	`wsdltojava` null pointer exception
71677	`README.txt` of `java\samples\integration\jca\hello_world_soap_http` incorrect
71678	Small leak discovered in JMS transport
71685	Artix MQ opens queues with option MQOO_SET_ALL_CONTEXT - requires documentation
71707	JCA servant calls security APIs even for insecure services
71741	`idl2wsdl`: Support for <> in IDL files for Artix Java
71742	`idl2wsdl` tool should support root scoping by default.

Table 1: *Bugs Fixed in Artix ESB 5.1 (Continued)*

Bug #	Description
71743	`idl2wsdl` to process scoped names differently
71744	Add support for TrustStores in PEM format
71745	`idl2wsdl` support for polymorphic factories
71746	JAX-WS: insertion of: `new java.lang.Short();` into code generated from the supplied WSDL when using WSDLGen.
71747	`idl2wsdl` pre-processing definitions in struts cause CORBA type mapping errors
71748	`wsdl2java` doesn't properly mangle type names
71749	Support for log4j logging output
71750	`idl2wsdl -mns -exclude`
71751	Use of XPATH in JAX-WS customization is limited.
71752	schemaLocation/wsdlLocation specified in schema/WSDL file should be resolved using `getResource(path)` instead of using `new File(path)` in wsdl2java
71753	JAXB/JAXWS customized binding file should not rely on schemaLocation/wsdlLocation being specified in the file.
71754	JAX-WS DB service code generation has bug when column name with underscore
71755	`idl2wsdl` has problem dealing with various types of comments in idl files
71756	WS-A MEPS, the `wsa:To` resolves to an IP address
71757	`idl2wsdl` to support inheritance
71758	Artix Designer project wizard working incorrectly
71759	`wsdltojava` accepts targetnamespace with ':' in the name but generates code that does not compile
71760	`getServiceWSDL` logs ERROR in failure scenario

Artix ESB 5.1.12

In this document　　　　This document contains the following sections:

In this Release

Artix ESB 5.1.12 is a roll-up of a number of patches released since Artix ESB 5.1. It includes the following updates:

- wsdl2java Enhancements
- Apache CXF 2.0.6
- Apache Camel 1.3.6
- Spring Framework 2.0.8

wsdl2java Enhancements

The `artix wsdl2java` tool is capable of generating implementation code from WSDL documents that do not contain a physical endpoint definition. The generated code will not contain a server mainline, a client mainline, or a build file. In addition, you will need to add the physical details to the generated implementation code using either the JAX-WS annotations or through Spring configuration.

For more information on using the JAX-WS annotations see http://www.iona.com/support/docs/artix/5.1/jaxws_pguide/index.html.

For more information on using Spring configuration see http://www.iona.com/support/docs/artix/5.1/deploy/java/index.htm.

Apache CXF 2.0.6

The Java runtime in Artix ESB 5.1.12 is based on Apache CXF 2.0.6, which in turn maps to FUSE Services Framework 2.0.6.0-fuse. Release notes for this version are available here.

Apache Camel 1.3.6

The Java router in Artix ESB 5.1.12 is based on Apache Camel 1.3.6, which in turn maps to FUSE Mediation Router 1.3.6.0-fuse. Release notes for this version are available here.

Spring Framework 2.0.8

The version of Spring Framework that ships with Artix ESB 5.1.12 has been upgraded to 2.0.8.

Known Issues

The following are known issues in Artix ESB 5.1.12:

Artix Java Security

In the Artix Java runtime (Apache CXF 2.0.6.0-fuse) the URL hostname from the client must match the Common Name (CN) on the server certificate. This level of security is often not necessary and you can bypass it by setting the TLS configuration property `disableCNCheck` to `true` as follows:

```
<http:tlsClientParameters disableCNCheck="true">
```

Artix Java Content-Based Router Sample

The Artix Java content-based router sample (`java\samples\router\content-based`) fails with a "java.io.IOException: bad chunk" error.

This is because in the latest Artix Java runtime (CXF 2.0.6.0-fuse), clients send requests using chunking by default, which is incompatible with how the Artix Java router (Apache Camel) handles message bodies.

To workaround:

1. In the demo `etc` folder, create a `client.xml` configuration file that disables chunking, as follows:

```
<beans ...>
<http-conf:conduit name="{http://cxf.iona.com/demo/
   greeter}GreeterPort.http-conduit">
      <http-conf:client AllowChunking="false"/>
  </http-conf:conduit>
</beans>
```

2. In the Ant `build.xml` file, add the location of the `client.xml` to the client target, as follows:

```
<target name="client" description="run demo client"
   depends="build">
  <property name="param" value=""/>
  <cxfrun classname="demo.router.client.Client"
   jvmarg1="-Dcxf.config.file=etc/client.xml"/>
</target>
```

Fixed Bugs

The following bugs have been closed in Artix ESB 5.1.12:

Table 1: *Bugs Fixed in Artix ESB 5.1.12*

Bug #	Description
71102	Memory leak with MQ transport using transactions
71360	Artix logs polluted with "Failed to find WSDL extension factory" message
71374	`it_container` crash with core dump when shutting down.
71498	Using PW_DIGEST password type within a WS-Security username/password token interceptor nullifies parameters passed in from the client in Artix 5.x
71576	Artix Mainframe: Enhance PL/I compiler to support 31 digits for `xsd:decimal`.
71602	`wsdltojava`: the flag `-plugin` is causing invalid generated class names

Table 1: *Bugs Fixed in Artix ESB 5.1.12 (Continued)*

Bug #	Description
71673	When multiple instances of `it_container` are started simultaneously and if a custom Java plug-in and the log4j plug-in are in the `orb_plugins` list, one or more JVM instances may crash
71683	Unable to call `EndpointImpl.publish` after calling `EndpointImpl.stop` in their application on Linux with Artix 5 for Java.
71698	Artix Mainframe: For `xsd:decimal`, `xsd:fractionDigits` bounds gets capped at 6 max.
71699	Artix Mainframe: An `xsd:decimal` in the UI for PL/I gets mapped to `float dec` and `fixed dec` cannot be selected.
71700	Artix Mainframe: `wsdltopli` should report an error if it can't generate a `fixed dec` that maps exactly to an `xsd:decimal`.
71728	Performance problem in CORBA EPR marshalling
71734	Add a configuration setting to control whether WSSE plain text passwords are printed or not in the log.
71798	Exception in Artix 5.x `wsdltojava`
71829	JMS Server Response headers not populated properly for pushing through Actional headers.
71850	Race condition during `list_endpoints` call at random
71851	LocatorSupport plug-in fails to initialize when service is deployed into Tomcat.
71864	Bug in JAX-WS implementation affecting insert/update operations of JAX-WS Artix Database Services
71909	WSDLGEN generated interface does not match the generated implementation
71915	Logging of binary buffers is ridiculously slow

Table 1: *Bugs Fixed in Artix ESB 5.1.12 (Continued)*

Bug #	Description
71921	Defaults for names on input/output elements in port types not supported.

Reporting Problems

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

Other Resources

If you need further help please use the following resources:

- IONA Communities (http://communities.iona.com/) is a forum for discussion and providing feedback to IONA engineers, product managers, and support staff. It provides an easy way to propose product ideas, raise concerns, post use cases, and discuss future product plans.
- Artix TechZone (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.
- IONA Training Services (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 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 (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): The latest updates to the Artix documentation are posted on-line.
- Knowledge base articles (http://www.iona.com/support/kb/): A database that contains practical advice on specific development issues, contributed by IONA developers, support specialists, and customers.