

webMethods Integration Server 9.7 Readme

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This file contains important information you must read before using webMethods Integration Server 9.7. You can find webMethods Integration Server 9.7 user documentation on the [Documentation website](#) or the [TECHcommunity website](#). At those locations, you can also find the suite-related information listed below.

- webMethods Product Suite Release Notes*
- webMethods and Intelligent Business Operations System Requirements*
- webMethods System Cache Specifications*
- Using the Software AG Installer*
- Installing webMethods and Intelligent Business Operations Products*
- Using the Software AG Update Manager (fixes)*
- Upgrading webMethods and Intelligent Business Operations Products*
- Security and globalization information

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1.0 Critical Information

This section lists the critical issues for the current release that were known when this readme was published. For critical information found later, go to the Knowledge Center on the [Empower website](#).

None.

2.0 Known Issues

This section lists issues that were known for the current release when this readme was published. For known issues found later, go to the Knowledge Center on the [Empower website](#).

- PIE-8332 (was 1-1YPKXR)
Integration Server should not create a WSDL-first provider web service descriptor (WSD) or a consumer WSD from a WSDL that specifies RPC-Encoded, contains attributes in its operation signature, and/or has complex type definitions with mixed content.
When creating a WSDL-first provider WSD or a consumer WSD from a WSDL that specifies RPC-Encoded, contains attributes in its operation signature, and/or has complex type definitions with mixed content, Integration Server should return validation errors and not create the WSD. In this situation, Integration Server might successfully create a WSD. However, this WSD may exhibit unexpected runtime behavior.
Do not create a WSDL-first provider WSD or a consumer WSD from a WSDL that specifies RPC-Encoded, contains attributes in its operation signature, and/or has complex type definitions with mixed content.
- PIE-8533 (was 1-1Z6J9O)
Integration Server does not shut down if an audit logging queue contains records waiting to be written to a destination.
To work around this issue, wait for the records in the queue to be written to the destination.
- PIE-13561
Integration Server crashes after throwing a `java.lang.OutOfMemoryError` exception.
If Integration Server hosts a web service for which WS-Security is used to sign/verify the SOAP body and the web service is invoked under heavy load, Integration Server throws a `java.lang.OutOfMemoryError` exception and crashes. This situation occurs when Integration Server runs on the SunOS 5.10 Operating System with patch level `Generic_127127-11 sun4v`.
To work around this issue, modify the `/jre/lib/security/java.security` file of the JVM to reorder the security provider list, so that the `"sun.security.pkcs11.SunPKCS11`
`#{java.home}/lib/security/sunpkcs11-solaris.cfg"` provider is not at the top of the security provider list.
- PIE-25026
After migrating Integration Server from previous versions to version 9.7, flat file contents created with previous versions of Integration Server and transferred to Integration Server 9.7 using FTP do not work. Files transferred with an extension of `.dat` do not invoke the flat file content handlers in Integration Server version 9.7, and so flat file data does not appear in the pipeline after you FTP the

files.

To resolve this issue:

1. Open the Integration Server Administrator if it is not already open.
2. Navigate to the Settings > Resources > Mime Type Settings page and click Edit Mime Type Settings.
3. In the Mime Types Settings area, add the .dat file extension to the text/plain content-type.
4. Click Save Changes.

▪ PIE-25824

Cache-related failures on HP-UX.

When Overflow To Disk is enabled for a local cache, Integration Server returns multiple cache-related exceptions in the log at start up. For example,

```
"java.lang.IllegalArgumentException: Initial table allocation failed. Initial Table Size (slots) : 64
```

```
Allocation Will Require : 1KB Table Page Source :
```

```
com.terracottatech.offheapstore.disk.paging.MappedPageSource@56cac09
```

```
at com.terracottatech.offheapstore.OffHeapHashMap.<init>(OffHeapHashMap.java:204)
```

```
at com.terracottatech.offheapstore.AbstractLockedOffHeapHashMap.<init>(AbstractLockedOffHeapHashMap.java:58)
```

```
at com.terracottatech.offheapstore.AbstractOffHeapClockCache.<init>(AbstractOffHeapClockCache.java:61)
```

```
at com.terracottatech.offheapstore.disk.persistent.AbstractPersistentOffHeapCache.<init>(AbstractPersistentOffHeapCache.java:30)
```

```
at com.terracottatech.offheapstore.disk.persistent.PersistentReadWriteLockedOffHeapClockCache.<init>(PersistentReadWriteLockedOffHeapClockCache.java:26)
```

```
at net.sf.ehcache.store.offheap.factories.EhcachePersistentSegmentFactory$EhcachePersistentSegment.<init>(EhcachePersistentSegmentFactory.java:67)
```

```
at net.sf.ehcache.store.offheap.factories.EhcachePersistentSegmentFactory.newInstance(EhcachePersistentSegmentFactory.java:50)
```

```
at net.sf.ehcache.store.offheap.factories.EhcachePersistentSegmentFactory.newInstance(EhcachePersistentSegmentFactory.java:27)
```

```
at com.terracottatech.offheapstore.concurrent.AbstractConcurrentOffHeapMap.<init>(AbstractConcurrentOffHeapMap.java:98)
```

```
at com.terracottatech.offheapstore.disk.persistent.AbstractPersistentConcurrentOffHeapMap.<init>(AbstractPersistentConcurrentOffHeapMap.java:42)
```

```
at net.sf.ehcache.store.offheap.disk.EhcachePersistentConcurrentOffHeapClockCache.<init>(EhcachePersistentConcurrentOffHeapClockCache.java:52)
```

```
at net.sf.ehcache.store.offheap.disk.OffHeapDiskStoreFactory.createBackingMap(OffHeapDiskStoreFactory.java:213)
```

```
at net.sf.ehcache.store.offheap.disk.OffHeapDiskStoreFactory.create(OffHeapDiskStoreFactory.java:63)
```

```
at net.sf.ehcache.EnterpriseFeaturesManager.createNonPersistentStore(EnterpriseFeaturesManager.java:211)...."
```

This issue occurs only on HP-UX 11. If you encounter such errors, contact Software AG Global Support.

- PIE-29447

When creating a WSDL first provider or consumer web service descriptor, if the XML Schema definition in the referenced WSDL document contains the <!DOCTYPE declaration, Integration Server issues a java.io.FileNotFoundException.

To work around this issue, remove the <!DOCTYPE declaration from the XML Schema definition.
- PIE-33367

IS assets cannot be retracted from CentraSite after migrating Integration Server to version 9.7. After migrating Integration Server to version 9.7, Integration Server cannot retract IS assets that were published to CentraSite by an earlier version of Integration Server

To work around this issue:

 1. Migrate the Integration Server data.
 2. Copy the Integration Server_directory/packages/WmAssetPublisher/config/assetpublisher.cnf file from the old Integration Server installation to the new Integration Server installation.
 3. From the directory for the new Integration Server installation, open the assetpublisher.cnf file in a text editor.
 4. Find the following line:
<value name="is_directory">C:\SoftwareAG\IntegrationServer</value>
 5. Change the location of the Integration Server directory to point to the new location. For example:
<value name="is_directory">C:\SoftwareAG97\IntegrationServer\instances\default</value>
 6. Save and close the file.
- PIE-32088

When creating a consumer web service descriptor or a WSDL first provider web service descriptor from a WSDL document that specifies a style/use of RPC/Encoded, Integration Server does not properly handle recurring elements unless those elements are defined as being of type="SOAP-ENC:Array" or a type that derives from SOAP-ENC:Array.

While creating IS document types from the WSDL document, Integration Server generates fields that correspond to recurring elements as one of the Integration Server list fields, for example a DocumentList, StringList or ObjectList type field. (A recurring element is one with a maxOccurs attribute value greater than 1 or set to unbounded.)

When encoding and decoding SOAP messages for RPC/Encoded web services, Integration Server always handles list fields as a SOAP-ENC:Array even if the WSDL document does not define the elements to be of type SOAP-ENC:Array. As a result, if the WSDL document did not define the recurring elements to be of SOAP-ENC:Array" or a type that derives from SOAP-ENC:Array, Integration Server does not encode or decode the SOAP message into an instance that matches what is defined in the WSDL document.

There is no work around for this issue.
- PIE-4767 (was 1-1P2PV4)

Invalid WSDL generated for C service for Axis and .Net clients.

Integration Server generates invalid WSDL for a C service that takes a document specification as input. Axis and .Net clients cannot handle the resulting Java stub classes and throw an error.

There is currently no workaround for this issue.

- PIE-5515 (was 1-1RMYMB)
 Duplicate operations created by the web service descriptor.
 A WSDL document that has multiple port names for the same binding is a valid WSDL; however, Integration Server does not support defining multiple port names for the same binding and incorrectly creates duplicate operations.
 To work around this issue, modify the WSDL to make the port name unique for each binding.
- PIE-7402 (was 1-1WKT95)
 You cannot cancel or kill threads for DB stored procedures when Integration Server is configured to use the Oracle driver.
 The Server > Statistics > System Threads screen provides the ability to cancel or kill service threads; however, if your Integration Server is configured to use the Oracle driver, you cannot cancel or kill threads associated with DB stored procedures.
 There is currently no workaround for this issue.
- PIE-7642 (was 1-1X0BW9)
 Integration Server does not provide support for generating IS schemas or IS document types from XML schema definitions that contain recursive extensions.
 Integration Server does not create IS document types or IS schemas from an XML schema definition (XSD) if the XSD contains a type definition derived by extension and that type definition contains a direct or indirect reference to itself. If Integration Server encounters a type definition that contains a recursive extension while creating an IS document type or an IS schema from an XSD, Integration Server throws a StackOverflowError and does not continue creating the IS document type or IS schema.
 There is currently no workaround for this issue.
- PIE-7935 (was 1-1XQIZZ)
 IS services exposed as SOAP-MSG web services that used the default SOAP processor in Integration Server version 6.5 can be added as an operation to a provider WSD only if the provider WSD has a single binder with the following properties:
 SOAP Version = 1.1
 Style = Document
 Use = Literal
 If the provider WSD specifies other SOAP versions, styles, or uses, the 6.5 SOAP-MSG style service should not be added as an operation to that provider WSD.
- PIE-8045 (was 1-1Y1BZ7)
 Installing a package that contains a schema with a target namespace that is the same as an existing schema on the Integration Server may result in two sets of definitions or declarations for the same components.
 If you only need the schema definitions or declarations contained in one schema, delete the other schema. However, if you need definitions from both schemas, there is no workaround for this issue.
- PIE-8185 (was 1-1YBYQD)
 Web service connector ends with the error [ISC.0082.9034] Field is absent, field must exist.
 If the output signature of a service used as an operation in a provider web service descriptor (WSD)

contains a field that has a namespace URI without a prefix, Integration Server adds a prefix when generating a WSDL document for the provider WSD. In the consumer WSD created from the WSDL, the web service connector that corresponds to the operation (IS service) specifies a prefix for the field in the service output. However, the web service provider does not include a prefix with the field in the response. As a result, the contents of the SOAP response cannot be mapped to the web service connector output and the web service connector ends with the error [ISC.0082.9034] Field is absent, field must exist.

To avoid this issue, if a service will be exposed as a web service, always associate a prefix with a namespace URI for fields in the service signature.

- PIE-8494 (was 1-1Z342R)

The xsi:nil attribute in an element does not convert properly when generating an IS document from an XML document.

If an XML document has an element containing only xsi:nil as an attribute and an IS document is generated from that XML document using the pub.xml.xmlNodeToDocument service, the xsi:nil attribute is generated as an @xsi:nil field for the element in the resulting IS document. This occurs even if the element with the xsi:nil attribute has a simple type string; however, the document type that is created from the XML schema (which is used by the XML document) has a string field for the xsi:nil element instead of the IS document. There is a type difference between the generated document and the document type.

To work around this issue, manually edit the generated IS document to remove the @xsi:nil attribute and then convert the IS document to string field.

- PIE-16451

WSDL generated for a web service descriptor with a service signature, header document type, or a fault document type containing derived document types does not contain the schema definitions for the derived document types.

To work around this issue, create a WSDL with the schema definitions for the derived document types and then create a WSDL first web service descriptor.

- PIE-18649

When creating a WSDL first provider web service descriptor, Integration Server does not preserve the original service name from the WSDL document.

When Integration server generates a WSDL document for the provider web service descriptor, the service name will not match the service name in the source WSDL document.

There is currently no workaround for this issue.

- PIE-19157

IMAP email listener does not start.

This issue occurs when an IMAP e-mail port is configured to receive requests from an e-mail server that uses NTLM for authentication. With this configuration, the following error is returned when the port is enabled:

```
"Failed to start EmailListener:imap: <UserName>@<HostName>: [ISS.0070.9003] Enable failed:
Could not log into account <UserName>@<HostName>"
```

To resolve this issue, do one of the following:

- If you want to disable NTLM authentication, follow these steps:

1. Open custom_wrapper.conf located under
<Software AG_directory>/profiles/IS_default/configuration directory.
2. Add the following property:
wrapper.java.additional.n=-Dmail.imap.auth.ntlm.disable=true
where n is the next unused sequential number in the file.
3. Restart Integration Server.

Note that this behavior is consistent with the past releases of Integration Server.

- If you want to enable NTLM authentication, follow these steps:

1. Download jcifs-1.3.15.jar file from <http://jcifs.samba.org/src/> into the
<IntegrationServer_directory>/instances/<instanceName>/lib/jars or
<IntegrationServer_directory>/lib/jars directory.
2. Restart Integration Server.

▪ PIE-22556

Java service throws java.lang.reflect.InvocationTargetException when attempting to use jars from <JRE_directory>/lib/ext directory, such as classes in the com.sun.crypto.provider package. If you plan to use jars from the <JRE_directory>/lib/ext directory, you can avoid this issue by modifying the config.ini as follows:

1. Open the config.ini file located in
<Software AG_directory>/profiles/IS_<instanceName>/configuration.
2. Add the following line:
osgi.parentClassloader=app
3. Restart Integration Server.

▪ PIE-27277

Oracle known issue #7179799: No BindException when another program is using the port. This issue occurs on Java 7 in Windows 2008/Windows 7 operating systems. Integration Server is impacted by this issue if there are two instances of Integration Server running on the same machine and one or both instances are running Java version 1.7 or later. In this case, Integration Server allows you to use the same port numbers on both Integration Servers without issuing an exception. Requests that come through a duplicated port number are served by one server only. As suggested by Oracle, to ensure the expected BindException is thrown, disable IPv6 by setting the system property java.net.preferIPv4Stack to "true". A consequence of using this setting is that Integration Server will not be able to communicate with IPv6 hosts. For more information, see http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=7179799.

▪ PIE-29001

Some application windows might become minimized after logging into Integration Server. After logging into Integration Server Administrator using Internet Explorer 10, all other application windows might become minimized. This issue only occurs on Windows Server 2012, Windows 7, and Windows 8 operating systems. There is currently no workaround for this issue.

- PIE-32205
Integration Server does not provide Java-based NTLM (Windows NT LAN Manager) support for proxy servers that support NTLM authentication. You can only use the NTLM authentication support in Integration Server to allow clients to access resources in web servers that support NTLM authentication, such as Microsoft Internet Information Server (IIS).

PIE-32979

When creating of a service first web service descriptor, if the default target namespace value is replaced with a namespace that is used in one of the target services, Integration Server might generate an incorrect WSDL document for the descriptor.

This situation occurs when a target service in the service first web service descriptor has a signature that contains a top-level Document reference or Document reference list field where the following are true:

- The Document reference or Document reference list is not namespace qualified or the namespace is the same as the target namespace
- The local name of a top level field in the Document reference or Document reference list is the same as that of the referenced IS document type

To work around this issue, do one of the following:

- Assign the web service descriptor a target namespace that is not used in the signature of any services that are part of the web service descriptor.
- Edit the IS document type referenced by Document reference or Document reference list so that the name of a top-level field in the document type is not the same as the local name of the document type. For example, if the fully qualified name of the IS document type is myFolder.abc and a top-level field in the document type is abc, change the name of the top-level field named abc. Alternatively, change the local name of the IS document type.
- Edit the Document reference or Document reference list field so that the top-level field has a namespace that does not match that of the target namespace.
- Instead of using a Document reference or Document reference list field in the signature, copy and paste the contents of the IS document type into the Input/Output tab for the service. Alternatively, recreate each field in the IS document type in the service Input/Output tab.

3.0 Usage Notes

This section provides additional information you need to work with the current release of webMethods Integration Server.

- PIE-4086 (was 1-1MDBR7)
In the ClearCase dynamic view, reverting a node after performing a checkout, edit, save, or rename command causes the node to disappear.
When an uncheckout command is issued in ClearCase dynamic view, there is a delay of few seconds before the file is copied to the view. During the delay, the node disappears from Designer. This node reappears in Designer only after the view is refreshed.
This issue occurs only for direct installation of Integration Server in the Dynamic view for certain

types of nodes, such as flat file schema. The issue does not occur when working directly in SnapShot view or when working with a folder that is mapped to a SnapShot or Dynamic view.

- PIE-6901 (was 1-1V7X71)

The jar files for an adapter are not removed from the system when the adapter is deleted. When you delete an adapter using the Package Management screen in Integration Server Administrator, the jar files in the code/jars and code/jars/static directory are not removed. The jar files in code/jars folder are loaded by the Package class loader and jars files in code/jars/static folder are loaded by Integration Server class loader. These jar files are locked by the Integration Server and can only be deleted when the server is shut down. If you install a new adapter package without removing the old jar files, Integration Server uses the old jar files with the new package. This can result in inconsistent or unexpected behavior.

When you install a new version of the adapter package, ensure that the new jar files are loaded by following these steps:

 1. Delete the adapter package using Integration Server Administrator.
 2. Shut down the Integration Server.
 3. If there are any jar files left in the <IntegrationServer_directory>/ instances/<instanceName>/ packages/<packageName>/code/jars and <IntegrationServer_directory>/ instances/<instanceName>/ packages/<packageName>/code/jars/static directories, delete them.
 4. Restart Integration Server.
 5. Install the new adapter package.
- PIE-7720 (was 1-1X7C9N)

Publishable documents are not always synchronized with the Broker after Integration Server is restarted.

To work around this issue, start Software AG Designer and select File > Sync Document Types > All. Click Set All to Push, and then click Synchronize to push all publishable document types to the Broker.
- PIE-13975

Integration Server uses the default JVM implementation of JAXP. The JAXP implementation is used to validate XML schema during IS schema creation and WSDL schema during WSD creation. With this implementation, however, the schema or WSDL validation may incorrectly report problems. If validation problems occur during IS schema or web service descriptor creation, you should use the Xerces JAXP implementation.

To use the Xerces JAXP implementation, set the javax.xml.validation.SchemaFactory system property to org.apache.xerces.jaxp.validation.XMLSchemaFactory.

The Xerces JAXP implementation should resolve the validation problems during schema or WSDL validation.
- PIE-16497

Integration Server does not generate the *doctype field for IS document types generated from derived document types in a schema, when:

 - Deriving a complex type from an empty complex type by extension.
 - Deriving a complex type from a simple type by extension.

- PIE-21844

Integration Server throws Xerces validation errors while attempting to generate an IS asset from an XML Schema definition that imports multiple schemas from the same target namespace.

When creating an IS schema, IS document type, or flow service from an XML Schema definition that imports multiple schemas from the same target namespace, Integration Server throws Xerces validation errors indicating that the element declaration, attribute declaration, or type definition cannot be found. The Xerces Java parser honors the first <import> and ignores the others. This also occurs when creating a consumer web service descriptor or WSDL first provider web service descriptor from a WSDL document that contains multiple schemas imported from the same target namespace.

To work around this issue, do one of the following:

 - Combine the schemas from the same target namespace into a single XML Schema definition. Then change the XML schema definition to import the merged schema only.
 - When creating the IS asset, clear the "Validate schema using Xerces" check box to disable schema validation by the Xerces Java parser. When generating the IS asset, Integration Server will not use the Xerces Java parser to validate the schemas associated with the XML Schema definition.

Note: When creating an IS asset from an XML Schema definition, Integration Server always uses the internal parser to validate the schema. However, the Xerces Java parser offers stricter validation than the internal parser.

- PIE-22403

To make Integration Server more secure, the Execute ACL has been changed from Anonymous to Administrators for the following services:

 - wm.server.tx:start
 - wm.server.tx:restart
 - wm.server.tx:execute
 - wm.server.tx:end

If there are client applications that use the com.wm.app.b2b.client.TContext class to connect to your Integration Server anonymously, those applications will no longer work. In order for those applications to work, you must do one of the following:

 1. Modify the client applications to use an administrative account when connecting to Integration Server.
 - Or -
 2. Change the Execute ACL for the services listed above back to Anonymous. This is less secure than the first option.

- PIE-28723

Keystore aliases are not displayed correctly with Internet Explorer 10.

When using Internet Explorer 10 to view the Certificates > Edit screen in Integration Server Administrator, the keystore aliases are not displayed correctly in the Keystore drop-down lists.

To work around this issue, turn on Compatibility View in Internet Explorer and enable the "Display all websites in Compatibility View" option.

- When you upgrade to Integration Server 9.7 from a version of Integration Server that did not use port aliases, Integration Server assigns each port, with the exception of e-mail ports, an alias using the following naming convention:

<protocol>Listener_<portNumber>_<packageName>

where protocol is the protocol specified for the port, <portNumber> is the number assigned to the port, and packageName is the package with which the port is associated.

For e-mail ports, Integration Server uses the following naming convention for the port alias:

EMailListener_<userName>_<hostName>_<packageName>

Where <userName> is the user name specified for the port, <hostName> is the host name specified for the port, and <packageName> is the package with which the port is associated.

The alias that Integration Server assigns to a port cannot be changed.

- When securing web services using policies based on WS-SecurityPolicy, you cannot alter an inbound message before the security processing executes or alter an outbound message after the security processing completes. For inbound messages, Integration Server always performs the security processing first upon receiving the message. As a result, Integration Server cannot invoke custom handlers before the security processing of an inbound message. For outbound messages, Integration Server always performs the security processing last, right before it sends the message. As a result, Integration Server cannot invoke custom handlers after the security processing of an outbound message.
- Integration Server uses Xerces Java parser version J-2.11.0. Limitations for this version are listed at <http://xerces.apache.org/xerces2-j/xml-schema.html>.
- If you want to use WS-SecurityPolicy to secure a web service and also want to use MTOM streaming, be aware that if the fields to be streamed are being signed and/or encrypted, Integration Server cannot use MTOM streaming because Integration Server needs to keep the entire message in memory to sign and/or encrypt the message.
- Integration Server Administrator is not accessible via Google Chrome when CORS is enabled on Integration Server.
When updating data from Integration Server Administrator pages, Google Chrome adds an additional Origin header as a security measure for iFrames. As per CORS specification, the Origin header is sent by user agents when they detect cross-domain communication. When CORS is enabled on Integration Server by setting the watt.server.cors.enabled parameter to true, Integration Server validates requests by checking the Origin header against the origins specified by the watt.server.cors.allowedOrigins parameter. As a result, when a request originates from Google Chrome, Integration Server rejects the request because the origin header is invalid. To avoid this issue, set the URL for the Integration Server Administrator console (that is, <protocol>://<hostname>:<port number>) in the watt.server.cors.allowedOrigins server configuration parameter. For more information about setting this parameter, see the *webMethods Integration Server Administrator's Guide*.
- Added support for session-based authentication.
When a client invokes a stateful service, Integration Server creates a session, and includes the session ID in its response to the client. If the client returns to invoke a service during the same session, Integration Server should use this session ID to identify the client, but this is not happening. Instead, Integration Server is reauthenticating the client for each service invocation. This behavior is similar to that performed for stateless services. When a client connects to a stateless

service, the session is not maintained, and Integration Server's response does not include a session ID, so Integration Server must reauthenticate the client during the next service invocation.

With this update, if a client returns to invoke a stateful service during the same session, Integration Server uses the session ID to identify the client, rather than performing authentication for each service invocation. This behavior allows the Integration Server to perform session-based authentication for stateful services, that is, authentication that lasts for the duration of the client's session with Integration Server.

For best performance, use stateful services if your Integration Server receives requests from repeating clients. The client can connect to Integration Server, be authenticated just once, and then issue many service invocations during the same session. Use stateless services if clients typically send a single invocation request to Integration Server at a time. Using a stateless service prevents the creation of sessions that will sit unused, taking up resources in Integration Server.

Note: This change does not require any changes to your existing implementation.

- Adapter Runtime-based adapters support single-threaded and multi-threaded listeners.
With a single-threaded listener, the adapter processes incoming events from the backend one after the other in the order in which they arrive. The thread executes the most suitable notification for each event.
Multi-threaded listeners rely on the Integration Server thread pool to use a new thread for each event coming from the backend and process the messages concurrently. Integration Server assigns an idle thread that executes the listener notification for each incoming event. When the maximum number of threads is reached, new events have to wait for available threads.
With a multi-threaded listener, if the thread executing the notification uses a connection with transaction support, the thread is responsible for committing or rolling back the transaction. In this case, each thread uses a separate connection.
When you create a new adapter listener, configure the following fields for single/multi-threaded support:
 - In the "Execution Configuration" field, select "Sequential" (default) to use a single-thread listener. To use a multi-thread listener, select "Concurrent".
 - In the "Thread Count" field, specify a value for the number of threads on which the adapter executes listener notifications. The adapter ignores this value when you set the "Execution Configuration" field to "Sequential".Important! The combined thread count for all listeners associated with a single connection should be less than or equal to the maximum pool size for the connection.
- Web services security implemented using WS-Security facility in Integration Server does not support partial message operations (Sign/Encrypt). Integration Server allows only the body of the SOAP message to be signed and encrypted.
- Do not modify the following file unless instructed to do so by Software AG:
<IntegrationServer_directory>\instances\<instanceName>\config\wss\axis2.xml
Changes to this file may result in an unstable configuration. Software AG will not support issues that arise as a result of changes to this file that were not authorized by Software AG.
- Software AG does not support the deployment of custom handlers or modules via placement of an Axis Module (*.mar) file in the following directory:

<IntegrationServer_directory>\instances\<instanceName>\config\wss\modules

Unexpected behavior that arises due to the manual deployment of mar files directly to this location is the responsibility of the user and will not be addressed by Software AG.

- Software AG does not support the deployment of web services via placement of an Axis Archive (*.aar) file in the following directory:

<IntegrationServer_directory>\instances\<instanceName>\config\wss\services

Unexpected behavior that arises due to the manual deployment of aar files directly to this location is the responsibility of the user and will not be addressed by Software AG.

- Adapter listener support in clusters.

In an Integration Server cluster, if the adapter backend supports non-duplication of messages, an adapter listener can be active on multiple nodes. When a multi-node adapter listener is active on all nodes in the Integration Server cluster, each node retrieves and processes a different message. If the adapter backend does not support non-duplication of messages, the listener is active only on the active node in the cluster. If the active node goes down, another node in the cluster becomes active, providing failover support. The active node stores incoming events from the backend in the shared cache.

Important! If message order is important when the adapter processes events from the backend, use a combination of a single-threaded and single-node listener, or a single-threaded and multi-node listener that is enabled on only one node in the cluster.

To enable, disable, or suspend a listener on a single node or on all nodes in a cluster:

1. In Integration Server Administrator, go to the adapter user interface page.
2. In the Adapter menu, select Listeners.
3. In the State field select the state you require: Enabled, Disabled or Suspended.
4. To select whether the listener state changes on multiple or a single node:
 - "Yes for all nodes" The listener state changes on all nodes in the cluster.
 - "Yes" The listener state changes on the current node only.

You can change the state of a multi-node or a single-node listener on all nodes in an Integration Server cluster from any node in the cluster. The action executed on a listener in a particular node in a cluster depends on:

- the selected state on all nodes
- the listener state on a particular node
- (only for a single-node listener) whether the node is the active node in the cluster

Example for a multi-node listener: If a multi-node listener has already been suspended on node A, and then on node B you disable the listener on all nodes in the cluster, node A takes no real action. Node A only shows the state as disabled because the listener thread has already stopped running.

Examples for a single-node listener: If a single-node listener has already been suspended on node A, and then on node B you enable the listener on all nodes in the cluster, node A can:

- enable the listener, if node A becomes the active node in the cluster.
- show the listener as enabled without creating a new thread, if another node has already become the active one.

If a single-node listener is active on a particular node and you try to disable it, another Integration Server node's listener will become active if that listener is in an enabled state. If the listener is in a disabled state on all other Integration Server nodes, those nodes will ignore the disable operation.

- Adapter polling and listener notifications can now send events to the event bus (Nirvana). Publishing events to the event bus is NOT enabled by default. To enable publishing events for adapter notifications:
 1. In Designer, create and configure a polling or listener notification.
 2. In the Event Development perspective, create an event type definition that replicates the publishable document and has the same name as the notification.
 3. Copy the event type definition from Designer to the event store.
 Note: You must use an event store namespace that is the same as the notification namespace.
 4. In Integration Server Administrator, enable the notification.
 5. From the Notifications screen, in the Publish Events column, click "NO" for the notification for which you want to enable the feature.

You can use the `pub.art.notification:enablePublishEvents` and `pub.art.notification:disablePublishEvents` services to enable and disable the feature, respectively.

- `pub.art.notification:enablePublishEvents` enables the publishing of events for an adapter notification.

Input Parameters:

<notificationName> (String) The name of the notification for which you want to enable the publishing of events.

Output Parameters:

None.

- `pub.art.notification:disablePublishEvents` disables the publishing of events for an adapter notification.

Input Parameters:

<notificationName> (String) The name of the notification for which you want to disable the publishing of events.

Output Parameters:

None.

- `webMethods Mobile Support` now enables business integration developers to specify whether to store business data in the sync store when configuring a mobile sync component. Mobile Support will continue to store business data in the sync store for any mobile sync components created in Integration Server 9.7. Going forward, Mobile Support will not store business data for new mobile sync components unless directed otherwise during configuration of those components. For more information about this option, see *Developing Data Synchronization Solutions with Mobile Support*.
- Now, when you start Integration Server, Integration Server receives configuration settings (for example, the size of the Java heap) from the `wrapper.conf` and `custom_wrapper.conf` files located in the `Software AG_directory\profiles\IS_instance_name\configuration` directory. Integration Server no longer obtains settings from `setenv.bat/sh` or `server.bat/sh`. If you need to modify the default property settings for Integration Server, you can override the settings using the `custom_wrapper.conf` file. The following table shows the settings formerly set in the `setenv.bat/sh` file that are now set using properties in the `custom_wrapper.conf` file:

| This setting in setenv.bat/sh... | Is replaced with the following property in custom_wrapper.conf... |
|---|---|
| APPENDCLASSES/ APPEND_SYSTEM_CLASSPATH | wrapper.java.additional.203= Dwatt.server.append.classes= |
| JAVA_CUSTOM_OPTS | wrapper.java.additional.n |
| JAVA_MAX_DIRECT_SIZE | wrapper.java.additional.n=XX:MaxDirectMemorySize= |
| JAVA_MAX_MEM | wrapper.java.maxmemory |
| JAVA_MAX_PERM_SIZE | wrapper.java.additional.n=XX:MaxPermSize= |
| JAVA_MIN_MEM | wrapper.java.initmemory |
| PREPENDCLASSES/ PREPEND_SYSTEM_CLASSPATH | wrapper.java.additional.202= Dwatt.server.prepend.classes= |

The following table shows settings you can change that were formerly in the setenv.bat/sh file, but are now located in other files or removed:

| Setting | New location (if applicable) |
|---|---|
| DEBUG_ENABLED | <i>Software AG_directory</i> \profiles\IS_instance_name\bin\startDebugMode.bat/sh |
| JAVA_PROFILER_OPTS/ PROFILER_ENABLED | Removed. |
| Java location | wrapper.java.command in <i>Software AG_directory</i> \profiles\IS_instance_name\configuration\wrapper.conf |
| JMX_ENABLED | Removed. JMX monitoring is enabled by default and cannot be disabled. |
| JMX_PORT | The port property in <i>Software AG_directory</i> \profiles\IS_instance_name\configuration\com.software.jmx.connector.pid-port.properties |

The startup.bat/sh and shutdown.bat/sh scripts contained in the *Integration Server_directory*\instances\instance_name\bin and *Integration Server_directory*\bin directories are deprecated. You should use the scripts contained in the *Software AG_directory*\profiles\IS_instance_name\bin directory to start and stop Integration Server. If you will manage Integration Server through Command Central, you *must* use the scripts located in the *Software AG_directory*\profiles\IS_instance_name\bin directory.

The installSvc.bat file located in *Integration*

Server_directory\instances\instance_name\support\win32 directory is also deprecated. You should use the service.bat file from the *Software AG_directory*\profiles\IS_instance_name\bin directory to register or remove an Integration Server instance as a Windows service.

For complete instructions for using any of the features affected by these changes, see *webMethods*

4.0 Fixes Included in Each Release

This section lists the fixes that have been included in each release. Go to the Knowledge Center on the [Empower website](#) for detailed information about fixes.

Release 9.7

- IS_8.0_SP1_Core_Fix30
- IS_8.2_SP1_Core_Fix13
- IS_8.2_SP2_Core_Fix12
- IS_8.2_SP2_Core_Fix14
- IS_9.0_SP1_Core_Fix4
- IS_9.0_SP1_Core_Fix6
- IS_9.0_SP1_Portal_Fix1
- IS_9.0_SP1_Tomcat6_Fix1
- IS_9.5_SP1_Core_Fix2
- IS_9.5_SP1_Core_Fix3
- IS_9.5_SP1_Core_Fix4
- IS_9.6_Core_Fix1
- IS_9.6_Core_Fix2
- IS_9.6_Migration_Fix1
- WAR_8.2_SP2_Fix2
- WAR_8.2_SP2_Fix3
- WAR_9.0_SP1_Fix1
- WAR_9.5_SP1_Fix1
- WAR_9.5_SP1_Fix2

- WAR_9.5_SP1_Fix3
- WAR_9.6_Fix1
- WAR_9.6_Fix2
- WFF_8.2.2_Fix2
- WFF_8.2.2_Fix3
- WFF_8.2_SP2_Fix4
- WFF_8.2_SP2_Fix5
- WFF_9.0.1_Fix1
- WFF_9.5.1_Fix1
- WFF_9.5_SP1_Fix2
- WFF_9.6_Fix1

Release 9.6

- IS_8.0_SP1_Core_Fix29
- IS_8.2_SP2_Core_Fix10
- IS_8.2_SP2_Core_Fix11
- IS_8.2_SP2_WmDB_Fix2
- IS_8.2_SP2_WmPKI_Fix2
- IS_9.0_SP1_Core_Fix2
- IS_9.0_SP1_Core_Fix3
- IS_9.0_SP1_Win32_Fix1
- IS_9.5_SP1_Core_Fix1

5.0 Other Resolved Issues

This section lists the issues that were resolved in each release but were not part of the fixes listed in the previous section.

Release 9.7

- PIE-31090 (IS_8.0_SP1_Core_Fix30, IS_8.2_SP1_Core_Fix13, IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)
Outbound HTTP/HTTPS requests made from Integration Server intermittently fail.
Outbound requests are failing while retrying failed requests. When an outbound HTTP/HTTPS request made from an Integration Server fails, Integration Server attempts to retry the request one time. The Integration Server usually uses a new connection to retry requests, but under heavy load situations the retry attempt does not always use a new connection, which causes the retry attempt to fail.
This issue is resolved. Now, Integration Server forces retry attempts to use a new connection.
- PIE-28885 (IS_8.0_SP1_Core_Fix30, IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
The pub.xml:documentToXMLString service ends with a ClassCastException or the xmldata output parameter is null.
If the pipeline includes a variable named outputStream, the pub.xml:documentToXMLString service ends with a ClassCastException or with a null value for the xmldata output parameter.
This issue is now resolved.
- PIE-31496 (IS_8.0_SP1_Core_Fix30, IS_8.2_SP1_Core_Fix13, IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)
Outbound HTTP/HTTPS requests made from Integration Server receive responses of HTTP 200 (success) even if the server receiving the request closes the connection prematurely.
When Integration Server makes an outbound call to another server, it is acting as a client. As a client, Integration Server should wait for a response from the server receiving the request. In some cases, the server receiving the request prematurely closes the connection, and the Integration Server client incorrectly returns an HTTP 200 (success).
This issue is resolved. Integration Server now issues a "Connection was closed during read" error instead of giving HTTP 200 when the server receiving the request closes prematurely.
- PIE-29966 (IS_8.0_SP1_Core_Fix30, IS_9.5_SP1_Core_Fix2)
When acting as an SSL client, Integration Server is too strict in enforcing SSL certificate chain ordering and linking.
When Integration Server performs an SSL handshake with another server, the server sends its certificates. While validating the server's certificate chain, Integration Server expects the server's certificate to be in the first position and its signer's certificate in the next position of the chain. Some servers improperly include either incorrect or misordered certificates. These certificates are not technically allowed, but browsers and other SSL clients typically just ignore them and proceed to the next in the chain. Integration Server was rejecting such chains as invalid.
This issue is resolved. Now, Integration Server validates certificates as long as the issuer's certificate in the chain can be validated to a trusted certificate on Integration Server.
- PIE-30493 (IS_8.2_SP1_Core_Fix13, IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)
WSDL generated for a provider web service descriptor is invalid because it contains references to missing elements.
If a provider web service descriptor uses an IS document type generated from an XML Schema

definition that did not have a targetNamespace, Integration Server does not include the elements from the document type in the schema portion of the WSDL document for the descriptor. The resulting WSDL document is invalid if it contains references to the missing elements.

Now, if a provider web service descriptor uses an IS document type generated from an XML Schema definition with no targetNamespaces, Integration Server includes elements for the IS document type in the schema portion of the WSDL document generated for the provider web service descriptor.

- PIE-30700 (IS_8.2_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)
Loading standard HTTP status codes for pub.flow:setResponseCode is not thread-safe.
This issue is now resolved.
- PIE-30123 (IS_8.2_SP2_Core_Fix12, IS_9.5_SP1_Core_Fix3)
Integration Server faces issues while handling multiple WWW-Authenticate attributes in HTTP Headers.
When a web service client executes a Mediator service, multiple WWW-Authenticate headers are added to the Mediator service. These headers have to be sent back to the client. However, Integration Server sends only one WWW-Authenticate header back to client and this results in issues.
This issue is resolved. Integration Server now sends multiple WWW-Authenticate headers back to the web service client.
- PIE-29175 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
Integration Server generates a WSDL document that does not pass WS-I compliance tests.
When generating a WSDL document for a provider web service descriptor, the resulting WSDL document does not pass WS-I compliance tests. This can occur when a field that makes use of the prefix “xml” or the XML namespace is used in the service signature or in an IS document type used with the web service descriptor. The presence of the xml prefix or XML namespaces causes Integration Server to include an xsd:import element for the XML namespace. However, the xsd:import element does not contain the schemaLocation attribute.
Now, when generating a WSDL document, whenever the xsd:import statement is for the XML namespace, Integration Server includes the schemaLocation attribute in the xsd:import element.
- PIE-29435 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
The Integration Server diagnostic utility returns incorrect status for complex scheduled tasks.
The Integration Server diagnostic utility, which an administrator can run by invoking the wm.server.admin:getDiagnosticData service, returns the Scheduler.txt file as part of its output. The statuses for complex scheduled tasks shown in this file are not consistent with the statuses shown on the Scheduler screen of Integration Server Administrator.
This issue is resolved. The Scheduler.txt file now contains correct statuses for complex scheduled tasks.
- PIE-30079 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
Document type created from XML Schema definition is missing fields.
An IS document type generated from an XML Schema definition may be missing fields if the XML Schema definition had a target namespace and the schema contained a reference to an element that

is not namespace qualified. The resulting IS document type might not contain a field that corresponds to the element that is not namespace qualified. This situation might also occur for IS document types that Integration Server creates as part of creating a web service descriptor from a WSDL document.

This issues is now resolved.

- PIE-30150 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
The pub.sync:wait service returns immediately instead of waiting.
If the pub.sync:notify service executes and the notification times out (that is the value specified by watt.server.sync.timeout elapses) a subsequent invocation of pub.sync:wait executes to completion immediately if the pub.sync:wait and pub.sync:notify services specify the same key value. The pub.sync:wait service should wait until a new pub.sync:notify with the same key is issued or until the waiting time specified in the service elapses.
This issue is now resolved.
- PIE-30172 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
The pub.mime:createMimeData service prints unnecessary exceptions to the Integration Server console.
This issue is now resolved.
- PIE-30283 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix2)
Specifying an action to perform when an overdue scheduled task is more than 35000 minutes late results in a "numeric overflow" error.
On the Create a Scheduled Task page in Integration Server Administrator, in the If the Task is Overdue section, the maximum number of minutes that the "if more than xxx minutes late" field can accept is 35000. However, Integration Server incorrectly accepts numbers larger than 35000, which results in a "numeric overflow" error that requires manual intervention in the database to correct the error.
This issue is resolved. Integration Server now validates entries in the "if more than xxx minutes" field to ensure that a number larger than 35000 is not entered.
- PIE-28612 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix3)
Performance of pub.xslt.Transformations:transformSerialXML in a multithreaded scenario is slower in versions 8.2 and later.
When compared to versions prior to 8.2, performance of the pub.xslt.Transformations:transformSerialXML service is slower in a multithreaded scenario. Performance decreases because in version 8.2 a synchronization point was added before Integration Server transforms the XML. This synchronization point causes one thread to perform the XML transformation while blocking the rest of the threads.
This issue is now resolved.
- PIE-30500 (IS_9.0_SP1_Core_Fix4, IS_9.5_SP1_Core_Fix4, IS_9.6_Core_Fix2)
Changes to address security vulnerabilities found in Integration Server Administrator.
This fix resolves several cross-site scripting (XSS) issues found during internal security testing.
- PIE-30603 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix2, IS_9.6_Core_Fix2)
When a pipeline variable is defined in a SEQUENCE step within a BRANCH step, the variable does

not appear in the pipeline for subsequent steps that use that variable.

In the flow implementation for a branch step, a pipeline variable that was defined in a SEQUENCE step was ignored in subsequent child steps within the BRANCH step. As a result, the variable did not appear in the pipeline for the subsequent child steps.

This issue is resolved. Defined pipeline variables are now visible in the pipeline for all subsequent steps within the BRANCH step in which they were defined.

- PIE-30114 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3)

Enhancements to Integration Server to provide flexibility to add custom processing logic to SOAP requests in case of consumer web service descriptors and to SOAP responses in case of provider web service descriptors.

To do this, this fix introduces outbound callback services, which are user-specified IS services that you can use to insert custom processing logic into a SOAP request message. Integration Server defines the outbound callback service signature in the `pub.soap.utils.callbackServiceSpec` specification. When you specify an IS service as an outbound callback service, Integration Server creates the message context and passes it to the outbound callback service. The message context of the outbound callback service contains the properties for the outbound SOAP message and provides access to the SOAP message. You can use the various services that are located in the `pub.soap.handler` folder in the `WmPublic` package to manipulate the message within the IS service that is used as the outbound callback service. To specify outbound callback services for outbound SOAP messages, you use Outbound Callback Service web service descriptor property.

This fix also introduces a new built-in service, `pub.soap.handler:getInitialSOAPRequest`. This service gets the initial SOAP request message from a given message context. You can use the initial SOAP request message retrieved by this service in the outbound callback service.

- PIE-30642 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3)

If proxy server aliases are configured and Integration Server makes an outbound HTTP call using the `pub.client:http` service, Integration Server does not honor the `connectTimeout` parameter of the `pub.client:http` service.

This issue is resolved. Integration Server now honors the time specified for the `connectTimeout` parameter when making an outbound HTTP call through a proxy server alias. If a value is not specified for the `connectTimeout` parameter, Integration Server uses the value specified for the `watt.net.timeout` server configuration parameter.

- PIE-30630 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)

When Integration Server is clustered, Integration Server writes stateless sessions to the distributed session cache, causing unnecessary consumption of resources on the Terracotta Server Array.

Integration Server creates stateless sessions to execute stateless services. Integration Server should discard these sessions as soon as the top-level service completes and should not write them to the distributed cache.

This issue is resolved. Now, after the top-level service completes, Integration Server writes stateful sessions to the distributed cache and discards stateless sessions.

- PIE-31142 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)

Integration Server does not parse the encoding attribute correctly if there are whitespace characters before or after the equals sign (=).

If the prolog in an XML document contains one or more whitespace characters before or after the equals sign (=) in the encoding attribute, Integration Server did not parse the contents of the encoding attribute correctly.

This issue is now resolved.

- PIE-31397 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)
Attempts by external client applications to connect to an Integration Server using TContext fail with an exception.
Attempts by external client applications to establish a connection with Integration Server via the guaranteed-delivery facility using the connect() method of the TContext class fail with the following exception:
"Guaranteed Delivery Disabled - Please correct error and reinitialize."
This issue is now resolved.
- PIE-29757 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)
If a document is moved to a different location within the same package, and the document is referenced in a flow service that is being deployed to another Integration Server, unresolved dependencies occur.
When a document used in the service signature of a flow service is moved from one location to another within the same package in Software AG Designer, the flow.xml file of that flow service was not updated to reflect the document's new location. As a result, webMethods Deployer considered the document as a missing asset and identified the document as an unresolved dependency.
This issue is resolved.
- PIE-30010 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)
In certain scenarios, decoding of SOAP messages fails with a 'Dimension mismatch, List expected' error.
If a web service descriptor is created using strict or lax content model compliance and if the generated IS document type contains a mix of attributes and child documents, the child documents are of type array. As a result of this, decoding of SOAP messages fails with the following error:
'Dimension mismatch, List expected'
This issue is now resolved.
- PIE-30796 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)The debug message that Integration Server logs in the server log when hostname verification fails does not contain sufficient information.
This issue is resolved. The debug message now contains sufficient information.
- PIE-30831 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)
Installation of IS_8.2_SP1_Core_Fix11 causes mapping steps in flow services to fail.
After fix IS_8.2_SP1_Core_Fix11 is installed, cached services that use the MBoolean class as input create multiple cache entries for the same input instead of creating just one cache entry. As a result, the MAP steps of flow services that call those cached services fail.
This issue is resolved.
- PIE-31093 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)

In case of web services, Integration Server does not keep the undeclared namespaces in the resulting document (IData), when the endpoint service is invoked.

If an XML element that is part of a SOAP Message has undeclared namespace elements, Integration Server does not keep the undeclared namespaces in the resulting document (IData), when the endpoint service is invoked.

This issue is resolved. The generated IData now includes the undeclared namespace definitions.

Note: In case of web services, the undeclared namespace functionality will be available only if the datatype of the document is of type 'Object'.

- PIE-31108 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)

When attempts are made to check unlocked elements out of Subversion by way of the Version Control System (VCS) Integration feature, the attempts fail with a message that the elements are already locked.

When the VCS Integration feature is used with Subversion, some elements remain in a locked and modified state after they are checked in. In addition, these elements are shown to be unlocked in Software AG Designer. This occurs when packages are created in Designer because Designer does not create the necessary /config directory associated with the package. As a result, the /config directory does not get checked in to the Subversion repository when the package is checked in, which leads to asset inconsistencies between the Integration Server file system and the Subversion repository.

This issue is resolved. Integration Server now creates the needed /config directory when a package is created in Designer.

- PIE-31328 (IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix2)

The Service Usage screen in the Integration Server Administrator takes a long time to load in Internet Explorer if there are a large number of listed services.

This issue is now resolved.

- PIE-29888 (IS_9.5_SP1_Core_Fix2)

Deployer deploys packages even when service threads are still running on the target Integration Server.

Deployer should only deploy packages when none of the package's services are running on the target Integration Server. Deployer does not check to see if any of the packages services are executing on the Integration Server before performing the upgrade of the package. If a package is deployed while its services are running on the target Integration Server, the application's data can become corrupted.

To control whether Deployer deploys packages when service threads are running on the target Integration Server, Deployer has been modified to accept the following new global values for Integration Server package assets and composites:

- disallowActivePackage specifies whether you want to prevent deployment if the package being deployed is in an active state on the target. If set to False (the default), Deployer deploys the package even if the package is active on the target Integration Server.

- packageExecutionCheck specifies the length of time (in milliseconds) Deployer should wait if a service contained in the package being deployed is being executed on the target Integration Server. If this time expires and a service is still being executed, Deployer terminates the deployment job.

The default value for this parameter is 0, which disables this feature.

- PIE-30151 (IS_9.5_SP1_Core_Fix2)
 LDAP bind operations are logged twice for a single LDAP add, bind, delete, modify, or search operation.
 Integration Server logs two LDAP bind operation entries in the server log each time one of the following LDAP operations is executed:
 pub.client.ldap:add
 pub.client.ldap.search
 pub.client.ldap:modify
 pub.client.ldap:bind
 pub.client.ldap.delete
 This issue is resolved. Integration Server now logs only one bind operation for add, bind, delete, modify, and search operations.
- PIE-30285 (IS_9.5_SP1_Core_Fix2) Changes to Integration Server because of updates to the wss4j.jar provided by Software AG Web Services Stack.
 Integration Server makes use of the wss4j.jar provided by the Web Services Stack for various kinds of web services processing. A recent update to the wss4j.jar by Web Services Stack requires changes to Integration Server. Without these changes, web service descriptors that run in compatibility mode (the Pre-8.2 compatibility mode property is set to true) and use the Integration Server WS-Security facility may end with a Java RuntimeException.
- PIE-30611 (IS_9.5_SP1_Core_Fix2)
 When attaching a ws-policy to the Fault binding operation type, the policy is not properly reflected in the <wsdl:fault> element of the WSDL.
 When attaching a ws-policy to the Fault binding operation type, the policy is not properly reflected in the <wsdl:fault> element of the wsdl. Also when a ws-policy is attached to any combination of the Input, Output, and Fault binding operation types, the policy is not being enforced during runtime.
 The issue is resolved.
- PIE-31462 (IS_9.5_SP1_Core_Fix3, IS_9.5_SP1_Core_Fix4, IS_9.6_Core_Fix1, IS_9.6_Core_Fix2)
 Changes to address security vulnerabilities found in Integration Server Administrator.
 This fix resolves multiple cross-site scripting vulnerabilities found in different pages of Integration Server Administrator.
- PIE-29895 (IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)
 In a clustered environment, if an Integration Server on which a scheduled task is running is stopped, scheduled tasks that are running on other servers in the cluster stop responding.
 In a clustered environment, if an Integration Server on which a scheduled task is running is stopped, the status of the scheduled task is still shown as running and even tasks that are running on other servers in the cluster stop responding.
 This issue is resolved. Now, if an Integration Server on which a scheduled task is running is stopped, scheduled tasks that are running on other Integration Servers in the cluster are not affected.
- PIE-30612 (IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)

When you simulate the deployment of a package to a target server on which a higher version of the package already exists, the package deployment succeeds.

This issue is resolved. Integration Server issues an error during the simulation indicating that the version of the package on the target Integration Server is higher than that of the one being deployed.

- PIE-31056 (IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)
Integration Server does not retain configuration parameters for JMS connection aliases after deployment.
This issue is now resolved.
- PIE-31114 (IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1) In Google Chrome, when the Show running services on top check box is selected in the Service Usage screen in Integration Server Administrator, Integration Server does not display the currently running services at the top of the screen.
When Integration Server Administrator is accessed via Google Chrome, Integration Server does not display all the currently running services together at the top of the screen, when the Show running services on top check box is selected.
This issue is now resolved.
- PIE-31140 (IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)
Integration Server logs an access denied error in the server log when executing the pub.remote:invoke service even if CSRF guard is disabled.
When the pub.remote:invoke service is executed by a user who is a member of a group that is assigned to the Anonymous ACL, Integration Server logs an "Access Denied" error in the server log. This issue occurs even if CSRF guard is disabled in Integration Server.
The issue is now resolved.
- PIE-31256 (IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1)
Updates to audit logging.
The following updates have been made to audit logging:
 - When the AuditConfig.xml file is created, the logging mode is now set to "Synchronous" by default. In previous versions, the default logging mode was "Asynchronous". In most cases, synchronous audit logging is faster.
 - Integration Server now writes a warning message to the server log when the AuditConfig.xml file is missing when the server starts. The message is as follows: "The AuditConfig.xml file was not found and is being created. The audit logging system is using default settings."
- PIE-30876 (IS_9.5_SP1_Core_Fix4)
webMethods Mediator does not supply the correct SOAP action when it passes a web service request to Integration Server.
When passing a SOAP over JMS web service request to Integration Server, Mediator does not pass on the SOAP action set in the request.
This issue is resolved.
- PIE-20043
When Integration Server acts as a passive mode FTP client, Integration Server cannot parse the

response from the FTP server if the response contains two closing parentheses.

When Integration Server acts as a passive mode FTP client it cannot parse a response from the FTP server such as the following because the response contains two closing parentheses:

```
227 Entering Passive Mode (148,143,12,26,131,81))
```

Integration Server can now parse responses with two closing parentheses properly.

- PIE-27241 Integration Server takes a long time to open the Support > webMethods Packages and Updates page.

When you are logged on as a central user and click the View link on the About page, Integration Server takes a long time to open the Support > webMethods Packages and Updates page.

This fix reduces the time it takes to load this page.

- PIE-28066 File system-based JNDI provider aliases cause errors when SonicMQ is used as the JMS provider.

When using SonicMQ as a JMS provider, attempts to enable a JMS connection that uses a file system-based JNDI provider alias result in the following exception:

```
[ISS.0134.9025] Unable to retrieve JMS Connection Factory for JMS alias.
```

This issue occurs because SonicMQ stores object definitions in serializable Java object (.sjo) files, unlike other JMS providers that store configuration details in .bindings files.

This issue is resolved. When SonicMQ is used as the JMS provider, Integration Server now deserializes the .sjo files instead of processing .bindings files. When you create a JMS connection alias for SonicMQ, make sure that the Connection Factory Lookup Name includes the connection factory file extension ".sjo".

- PIE-29007

The pub.xml:xmlNodeToDocument service does not preserve the "xsi" namespace.

The pub.xml:xmlNodeToDocument contains an input parameter named preserveUndeclaredNS that can be used to preserve undeclared namespaces in the output document. An undeclared namespace is one that is not specified as part of the nsDecls input parameter.

In the case of the namespace <http://www.w3.org/2001/XMLSchema-instance> which is commonly declared with "xsi" prefix, the namespace was not being preserved in the output document even when preserveUndeclaredNS was set to true and nsDecls did not include the namespace

```
http://www.w3.org/2001/XMLSchema-instance.
```

This issue is now resolved.

- PIE-29304

When using pub.security.xml:signXML to digitally sign an outgoing XML node or document, you cannot place the signature in the proper position as required by the schema.

This issue is resolved. The input signature for pub.security.xml:signXML now includes the optional addSignatureAsLastElement parameter. When set to true, Integration Server adds the signature element as the last child of the root node. If set to false (the default), Integration Server adds the signature element as the first child of the root node.

- PIE-30518

Integration Server did not include the X-Frame-Options attribute in the response header to requests for pages. This made Integration Server implementations vulnerable to clickjacking attacks. This issue is resolved. Integration Server now includes the X-Frame-Options attribute in the response header to requests for pages, as defined in <http://www.rfc-editor.org/rfc/rfc7034.txt>. X-Frame-Options is not included in responses to requests for service invocation, such as those including the invoke, rest, or soap directives. It is only included in responses to requests for pages, for example, <https://my-server/MyPackage/my-page.html>. The value for the X-Frame-Options attribute can be controlled with the `watt.server.http.x-frame-options` system property. Valid values for this property include the following:

 - SAMEORIGIN

This is the default value. It directs the client's browser to allow Integration Server pages to be displayed in an HTML frame only if the frame is on a page from the same server.

 - ALLOW-FROM <other_origin>

Set `watt.server.http.x-frame-options` to this value to direct the client's browser to allow Integration Server pages to be displayed in an HTML frame only if the frame is on a page from the same server or from one of the other servers listed in <other_origin>.

To list multiple origin servers, separate them with a space. For example:

```
watt.server.http.x-frame-options=ALLOW-FROM https://server1.com http://server2.org
```

Note: The value DENY is defined for the X-Frame-Options attribute but is not allowed for Integration Server. DENY means that the page can never appear in a frame, regardless of the frame's origin. This would cause Integration Server Administrator to be unusable. If `watt.server.http.x-frame-options` is set to DENY, the value is ignored and SAMEORIGIN is used instead.

If you do not want Integration Server to include the X-Frame-Options attribute in response headers, remove the value of the `watt.server.http.x-frame-options` property. For example:

```
watt.server.http.x-frame-options=
```

The property can be set on the Settings > Extended page of Integration Server Administrator. Changes to this property take effect immediately; the server does not need to be restarted. See <http://www.rfc-editor.org/rfc/rfc7034.txt> for more information about X-Frame-Options.
- PIE-30524

Saving changes to flow services in Software AG Designer commits the changes in Subversion. When the Version Control System (VCS) Integration feature is used with Subversion, saving changes made to a flow service in Designer causes the changes to be pushed immediately to the Subversion repository.

This issue is resolved. Integration Server now commits changes saved to a flow service in Designer only when the Check In command is issued.
- PIE-30560

Integration Server displays the wrong error message in the error log.

When an ACL check for a service fails, the following message is written to the error log:

```
"ACLManager: allow check for user "local/Developer" on ACL "myFolder:mySvc" is returning false."
```

The message should indicate the service and not the ACL.

This issue is now resolved. The message now states the following:

“ACLManager: allow check for user "local/Developer" on service "myFolder:mySvc" is returning false.”

- PIE-31046
Web service connectors always call only the default binder even when the consumer has multiple binders associated with it.
A WSDL document for a virtual service contains two port definitions, one for the HTTP transport protocol and one for HTTPS, and specifies the same binding name for both definitions. When a consumer web service connector is generated using this WSDL document, the connector used only the default binder. This resulted in the execution of an endpoint service that did not always use the correct transport protocol.
This issue is resolved.
- PIE-31163
Upon enabling clustering, the confirmation message displayed in the Settings -> Cluster page in Integration Server Administrator includes a
 tag.
This issue is now resolved.
- PIE-31283
Integration Server ignores User-Agent header fields when executing pub.client:soapClient.
If a User-Agent header field is specified in the transportHeaders parameter of the pub.client:soapClient service, Integration Server ignores the value specified for that header field. Instead, Integration Server sets the value of the header field to the default value configured in the watt.net.userAgent parameter.
This issue is resolved.
- WFF-32 (WFF_8.2_SP2_Fix4, WFF_9.5.1_Fix1, WFF_9.6_Fix1)
In webMethods EDI Module 8.0 SP1, the schemas generated for EDI transactions do not use the correct format service for some of the fields.
In webMethods EDI Module 8.0 SP1, the format service associated with some of the field types are not correct. For example, for a field of type N0, the associated format service must be wm.b2b.edi.util.formatServices:formatN0, and for a field of type N1, the associated format service must be wm.b2b.edi.util.formatServices:formatN1. Currently, all the fields of type N0 to N9 are incorrectly associated with the wm.b2b.edi.util.formatServices:formatN0 format service.
This issue is resolved. The correct format service is now associated with a field type.
- WFF-33 (WFF_8.2_SP2_Fix4, WFF_9.5.1_Fix1, WFF_9.6_Fix1)
When using Flat File Module with webMethods Integration Server 8.2 SP2, the pub.flatFile:convertToValues service fails to validate the non-EDI document.
When using Flat File Module with Integration Server, the pub.flatFile:convertToValues service fails to validate the non-EDI document and returns an exception. This issue occurs even though the validate input parameter is set to true and the ffData parameter is a non-EDI document.
This issue is resolved.
- WFF-45 (WFF_8.2_SP2_Fix5, WFF_9.5.1_Fix1, WFF_9.6_Fix1)
In webMethods Flat File 8.2.2, polling port processes the XML file incorrectly if file contains

Chinese or Taiwanese characters.

This issue occurs because the flat file parser is using Windows default encoding (for example, CP1252) while parsing the XML file. The parser now has been modified to use UTF-8 as the default encoding for XML files. If you want to override the default encoding for XML files, you can do this by adding the following property into properties.cnf: filepollingport=encoding and providing the appropriate value for the new encoding. For example:

On a Windows machine:- C\:\RemoteDrive\Monitor=UTF-8

On Unix/Linux:- opt/monitor=UTF-8

This issue is resolved.

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- **PIE-27597**
Integration Server returns a numeric code when a user password is changed instead of returning a message.
Integration Server returns a numeric code when a user password is changed from the Security > User Management > Change Password page in the Integration Server Administrator. This issue occurs intermittently.
This issue is resolved. Integration Server now returns a message when the user password is changed.
- **PIE-27714**
The pub.mime:createMimeData service does not honor the encoding type of the "charset" parameter in a MIME multipart header.
When creating mime data, the pub.mime:createMimeData service ignores the "charset" parameter in a MIME multipart header. The encoding specified by the watt.server.netEncoding parameter is used instead.
This issue is now resolved. The pub.mime:createMimeData parameter now uses the encoding type specified by the "charset" parameter in a multipart header.
- **PIE-28024**
"UncaughtExceptionHandler in queue 'Session Queue'" error in the IS server log.
This error occurs in clustered environments when Integration Server starts up or shuts down. The error is triggered if an unhandled null pointer exception occurs with the pinger thread, which is used to ping the server after a connection is established.
This issue is now resolved.
- **PIE-28613**
Email listener ports suddenly stop processing emails.
Email listener ports stop processing emails when network issues arise. When the network issues are resolved, an Integration Server restart is needed to resume the processing of emails through those ports. Restarting Integration Server negatively affects other projects that share the same server.
This issue is resolved. Email listener ports now automatically resume the processing of email after network issues are resolved.

- PIE-28664

Integration Server handles document types that have defined XML namespace URIs but do not have prefixes associated with each namespace, differently in versions prior to 8.2 SP2. In Integration Server 8.2 SP2 and higher, if document types that have a defined XML namespace URI but do not have a prefix associated with each namespace are specified as inputs to services, the SOAP processor fails to recognize the document types at run time. This results in improper SOAP responses. However, in Integration Server versions prior to 8.2 SP2, SOAP processors recognized document types that have defined XML namespaces but do not have prefixes associated with each namespace. This difference in behavior results in backward compatibility issues when upgrading to Integration Server 8.2 SP2 or above.

This issue is resolved. To support backward compatibility, Integration Server supports the previous behavior at run time in case of web service descriptors created in Integration Server versions prior to 8.2 SP2. For web service descriptors created in Integration Server 8.2 SP2 onwards, you must associate a prefix with an XML namespace URI for fields in the service signature. Additionally, this fix introduces the `watt.server.soap.decodeElementWithPrefix` server configuration parameter. You must set the `watt.server.soap.decodeElementWithPrefix` property to true if you want the SOAP processors to recognize document types that have a defined XML namespace but do not have a prefix associated with each namespace. The default is false. If you change the setting of this parameter, you must restart Integration Server for the changes to take effect.
- PIE-28885

The `pub.xml:documentToXMLString` service ends with a `ClassCastException` or the `xmldata` output parameter is null.

If the pipeline includes a variable named `outputStream`, the `pub.xml:documentToXMLString` service ends with a `ClassCastException` or with a null value for the `xmldata` output parameter. This issue is now resolved.
- PIE-28935

After upgrading to Integration Server 8.2 SP1 or later from an earlier version of Integration Server, if the input pipeline for the `pub.flow:setResponse` service includes a parameter named “string”, the service uses the value of “string” in the response instead of the value of the “response” service input parameter.

Prior to Integration Server 8.2 SP1, the `pub.flow:setResponse` service had a “response” input parameter of type `String` used to specify the response returned to a calling process. In Integration Server 8.2 SP1, the “response” input parameter was deprecated and replaced by a “string” input parameter of type `String`. A “bytes” input parameter of type `byte[]` was also added. The `pub.flow:setResponse` service honored the value set for “response” but gave precedence to the “string” parameter if that was set or present in the input pipeline. Because the “string” parameter had precedence, the `pub.flow:setResponse` service used the value of “string” in the response instead of the value set for the “response” input parameter. This resulted in unexpected behavior in existing services that were migrated to Integration Server 8.2 SP1 and later. The likelihood of unexpected behavior was compounded by the using an input variable name, “string”, that is commonplace.

To address this issue, the following changes have been made:

- The `pub.flow:setResponse` service now has input parameter names that are more unique and deprecates the old parameter names.
- A new server configuration parameter controls the order of precedence for the deprecated parameter names.

The `pub.flow:setResponse` service now has the following input signature:

`responseString` – Optional. A String that specifies the response.

`responseBytes` – Optional. A `byte[]` that specifies the response.

`response` – Deprecated. Use `responseString`. Optional. A String that specifies the response.

`string` – Deprecated. Use `responseString`. Optional. A String that specifies the response.

`bytes` – Deprecated. Use `responseBytes`. Optional. A `byte[]` that specifies the response.

`contentType` – Optional. A String specifying the MIME type of the response data.

`encoding` – Optional. A String specifying the character set in which the response is encoded.

Specify `responseString` or `responseBytes`, but not both. If you specify both, the `pub.flow:setResponse` service uses `responseString` and ignores `responseBytes`.

If neither `responseString` or `responseBytes` are specified, Integration Server uses the value of the server configuration parameter `watt.server:setResponse.pre82Mode` to determine the order in which to look for and use the deprecated fields.

When `watt.server:setResponse.pre82Mode` is set to “true”, Integration Server follows a precedence order similar to what was available in Integration Server 7.1x and 8.0x. Specifically, Integration Server looks for the deprecated parameters in the following order and uses the value of the first parameter that it finds:

1. `response`
2. `string`
3. `bytes`

When `watt.server:setResponse.pre82Mode` is set to “false”, Integration Server follows a precedence order similar to what was available in Integration Server 8.2 and later. Specifically, Integration Server looks for the deprecated parameters in the following order and uses the value of the first parameter that it finds:

1. `string`
2. `bytes`
3. `response`

The default value of the `watt.server:setResponse.pre82Mode` parameter is “false”.

If you want to set `watt.server:setResponse.pre82Mode` to true, you must use Integration Server Administrator to add the following to Extended Settings and then restart Integration Server:

```
watt.server:setResponse.pre82Mode=true
```

- **PIE-29175**

Integration Server generates a WSDL document that does not pass WS-I compliance tests.

When generating a WSDL document for a provider web service descriptor, the resulting WSDL document does not pass WS-I compliance tests. This can occur when a field that makes use of the prefix “xml” or the XML namespace (<http://www.w3.org/XML/1998.namespaces>) is used in the service signature or in an IS document type used with the web service descriptor. The presence of the xml prefix or XML namespaces causes Integration Server to include an `xsd:import` element for the XML namespace. However, the `xsd:import` element does not contain the `schemaLocation` attribute.

Now, when generating a WSDL document, whenever the `xsd:import` statement is for the XML namespace, Integration Server includes the `schemaLocation` attribute in the `xsd:import` element.

- **PIE-29193**
Ports created with JSSE support enabled do not support TLS 1.1.
Ports created with the “Use JSSE” option enabled (or `useJSSE=yes`) do not support TLS 1.1 until Integration Server is restarted.
This issue is now resolved.
- **PIE-29244**
Few components are missing from the schema that Integration Server generates when the XSD includes types that are restricted by pattern.
When creating a consumer web service descriptor from a WSDL, few components are missing from the schema that Integration Server generates if the XSD contains types that are restrictions of an `xsd:string` with a pattern defined. This issue happens especially when there are cascaded restrictions.
This issue is now resolved.
- **PIE-29345**
Updates to documentation for using Universal Messaging with native publish/subscribe.
The following PDF documentation has been updated to include additional information about using Integration Server and Designer to develop publish/subscribe solutions that use Universal Messaging as the messaging provider:
 - *webMethods Integration Server Administrator’s Guide*
 - *webMethods Integration Server Built-In Services Reference*
 - *Publish-Subscribe Developer’s Guide*
 - *webMethods Service Development Help*Refreshed versions of the above guides are available by downloading the product documentation using the Software AG Installer or on the Software AG Documentation website <http://documentation.softwareag.com>.
- **PIE-29401**
When decoding a SOAP request, an element of type `anyType` is incorrectly decoded if it contains duplicate elements.
If the input signature of an IS service exposed as a web service contains a document that has a child variable of type object, the object is represented as an element of type `anyType`. When Integration Server decodes a SOAP request for the service, the contents of the element of type `anyType` should be represented as is in the resulting IData. However, if the element of type `anyType` contains duplicate elements, Integration Server created an array for the duplicate elements.
This issue is now resolved.
- **PIE-29435**
The Integration Server diagnostic utility returns incorrect status for complex scheduled tasks.
The Integration Server diagnostic utility, which an administrator can run by invoking the `wm.server.admin:getDiagnosticData` service, returns the Scheduler.txt file as part of its output. The

statuses for complex scheduled tasks shown in this file are not consistent with the statuses shown on the Scheduler screen of Integration Server Administrator.

This issue is resolved. The Scheduler.txt file now contains correct statuses for complex scheduled tasks.

- PIE-29482
Unable to update the master password after the master password and outbound passwords are reset.
After resetting the master password and outbound passwords using the Security > Outbound Passwords > Reset All Outbound Passwords option, updating the master password fails with "Verification of current master password failed." error.
This issue is now resolved.
- PIE-29524
Integration Server experiences blocked service threads when flow services contain BRANCH steps with "Evaluate label" enabled.
This issue is now resolved.
- PIE-29616
Integration Server issues a NullPointerException when the Event Manager triggers a service that expects a valid session.
This issue is now resolved. When a service is triggered by the Event Manager, a valid session is now associated with the triggered service. The session that is created has a default timeout value of 60000 milliseconds. This timeout value can be controlled by the `watt.server.eventHandlerSessionTimeout` server configuration parameter, which is introduced in this fix. This fix also introduces the `watt.server.eventHandlerCreateSession` server configuration parameter. Use this parameter to control whether or not Integration Server is to create a session for the service that is triggered by the Event Manager. When set to "true", Integration Server creates a session for the service that is triggered by the Event Manager. When set to "false", Integration Server does not create a session for the service that is triggered by the Event Manager. The default is "true".
- PIE-29756
Migrated Broker configuration is over-written with the default Broker configuration.
If Broker configuration is migrated to Integration Server 9.5 SP1, when Integration Server starts for the first time, Integration Server replaces the migrated Broker configuration with the default Broker configuration.
This issue is resolved. Integration Server does not overwrite the migrated Broker configuration with the default Broker configuration.
- PIE-29873
The archive file returned by the `wm.server.admin:getDiagnosticData` service does not contain caching configuration files.
In the `diagnostic_data.zip` file, the `config/caching` folder contains audit logging configuration files instead of caching configuration files.

This issue is resolved. The config/caching folder now contains a copy of the files from the IntegrationServer/instances/<instanceName>/config/Caching directory.

- PIE-29887
In Integration Server, attempting a JAAS login with message-level credentials for a consuming application with a SAML token in the SOAP header of the message fails with an error.
When a web service provider with a security policy that does not require a SAML token receives a secured message with a SAML token in the security header, the JAAS login attempt with message-level credentials fails. The issue occurs because the Web Services Stack security engine attempts to process and use the SAML token as a part of the message authentication credentials.
The issue is resolved. A new web service descriptor property, Filter Login Credentials, is added to configure the web service descriptor to use only the tokens required by the applied security policy as authentication credentials. When this property is set to true in Designer, Integration Server filters the login credentials in incoming SOAP requests and processes only those credentials that are provided in the WS-Security policy attached to the web service descriptor. When this property is set to false, Integration Server processes all the credentials that are available in the incoming SOAP request without verifying whether the credentials are also provided in the WS-Security policy attached to the web service descriptor. The default is true.

- PIE-29888
Deployer deploys packages even when service threads are still running on the target Integration Server.
Deployer should only deploy packages when none of the package's services are running on the target Integration Server. Deployer does not check to see if any of the packages services are executing on the Integration Server before performing the upgrade of the package. If a package is deployed while its services are running on the target Integration Server, the application's data can become corrupted.
To control whether Deployer deploys packages when service threads are running on the target Integration Server, Deployer has been modified to accept the following new global values for Integration Server package assets and composites:
 - disallowActivePackage specifies whether you want to prevent deployment if the package being deployed is in an active state on the target. If set to False (the default), Deployer deploys the package even if the package is active on the target Integration Server.
 - packageExecutionCheck specifies the length of time (in milliseconds) Deployer should wait if a service contained in the package being deployed is being executed on the target Integration Server. If this time expires and a service is still being executed, Deployer terminates the deployment job. The default value for this parameter is 0, which disables this feature.

- PIE-29889
An incorrect exception is returned when using the pub.client.ftp:get service with large files. When using pub.client.ftp:get service with files larger than the available tspace, the exception "java.io.IOException: Stream Closed" is returned instead of "java.io.IOException: Not enough storage in tspace".
This issue is resolved. When there is not enough tspace available, the exception "java.io.IOException: Not enough storage space in tspace" is now returned.

- PIE-29892

The `pub.security.outboundPasswords:listKeys` service does not return the keys for keystore and truststore aliases even if the `watt.security.ope.AllowInternalPasswordAccess` parameter is set to true.

This issue is now resolved.
- PIE-29936

Building any Integration Server package asset using the webMethods Asset Build Environment results in a `NoSuchElementException`.

For a repository-based deployment, when the Asset Build Environment is used to build a composite from any Integration Server package asset, the Asset Build Environment throws a `NoSuchElementException`. This occurs even if the package element is present. The Asset Build Environment then proceeds with the build.

This issue is resolved. The Asset Build Environment now correctly detects the presence of a package asset before determining whether to proceed with the build.
- PIE-29963

Creation of a web service descriptor from a WSDL with message parts succeeded in Integration server version 7.1.x or 8.x but fails in Integration Server 9.0 or later.

Using Designer to create a web service descriptor from a WSDL with message parts succeeded with Integration Server 7.1.x or 8.x but fails in Integration Server 9.0 and later with an error similar to the following:

[ISC.0081.9195] Invalid message part(s) defined in the wsdl: The header has a message part "partName" defined by the type "typeName". Message parts in a header must be defined by the element attribute instead of the type attribute.

According to the WSDL specification, message parts are to be treated as document/literal. This means that a message part must define the part using the element attribute and not the type attribute. Validation was added to Integration Server 9.0 to enforce this restriction.

This fix introduces a server configuration parameter that you can use to indicate that defining the message part using the type attribute instead of the element attribute should be treated as a warning and not an error. Set `watt.server.SOAP.warnOnPartValidation` to true to indicate that when creating a web service descriptor form a WSDL document that uses the type attribute to define message parts, Integration Server returns a warning and allows the web service descriptor to be created. Set `watt.server.SOAP.warnOnPartValidation` to false to indicate that when creating a web service descriptor form a WSDL document that uses the type attribute to define message parts, Integration Server returns an error and creation of the web service descriptor fails. The default is false.
- PIE-29977

Creating a consumer web service descriptor from a WSDL document fails with an error stating that the schema definition is not valid.

If the schema in a WSDL document contains complex type elements with the "mixed" attribute set to True, Integration Server incorrectly considers the schema to be invalid. Creation of a consumer web service descriptor fails with the following error:

[ISS.0092.9032] Error: Invalid schema definition for Input signature. Web Service Connector was not

created.

This issue is resolved. Integration Server now processes schemas containing complex type elements with mixed content.

- **PIE-30079**
Document type created from XML Schema definition is missing fields.
An IS document type generated from an XML Schema definition may be missing fields if the XML Schema definition had a target namespace and the schema contained a reference to an element that is not namespace qualified. The resulting IS document type might not contain a field that corresponds to the element that is not namespace qualified. This situation might also occur for IS document types that Integration Server creates as part of creating a web service descriptor from a WSDL document.
This issues is now resolved.
- **PIE-30087**
The `pub.soap.utils:removeBodyEntry` service prints data to the Integration Server console. When the `pub.soap.utils:removeBodyEntry` service is executed, Integration Server prints data contained in the SOAP body to the server console.
This issue is now resolved.
- **PIE-30123**
Integration Server faces issues while handling multiple `WWW-Authenticate` attributes in HTTP Headers. When a web service client executes a Mediator service, multiple `WWW-Authenticate` headers are added to the Mediator service. These headers have to be sent back to the client. However, Integration Server sends only one `WWW-Authenticate` header back to client and this results in issues.
This issue is resolved. Integration Server now sends multiple `WWW-Authenticate` headers back to the web service client.
- **PIE-30127**
The execution of `pub.xml:documentToXMLString` service fails with an `EmptyStackException` if a document with `'*body'` as a top-level element is given as the input.
This issue is now resolved.
- **PIE-30150**
The `pub.sync:wait` service returns immediately instead of waiting.
If the `pub.sync:notify` service executes and the notification times out (that is the value specified by `watt.server.sync.timeout` elapses) a subsequent invocation of `pub.sync:wait` executes to completion immediately if the `pub.sync:wait` and `pub.sync:notify` services specify the same key value. The `pub.sync:wait` service should wait until a new `pub.sync:notify` with the same key is issued or until the waiting time specified in the service elapses.
This issue is now resolved.
- **PIE-30151**
LDAP bind operations are logged twice for a single LDAP add, bind, delete, modify, or search

operation.

Integration Server logs two LDAP bind operation entries in the server log each time one of the following LDAP operations is executed:

pub.client.ldap:add

pub.client.ldap:search

pub.client.ldap:modify

pub.client.ldap:bind

pub.client.ldap.delete

This issue is resolved. Integration Server now logs only one bind operation for add, bind, delete, modify, and search operations.

- PIE-30161

When migrating from earlier versions of Integration Server, some parameters in the server.cnf file are not updated with the correct system paths.

When migrating from earlier Integration Server using the migration utility, the values for watt.server.homeDir and watt.server.terracotta.license.path parameters are not migrated as expected.

This issue is resolved. After migration, watt.server.homeDir now points to the correct system path. Also, if the value of watt.server.terracotta.license.path points to the default location of the license file, it now points to the correct system path after migration. However, if the watt.server.terracotta.license.path parameter does not point to the default location, the value is not changed during the migration process.

- PIE-30172

The pub.mime:createMimeData service prints unnecessary exceptions to the Integration Server console.

This issue is now resolved.

- PIE-30249

The axis2.xml is updated to use ws-stack formatters instead of axis2 formatters.

- PIE-30250

When debugging a flow service in Designer, unexpected input validation errors occur for Sequence flow steps.

When Software AG Designer is used to debug a flow service that contains a Sequence flow step, the following input validation errors occur if the Sequence element is not the root element of the flow service: [ISC.0049.9005] Input validation for service 'xxx' failed

[ISC.0082.9034] Field is absent, field must exist

This issue is resolved. Integration Server now correctly handles flow services containing Sequence steps that are not root elements of the service.

- PIE-30283

Specifying an action to perform when an overdue scheduled task is more than 35000 minutes late results in a "numeric overflow" error.

On the Create a Scheduled Task page in Integration Server Administrator, in the If the Task is

Overdue section, the maximum number of minutes that the "if more than xxx minutes late" field can accept is 35000. However, Integration Server incorrectly accepts numbers larger than 35000, which results in a "numeric overflow" error that requires manual intervention in the database to correct the error.

This issue is resolved. Integration Server now validates entries in the "if more than xxx minutes" field to ensure that a number larger than 35000 is not entered.

- **PIE-30285**
Changes to Integration Server because of updates to the wss4j.jar provided by Software AG Web Services Stack.
Integration Server makes use of the wss4j.jar provided by the Web Services Stack for various kinds of web services processing. A recent update to the wss4j.jar by Web Services Stack requires changes to Integration Server. Without these changes, Web service descriptors that run in compatibility mode (the Pre-8.2 compatibility mode property is set to true) and use the Integration Server WS-Security facility may end with a Java RuntimeException.

- **PIE-30390**
Integration Server Administrator does not display webMethods messaging triggers deployed to the Integration Server if the messaging connection alias for the triggers does not exist.
If webMethods messaging triggers are deployed to an Integration Server and the messaging connection alias used by the triggers is not on the target Integration Server, the Integration Server Administrator does not display the triggers on the Settings > Messaging > webMethods Messaging Trigger Management page. When the messaging connection alias used by the triggers is created on the Integration Server, the triggers do not load properly. Integration Server must be restarted for the triggers to function correctly.
Now, when webMethods messaging triggers are deployed to an Integration Server that does not have the messaging connection alias used by the triggers, the Integration Server Administrator will display the triggers. Once the messaging connection alias used by the triggers is created, Integration Server reloads and starts the trigger automatically. A server restart is not required.
Note: After creating the messaging connection alias, you might need to synchronize the publishable document types that use the alias with the messaging provider.

- **PIE-30424**
When a webMethods messaging trigger does not start because Integration Server cannot locate a publishable document type to which the trigger subscribes, Integration Server does not reload and start the trigger if the publishable document type is later loaded.
Integration Server does not start a webMethods messaging trigger if it cannot find a publishable document type to which the trigger subscribes. For example, if a webMethods messaging trigger is in a different package from a publishable document type to which it subscribes and the package containing the trigger is loaded before the package containing the publishable document type, the trigger will not fully load. Furthermore, the trigger will not fully load even after Integration Server loads the package containing the publishable document type. When a webMethods messaging trigger does not fully load because Integration Server cannot locate the publishable document type, Integration Server Administrator does not list the trigger on the Settings > Messaging > webMethods Messaging Trigger Management page.

Now, if Integration Server does not fully load a webMethods messaging trigger because a publishable document type cannot be located, the trigger will appear on the Settings > Messaging > webMethods Messaging Trigger Management page. An exception stating the reason the trigger did not fully load will appear as well. In addition, when Integration Server loads the package containing the publishable document type to which the trigger subscribes, Integration Server reloads the trigger.

- PIE-30484
Integration Server issues a java.lang.NullPointerException while executing the pub.oauth:getAccessToken service.
This issue is now resolved.

- PIE-30523
When a Designer session times out, Integration Server does not close the socket reserved to notify Designer of the Integration Server shutdown event.
When Designer connects to an Integration Server, Integration Server reserves a socket to notify Designer of the Integration Server shutdown event. If the Designer session times out while still connected to Integration Server, the reserved socket is not closed.
This issue is now resolved. When a Designer connection times out, Integration Server now releases the reserved sockets.

- PIE-30585
The pub.security.xml:signXML service supports only SHA-1 for signing an XML node or document. To resolve this issue, the pub.security.xml:signXML service has been enhanced. You can now specify the signatureAlgorithm and digestAlgorithm to use when signing an XML node or document.
Possible values for each field are as follows:
 - SHA1 (the default)
 - SHA256
 - SHA384
 - SHA512

- PIE-30611
When attaching a ws-policy to the Fault binding operation type, the policy is not properly reflected in the <wsdl:fault> element of the wsdl.
When attaching a ws-policy to the Fault binding operation type, the policy is not properly reflected in the <wsdl:fault> element of the wsdl. Also when a ws-policy is attached to any combination of the Input, Output, and Fault binding operation types, the policy is not being enforced during runtime.
The issue is now resolved.

- PIE-30619
Integration Server did not include the X-Frame-Options attribute in the response header to requests for pages. This made Integration Server implementations vulnerable to clickjacking attacks.
This issue is resolved. Integration Server now includes the X-Frame-Options attribute in the

response header to requests for pages, as defined in <http://www.rfc-editor.org/rfc/rfc7034.txt>. X-Frame-Options is not included in responses to requests for service invocation, such as those including the invoke, rest, or soap directives. It is only included in responses to requests for pages, for example, <https://my-server/MyPackage/my-page.html>. The value for the X-Frame-Options attribute can be controlled with the `watt.server.http.x-frame-options` system property. Valid values for this property include the following:

SAMEORIGIN This is the default value. It directs the client's browser to allow Integration Server pages to be displayed in an HTML frame only if the frame is on a page from the same server.

ALLOW-FROM <other_origin> Set `watt.server.http.x-frame-options` to this value to direct the client's browser to allow Integration Server pages to be displayed in an HTML frame only if the frame is on a page from the same server or from one of the other servers listed in `<other_origin>`. To list multiple origin servers, separate them with a space. For example: `watt.server.http.x-frame-options=ALLOW-FROM https://server1.com http://server2.org`

Note: The value **DENY** is defined for the X-Frame-Options attribute but is not allowed for Integration Server. **DENY** means that the page can never appear in a frame, regardless of the frame's origin. This would cause Integration Server Administrator to be unusable. If `watt.server.http.x-frame-options` is set to **DENY**, the value is ignored and **SAMEORIGIN** is used instead. If you do not want Integration Server to include the X-Frame-Options attribute in response headers, remove the value of the `watt.server.http.x-frame-options` property. For example:

`watt.server.http.x-frame-options=`

The property can be set on the Settings > Extended page of Integration Server Administrator.

Changes to this property take effect immediately; the server does not need to be restarted. See

<http://www.rfc-editor.org/rfc/rfc7034.txt> for more information about X-Frame-Options.

- **PIE-30658**
Change in the upper limit of unique tags that the enhanced XML parser can handle in a single XML document.
The upper limit of unique tags that the enhanced XML parser can handle in a single XML document is now 15,000,000. The previous upper limit was 30,000. When parsing an XML document with more than 15,000,000 unique tags, the enhanced XML parser ends with an error.

- **PIE-30888**
The `pub.xml:documentToXMLString` service behaves differently in Integration Server 8.0 SP1 and Integration Server 9.5 SP1.
In Integration Server 9.5 SP1, if a document (IData object) that contains multiple top-level elements is converted to an XML document using the `pub.xml:documentToXMLString` service, Integration Server does not add the namespace definition in the XML document correctly as shown in the example given below:

```
<xsd1:HEAD xmlns:xsd1="http://www.hello.com/hSoapMsg.xsd1">
```

```
  <xsd1:VAR1>1</xsd1:VAR1>
```

```
</xsd1:HEAD>
```

```
<xsd1:TAIL>
```

```
  <xsd1:VAR3 xmlns:xsd1="http://www.hello.com/hSoapMsg.xsd1">1</xsd1:VAR3>
```

```
</xsd1:TAIL>
```

This issue is now resolved. After this fix, Integration Server adds the namespace definitions in the

XML document correctly as shown in the example below:

```
<xsd1:HEAD xmlns:xsd1="http://www.hello.com/hSoapMsg.xsd1">
  <xsd1:VAR2>1</xsd1:VAR2>
</xsd1:HEAD>
<xsd1:TAIL xmlns:xsd1="http://www.hello.com/hSoapMsg.xsd1">
  <xsd1:VAR3>1</xsd1:VAR3>
</xsd1:TAIL>
```

- **PIE-30995**
Integration Server takes a long time to parse large JSON documents.
This issue is now resolved.

- **PIEAR-425**
Using the Adapter Runtime to create a listener takes too long.
Creating a listener using the Adapter Runtime takes too long when the system has a large number of existing notifications. The issue occurs because the Adapter Runtime attempts to update the listener with the list of all registered listener notifications.
The issue is resolved. With the new `watt` property, `watt.art.notifications.disableImplicitUpdate`, you can disable the implicit update of registered notifications when creating a new listener.
Adapter Configuration Parameter Reference:
`watt.art.notifications.disableImplicitUpdate`
Controls whether the Adapter Runtime updates the listener with the list of registered listener notifications when creating a new listener.
Values are:
 - `true`. The adapter disables the implicit update of registered notifications.
 - `false`. (default) The adapter does not disable the implicit update of registered notifications.For more information about setting and working with extended configuration settings, see *webMethods Integration Server Administrator's Guide*.

- **PIEAR-450**
Deploying Adapter Runtime adapter listeners fails with an "unrecognized parameter" error.
When you try to deploy an ART-based adapter listener using `webMethods Deployer`, deployment fails with the following error:
"Adapter Runtime (Metadata): Unrecognized parameter `connDataNodeName` specified".
The error occurs because the validation of the listener settings fails.
The issue is now resolved.

- **PIEAR-466**
Accessing the DSP pages of the `WmART` package fails when `webMethods Integration Server` is using the CSRF guard feature.
When you enable the Cross-Site Request Forgery (CSRF) guard in `Integration Server`, access to the dynamic server pages (DSP) of the `WmART` package is denied.
This issue is now resolved.

- **PIEAR-486**
After editing an adapter polling notification, the notification does not work.
After you edit the parameters of an adapter polling notification in Software AG Designer and then enable the notification, it does not work and the system returns the following message:
"[ART.0116.3527D] Adapter Runtime (Notification): Ignoring request to start notification".
This issue is now resolved.
- **PIEAR-471**
Adapter Runtime-based adapters version 8.2 and lower do not run on the Adapter Runtime 9.5.1.
Building or using an adapter with version 8.2 and earlier on the Adapter Runtime 9.5.1 results in compile and run-time errors due to API changes in the ListenerNode class. The signature of the enable() and disable() methods has been altered, which causes the errors.
This issue is now resolved.
- **WIR-6933**
Integration Server loses the default character encoding.
When starting Integration Server, the character set retrieved from the JVM is incorrectly set to: "US-ASCII".
This issue is now resolved.

6.0 Documentation Changes

This section describes significant changes to the documentation in each release, such as the addition, relocation, or removal of product guides, online help, chapters, or other major content.

Release 9.7

None.

Release 9.6

- Two new guides were added for webMethods Mobile Support: Developing Data Synchronization Solutions Using webMethods Mobile Support and webMethods Mobile Support Client Java API Reference.
- webMethods Integration Server Administrator's Guide includes a new chapter called "Running Multiple Integration Server Instances". This chapter provides an overview of the multi-instance feature and how to create and configure multiple Integration Server instances on a single host machine.
- The Web Services Developer's Guide includes a new chapter called "About Outbound Callback Services". This chapter provides information about using and invoking outbound callback services in outbound SOAP messages.

- The “Working with webMethods Messaging Triggers” section of the Service Development Help has been added as a new chapter to the Publish-Subscribe Developer’s Guide.
- The “Working with JMS Triggers” section of the Service Development Help has been added as a new chapter to Using webMethods Integration Server to Build a Client for JMS.
- The “Working with Web Services” section of the Service Development Help has been added as a new chapter to the Web Services Developer’s Guide.

7.0 Terminology Changes

Release 9.7

| Old Term | New Term |
|----------|----------|
| None. | |

Release 9.6

None.

8.0 Added, Removed, Deprecated, or Changed Items

This section lists features, functionality, controls, portlets, properties, or other items that have been added, removed, deprecated, or changed.

Release 9.7

| Added Item | Description |
|--|--|
| Maximum Entries in Cache field | This field is added to the Settings > Caching > <i>cache_manager</i> > Add Cache and Settings > Caching > <i>cache_manager</i> > <i>cache_name</i> > Edit screens and the configuration files to capture the maximum size (in number of elements) that the cache can grow on the Terracotta Server Array. |
| Encoding published documents as protocol buffers | Documents published as part of webMethods messaging can be encoded and decoded as protocol buffers in addition to IData. When a document is encoded as a protocol buffer, Universal Messaging can filter on the header and body contents. When the document is encoded as IData, Universal Messaging can filter on the header contents only. |

| Added Item | Description |
|--|---|
| Exactly-once support when using webMethods Universal Messaging as the webMethods messaging provider. | Exactly-once processing can now be configured and performed from webMethods messaging triggers that receive documents from Universal Messaging |
| Publish and wait when using webMethods Universal Messaging as the webMethods messaging provider. | Publish and wait, also called request-reply, can now be accomplished when Universal Messaging is the webMethods messaging provider. Previously, publish and wait functionality was only available when using webMethods Broker as the webMethods messaging provider or when publishing documents locally. |

| Removed Item | Replacement |
|--|--|
| setenv.bat/sh | Integration Server no longer obtains settings from <i>Integration Server_directory\instances\instance_name\bin\setenv.bat/sh</i> . At startup, Integration Server obtains all configuration settings from <i>wrapper.conf</i> and <i>custom_wrapper.conf</i> . |
| Statistics field | The Statistics field is removed from the Settings > Caching > cache_manager > Add Cache and Settings > Caching > cache_manager > cache_name > Edit screens and the configuration file. Now, the Ehcache Monitor automatically collects statistics. |
| Support for webMethods Nirvana 7.x as a JMS Provider | Integration Server no longer supports using webMethods Nirvana as a JMS provider. For a list of supported JMS providers, see the <i>webMethods Integration Server Administrator's Guide</i> . |

| Deprecated Item | Replacement |
|-----------------|--|
| WmPKI package | The WmPKI package which provides functionality for using PKI profiles in conjunction with Integration Server has been deprecated. There is no replacement for the WmPKI package. |

| Deprecated Item | Replacement |
|---|---|
| <p>startup.bat/sh and shutdown.bat/sh scripts contained in the following directories: <i>Integration Server_directory</i>\instances\<i>instance_name</i>\bin and <i>Integration Server_directory</i>\bin</p> | <p>The startup.bat/sh and shutdown.bat/sh scripts contained in the <i>Integration Server_directory</i>\instances\<i>instance_name</i>\bin and <i>Integration Server_directory</i>\bin directories are deprecated. These scripts are replaced by the startup.bat/sh scripts in the following directory: <i>Software</i> <i>AG_directory</i>\profiles\IS_<i>instance_name</i>\bin</p> |
| <p>installSvc.bat script located in the following directory: <i>Integration Server_directory</i>\instances\<i>instance_name</i>\support\win32</p> | <p>The installSvc.bat script located in the <i>Integration Server_directory</i>\instances\<i>instance_name</i>\support\win32 directory is deprecated. This is replaced by the service.bat file located in the following directory: <i>Software</i> <i>AG_directory</i>\profiles\IS_<i>instance_name</i>\bin</p> |
| <p>server.bat/sh scripts contained in the following directories: <i>Integration Server_directory</i>\instances\<i>instance_name</i>\bin and <i>Integration Server_directory</i>\bin</p> | <p>The server.bat/sh scripts contained in the <i>Integration Server_directory</i>\instances\<i>instance_name</i>\bin and <i>Integration Server_directory</i>\bin directories are deprecated. These scripts are replaced by the startup.bat/sh scripts in the following directory: <i>Software</i> <i>AG_directory</i>\profiles\IS_<i>instance_name</i>\bin</p> |
| Changed Item | Description |
| <p>Use JSSE default setting</p> | <p>When you create a new HTTPS or HTTPS diagnostic port, the Use JSSE setting is set to Yes by default. For Integration Server version 9.6 and earlier, this was set to No by default. When upgrading to Integration Server version 9.7, existing ports are unaffected: If Use JSSE for the existing port is set to No, that port maintains its setting.</p> |
| <p>Maximum Elements on Disk field</p> | <p>The Maximum Elements on Disk field on the Settings > Caching > <i>cache_manager</i> > Add Cache and Settings > Caching > <i>cache_manager</i> > <i>cache_name</i> > Edit screens and configuration files is now called Maximum Entries Local Disk. When upgrading to Integration Server version 9.7, the value for Maximum Elements on Disk is</p> |

| Changed Item | Description |
|----------------------|---|
| Default logging mode | transferred to Maximum Entries Local Disk. When the AuditConfig.xml file is created, the logging mode is now set to “Synchronous” by default. In previous versions of Integration Server, the default logging mode was “Asynchronous”. In most cases, synchronous audit logging is faster. |

Release 9.6

None.

9.0 Added, Removed, Deprecated, or Changed Built-In Services

Release 9.7

| Added Service | Description |
|----------------------------|--|
| pub.publish:syncToProvider | Synchronizes one or more publishable document types with their associated provider definitions by pushing the publishable document types to the associated message provider. |

| Removed Service | Replacement |
|--------------------|---------------------|
| pub.event.eda:send | pub.event.nerv:send |

| Deprecated Service | Replacement |
|--|--------------------------------|
| pub.event.eda:eventToDocument | pub.event.nerv:eventToDocument |
| pub.publish:syncToBroker | pub.publish:syncToProvider |
| pub.pki.pkcs7:sign | None. |
| pub.pki.pkcs7:verify | None. |
| pub.pki.smime:createSignedAndEncryptedData | None. |
| pub.pki.smime:createSignedData | None. |
| pub.pki.smime:processEncryptedData | None. |
| pub.pki.smime:processSignedData | None. |

| Changed Service | Description |
|----------------------------|---|
| pub.event.nerv:send | Added new <i>encode</i> input parameter. |
| pub.flow:getTransportInfo | Service can now return transport information for services invoked by webMethods messaging triggers because the document reference output parameter uses pub.flow:transportInfo which has been updated to include webMethods messaging transport information. |
| pub.flow:transportInfo | Added new <i>messaging</i> field to contain transport information for webMethods messaging triggers. |
| pub.publish:publishAndWait | Added the ability to publish documents to webMethods Universal Messaging. |
| pub.publish:reply | Added the ability to reply to documents via webMethods Universal Messaging. |
| pub.publish:waitForReply | Added the ability to wait for reply documents routed through webMethods Universal Messaging. |
| pub.trigger:createTrigger | Modified the service so that it can be used to create webMethods messaging triggers that subscribe to documents routed through webMethods Universal Messaging. Added the new input parameters <i>properties\executeUser</i> and <i>conditions\messageTypeFilterPairs\providerFilter</i> . |

Release 9.6

| Added Service | Description |
|--------------------------|---|
| pub.cache:search | Searches through an indexed cache and returns the results. |
| pub.flow:invokeService | Dynamically invokes any Integration Server public service and optionally returns the output from the invoked service in the pipeline for pub.flow:invokeService. |
| pub.flow:setResponse2 | Forces a specified response to be returned by the Integration Server to a calling process (such as a browser or application server). Replaces pub.flow:setResponse. |
| pub.security.xml:signXML | New <i>addSignatureAsLastElement</i> input parameter to indicate whether Integration Server should add the signature element as the last child of the root. |

| Added Service | Description |
|--|---|
| pub.soap.handler:getInitialSoapRequest | Gets the initial SOAP request message from a given message context. |
| pub.soap.utils:callbackServiceSpec | Defines the input signature for an outbound callback service. |

| Removed Service | Replacement |
|--------------------|---------------------|
| pub.event.eda:send | pub.event.nerv:send |

| Deprecated Service | Replacement |
|----------------------|-----------------------|
| pub.flow:setResponse | pub.flow:setResponse2 |

| Changed Service | Description |
|------------------------------|---|
| pub.client:http | Added new key <i>Digest</i> to the <i>auth \ type</i> parameter. If a value for <i>connectTimeout</i> is not specified, Integration Server uses the value specified for the <i>watt.net.timeout</i> server configuration parameter. If no value is specified for <i>watt.net.timeout</i> , the server will wait for the timeout value defined by the operating system before terminating the connection request. |
| pub.client:soapClient | Added new key <i>Digest</i> to the <i>auth \ transport \ type</i> parameter. |
| pub.flow:setResponse | Added new parameters <i>responseString</i> and <i>responseBytes</i> . Deprecated parameters <i>response</i> , <i>string</i> , and <i>bytes</i> . |
| pub.soap.wsrn:createSequence | Both the <i>auth > message</i> input parameter and <i>sequenceKey</i> output parameter were removed. |

10.0 Added, Removed, Deprecated, or Changed Parameters

Release 9.7

| Added Parameter | Description |
|------------------------------|---|
| watt.server.audit.dbEncoding | Specifies the character set used by the audit logging database. |

| Added Parameter | Description |
|--|---|
| watt.server.audit.schemaName | Specifies the user name of the ISCoreAudit JDBC functional alias that Integration Server should use while requesting metadata for the audit logging database. |
| watt.server.auth.session.retainJaasSubject | Specifies whether Integration Server should retain authentication credentials as part of a session. |
| watt.server.http.preserveUriReservedChars | Specifies whether Integration Server should decode percent-encoded URI paths in requests before evaluating URI paths. |
| watt.server.ssl.keyStoreAlias | Name of the keystore alias for the Integration Server keystore that contains the information needed to establish an SSL connection with the JMS provider. |
| watt.server.ssl.trustStoreAlias | Name of the truststore alias for the Integration Server truststore that contains the information needed to establish an SSL connection with the JMS provider. |
| watt.server.statsLogRotateInterval | Specifies the length of the log recycle interval (in minutes) for the stats.log file. |
| watt.ssh.jsch.ciphers | Specifies a list of ciphers that JSch supports by default. |
| watt.ssh.jsch.logging | Enables JSch logging. |

| Removed Parameter | Replacement |
|-------------------------------|---|
| watt.server.logRotateInterval | watt.server.statsLogRotateInterval Note: The watt.server.logRotateInterval server configuration parameter was reintroduced for the following fixes. When reintroduced, the scope of the parameter changed so that it affected only the stats.log: - IS_9.0_SP1_Core_Fix6 - IS_9.5_SP1_Core_Fix3 - IS_9.6_Core_Fix2 |

| Deprecated Parameter | Replacement |
|----------------------|-------------|
| None. | |

| Changed Parameter | Description |
|--|--|
| watt.server.jms.trigger.concurrent.primaryThread.pollingInterval | Modified to remove the upper limit of 10000 milliseconds. |
| watt.server.jms.trigger.serial.primaryThread.pollingInterval | Modified to remove the upper limit of 10000 milliseconds. |
| wm.mobile.datasync:synchronize | Added new <i>filter</i> input parameter to filter the data that Mobile Support returns to the requesting mobile application. |

Release 9.6

| Added Parameter | Description |
|---|---|
| watt.server.diagnostic.tabular | Specifies whether Integration Server should generate diagnostic files in tabular format. |
| watt.server.http.x-frame-options | Controls how Integration Server is to handle the X-Frame-Options attribute in response headers. |
| watt.server.jdbc.datadirect.snoop.default | Specifies the default settings for the DataDirect Snoop tool for DataDirect Connect JDBC drivers. |
| watt.server.jdbc.datadirect.spy.default | Specifies the default settings for the DataDirect Spy diagnostic feature for DataDirect Connect JDBC drivers. |
| watt.server.json.optimizeForUniqueKeys | Changes to watt.server.json.optimizeForUniqueKeys no longer go into effect immediately. You must restart Integration Server in order for changes to this property to take effect. |
| watt.server.setResponse.pre82Mode | Specifies the order in which the pub.flow:setResponse service looks for and uses the deprecated input parameters when neither of the input parameters <i>responseString</i> or <i>responseBytes</i> are provided. |
| watt.server.soap.decodeElementWithPrefix | Specifies whether Integration Server recognizes document types that have defined XML namespace URIs but do not have prefixes associated with each namespace. |
| watt.server.SOAP.setNamespaceURIsToRoot | Specifies how Integration Server declares XML namespaces in a SOAP response. |
| watt.server.SOAP.warnOnPartValidation | When creating a web service descriptor from a |

| Added Parameter | Description |
|---------------------------------------|---|
| wm.mobile.datasync.specs:downloadSpec | WSDL document, indicates whether Integration Server should treat message parts that are defined by the type attribute instead of the element attribute as a warning and not an error. |
| wm.mobile.datasync.specs:uploadSpec | Specification for the flow service used to send data from a backend database to a mobile device in a webMethods Mobile Support data synchronization solution. |
| wm.mobile.datasync:synchronize | Specification for the flow service used to send data to webMethods Mobile Support in a mobile data synchronization solution. |
| wm.mobile.datasync:synchronize | Synchronizes data received from mobile devices and backend applications in a webMethods Mobile Support data synchronization solution. |

| Removed Parameter | Replacement |
|-------------------|-------------|
| None. | |

| Deprecated Parameter | Replacement |
|----------------------|-------------|
| None. | |

| Changed Parameter | Description |
|--|-----------------------------------|
| watt.server.centralusers.shutdownOnError | Changed default setting to false. |
| watt.server.http.returnException | Changed default setting to false. |

11.0 Added, Removed, Deprecated, or Changed APIs

Release 9.7

| Added API | Description |
|--|---|
| com.softwareag.mobile.data.sync.Filter | Defines filter criteria for Mobile Support to use in mobile data synchronization requests to download and synchronize a subset of data. |

| Added API | Description |
|---|---|
| com.softwareag.mobile.data.client.Context | Added new <i>getDeviceType</i> method to return the type of mobile device for use by the Mobile Support Client. |
| com.wm.app.b2b.client.JSONClient | Extends com.wm.app.b2b.client.Context with <i>invoke</i> and <i>invokeThreaded</i> methods that accept JSON text. |

| Removed API | Replacement |
|-------------|-------------|
| None. | |

| Deprecated API | Replacement |
|----------------|-------------|
| None. | |

| Changed API | Description |
|---|---|
| com.softwareag.mobile.data.sync.DataSynchronization | Added new <i>filter</i> parameter to the <i>download()</i> method to filter the data that Mobile Support returns to the Mobile Support Client. |
| com.softwareag.mobile.data.client.Context | Added new <i>conProtocolType</i> parameter to the <i>setInitializeConf()</i> method to specify the type of communication protocol (HTTP or HTTPS) that the Mobile Support Client should use to connect to the Integration Server that hosts Mobile Support. |

Release 9.6

| Added API | Description |
|---|--|
| com.softwareag.mobile.data.client.Context | Creates a context for mobile applications that use the webMethods Mobile Support Client to synchronize data with a backend database. |
| com.softwareag.mobile.data.sync.DataSynchronization | Synchronizes data between mobile applications and a backend database in a webMethods Mobile Support data synchronization solution. |
| com.softwareag.mobile.data.sync.ResponseSet | Encapsulates a response to a mobile data synchronization request. |

| Added API | Description |
|--|---|
| com.softwareag.mobile.data.sync. RowStructure | Defines the structure of the data to be synchronized in a mobile data synchronization solution. |

| Removed API | Replacement |
|-------------|-------------|
| None. | |

| Deprecated API | Replacement |
|----------------|-------------|
| None. | |

| Changed API | Description |
|-------------|-------------|
| None. | |

12.0 Copyright Information

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13.0 Support

Visit the [Empower website](#) to learn about support policies and critical alerts, read technical articles and papers, download products and fixes, submit feature/enhancement requests, and more.

Visit the [TECHcommunity website](#) to access additional articles, demos, and tutorials, technical information, samples, useful resources, online discussion forums, and more.

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