webMethods Integration Server 9.12 Readme

October 2016

This file contains important information you must read before using webMethods Integration Server 9.12. You can find user documentation on the Documentation website or the TECHcommunity website. At those locations, you can also find suite-related security and globalization information.

Included in this file is information about functionality that has been added, removed, deprecated, or changed for this product. Deprecated functionality continues to work and is supported by Software AG, but may be removed in a future release. Software AG recommends against using deprecated functionality in new projects.

1.0 Critical Information 1

2.0 Known Issues 2

3.0 Usage Notes 6

4.0 Fixes Included in Each Release 11

5.0 Other Resolved Issues 16

6.0 Documentation Changes 132

7.0 Terminology Changes 133

8.0 Added, Removed, Deprecated, or Changed Items 133

9.0 Added, Removed, Deprecated, or Changed Built-In Services 148

10.0 Added, Removed, Deprecated, or Changed Parameters 158

11.0 Added, Removed, Deprecated, or Changed APIs 171

12.0 Copyright Information 174

13.0 Support 174

1.0 Critical Information

This section lists any 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.

2.0 Known Issues

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

- PIE-42679
  The Integration Server migration utility does not list the command-line parameters supported for a cloned database.
  While using a cloned database for migrating Integration Server, the migration utility does not list the following command-line parameters associated with the cloned database:
  -cloneDbURL
  -cloneDbUser
  -cloneDbPassword
  However, the migration utility supports these parameters and allows you to specify their values during the process of migration.
  There is no workaround for this issue.

- PIE-42189
  Kerberos authentication fails for inbound calls with Service Principal Name format: host-based.
  Kerberos authentication for inbound calls with Service Principal Name format: "host-based" fails with the following exception:
  INFO | jvm 1 | 2016/08/08 11:27:54 | java.security.PrivilegedActionException: GSSException: No valid credentials provided (Mechanism level: Failed to find any Kerberos credentials).
  There is no workaround for this issue.

- PIE-42372
  An FTPS connection over JSSE between Integration Server and a client that connects using the pub.client.ftp:login service is successful only when both are configured to use JSSE.
  The server can handle inbound FTPS connection requests only if the FTPS port is configured with the 'Use JSSE' parameter set to Yes. Similarly, for the client to create FTPS connections by using the pub.client.ftp:login service, the value of the useJSSE parameter must be set to Yes. If either of the values is set to No, the FTPS connection fails.
  There is no workaround for this issue.

- PIE-42554
  Refactor of a variable fails when the source element that contains the variable is not selected during the refactor preview.
  When you select a variable for refactor in Designer, but do not select the source element that contains the variable while previewing the selections for refactor, Integration Server throws a ServiceException and the refactor operation fails.
  There is no workaround for this issue.

- PIE-42535
  Refactor of a variable with the same name and type as another variable in a different service results in renaming of both the variables, in certain situations.
  When a flow service invokes another service whose signature contains a variable with the same

name and type as the calling service, refactoring one of the two variables also renames the other.
There is no workaround for this issue.

- PIE-42424
  When a flow service has two variables of the same name but different types, and one of the variables is selected for refactor, the preview list does not display correct results.
  There is no workaround for this issue.

- PIE-42215
  Integration Server allows the refactor of an element that has its referenced elements already locked by another user.
  There is no workaround for this issue.

- PIE-42837
  Integration Server in an API Gateway configuration logs an error when restarted after configuration of multiple registration ports for a single external port.
  When an Integration Server in an API Gateway configuration is restarted after you configure multiple API Gateway registration ports for a single API Gateway external port, the Integration Server logs the following error message:
  [ISS.0070.0003W] Error encountered creating HTTP listener on port <port_number>: null
  where <port_number> indicates the port number of the API Gateway registration port.
  There is no workaround for this issue.

- PIE-42943
  All the configured external and registration ports are deleted from API Gateway on updating details of an external port.
  When you update the details of an external port from the Ports page of API Gateway, all the configured external and registration ports are deleted from API Gateway, and the following error message appears:
  HTTPListener@<port_number> successfully deleted
  where <port_number> indicates the port number that is deleted.
  A separate message appears for every port that gets deleted.
  There is no workaround for this issue.

- PIE-42992
  The screen for configuring Enterprise Gateway ports is enabled in the Integration Server Administrator when API Gateway is installed on Integration Server.
  There is no workaround for this issue.

- 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-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>(AbstractLocked OffHeap HashMap.java:58)
at com.terracottatech.offheapstore.AbstractOffHeapClockCache.<init>(AbstractOffHeapClock Cache.java:61)
at com.terracottatech.offheapstore.disk.persistent.AbstractPersistentOffHeapCache.<init> (AbstractPersistent OffHeapCache.java:30)
at com.terracottatech.offheapstore.disk.persistent.PersistentReadWriteLockedOffHeapClock Cache.<init>(PersistentReadWriteLockedOffHeapClockCache.java:26)
at net.sf.ehcache.store.offheap.factories.EhcachePersistentSegmentFactory$EhcachePersistent Segment.<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(OffHeapDisk StoreFactory.java:213)
at net.sf.ehcache.store.offheap.disk.OffHeapDiskStoreFactory.create(OffHeapDiskStore Factory.java:63)
at net.sf.ehcache.EnterpriseFeaturesManager.createNonPersistentStore(EnterpriseFeatures Manager.java:211)…."
This issue occurs only on HP-UX 11.
To work around this issue, update wrapper.conf file located under profiles/IS_<instanceName>/configuration directory. Modify wrapper.java.command parameter in wrapper.conf file to point to <SAG_DIR>/jvm/jvm/jre/bin/IA64W/java_q4p

- 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-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-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).

3.0 Usage Notes

This section provides any additional information you need to work with the current release of this product.

- 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, as of version 9.0, 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.

- When you upgrade to Integration Server 9.12 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.

- 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.

- 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.

- 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	*Software AG_directory*\profiles\IS_*instance_name*\bin\startDebugMode.bat/sh

JAVA_PROFILER_OPTS/ PROFILER_ENABLED	Removed.
Java location	wrapper.java.command in *Software AG_directory*\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 *Software AG_directory*\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 Integration Server Administrator's Guide* and *Working with the webMethods Product Suite and the Java Service Wrapper.*

4.0 Fixes Included in Each Release

This section lists the latest fix level that has been included in each release for each product component. A release is listed in this section only if changes occurred in that release. Go to the Knowledge Center on the Empower website for detailed information about fixes.

Release 9.12

- IS_8.0_SP1_Core_Fix32
- IS_8.2_SP2_Core_Fix20
- IS_9.0_SP1_Core_Fix14
- IS_9.5_SP1_Core_Fix11
- IS_9.7_Core_Fix8
- IS_9.7_Tomcat6_Fix2

- IS_9.8_Core_Fix5
- IS_9.9_Core_Fix2
- IS_9.9_SPM_Fix2
- IS_9.10_Core_Fix1
- IS_9.10_OData_Fix1
- WAR_9.7_Fix2
- WAR_9.8_Fix3
- WAR_9.10_Fix2
- WFF_8.2_SP2_Fix6
- WFF_9.5_SP1_Fix4
- WFF_9.6_Fix4
- WFF_9.8_Fix1
- WFF_9.9_Fix1

Release 9.10

- IS_7.1.3_Core_Fix28
- IS_8.2_SP2_Core_Fix19
- IS_9.0_SP1_Core_Fix13
- IS_9.5_SP1_Core_Fix10
- IS_9.5_SP1_Portal_Fix3
- IS_9.6_Core_Fix9
- IS_9.7_Core_Fix5
- IS_9.7_Portal_Fix4
- IS_9.8_SPM_Fix1
- IS_9.9_Core_Fix1
- IS_9.9_SPM_Fix1
- WAR_9.5_SP1_Fix6

- WAR_9.8_Fix2
- WFF_8.2_SP2_Fix5
- WFF_9.0_SP1_Fix2
- WFF_9.5_SP1_Fix3
- WFF_9.6_Fix1
- WFF_9.7_Fix4

Release 9.9

- IS_8.2_SP2_Core_Fix17
- IS_9.0_SP1_Core_Fix10
- IS_9.0_SP1_WmCloud_Fix1
- IS_9.5_SP1_Core_Fix8
- IS_9.5_SP1_WmCloud_Fix1
- IS_9.6_Core_Fix7
- IS_9.6_MobileSupport_Fix1
- IS_9.6_SubVersion_Fix1
- IS_9.6_Tomcat6_Fix3
- IS_9.7_Core_Fix4
- IS_9.7_Migration_Fix1
- IS_9.7_SPM_Fix2
- IS_9.8_Core_Fix2
- WAR_9.5_SP1_Fix5
- WAR_9.7_Fix1

Release 9.8

- IS_7.1.2_Core_Fix47
- IS_7.1.3_Core_Fix27

- IS_8.2_SP2_Tanuki_Fix1
- IS_8.2_SP2_Tomcat6_Fix7
- IS_9.0_SP1_Core_Fix8
- IS_9.0_SP1_Tanuki_Fix1
- IS_9.5_SP1_Migration_Fix1
- IS_9.5_SP1_Portal_Fix2
- IS_9.5_SP1_Tanuki_Fix1
- IS_9.5_SP1_Tomcat6_Fix1
- IS_9.6_Core_Fix4
- IS_9.6_Migration_Fix2
- IS_9.6_Portal_Fix1
- IS_9.6_Tanuki_Fix1
- IS_9.6_Tomcat6_Fix1
- IS_9.7_AssetPublisher_Fix1
- IS_9.7_Core_Fix2
- IS_9.7_Portal_Fix2
- IS_9.7_Tomcat6_Fix1
- IS_9.7_WmCloud_Fix1
- WAR_8.2_SP2_Fix6
- WAR_9.0_SP1_Fix2
- WAR_9.5_SP1_Fix4
- WAR_9.6_Fix3
- WFF_9.0_SP1_Fix2
- WFF_9.5_SP1_Fix3
- WFF_9.6_Fix1

Release 9.7

- IS_8.0_SP1_Core_Fix30
- IS_8.2_SP2_Core_Fix14
- IS_9.0_SP1_Core_Fix6
- IS_9.0_SP1_Portal_Fix1
- IS_9.0_SP1_Tomcat6_Fix1
- IS_9.5_SP1_Core_Fix4
- IS_9.6_Core_Fix2
- IS_9.6_Migration_Fix1
- WAR_8.2_SP2_Fix3
- WAR_9.0_SP1_Fix1
- WAR_9.5_SP1_Fix3
- WAR_9.6_Fix2
- WFF_8.2.2_Fix3
- 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_Fix11
- IS_8.2_SP2_WmDB_Fix2
- IS_8.2_SP2_WmPKI_Fix2
- IS_9.0_SP1_Core_Fix3
- IS_9.0_SP1_Win32_Fix1

- IS_9.5_SP1_Core_Fix1

Release 9.5

- ART_8.2_SP2_Fix1
- WFF_8.2.2_Fix2
- IS_8.0_SP1_Core_Fix28
- IS_8.2_SP1_Core_Fix11
- IS_8.2_SP1_VCS_Fix2
- IS_8.2_SP2_Core_Fix9
- IS_8.2_SP2_Portal_Fix2
- IS_8.2_SP2_Tomcat6_Fix6
- IS_8.2_SP2_Win32_Fix3
- IS_9.0_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. A release is listed in this section only if changes occurred in that release.

Release 9.12

- PIE-39870 (IS_9.0_SP1_Core_Fix14, IS_9.5_SP1_Core_Fix11, IS_9.9_Core_Fix2, IS_9.10_Core_Fix1)
  Service fails to run automatically after the cache expires when the Prefetch parameter is set to True. When the Prefetch parameter is set to True and the cache expires, the service fails to run automatically. The following exception is displayed in the server logs. "[ISS.0086.9249] Missing Parameter:num1" .
  This issue is resolved.

- PIE-39177 (IS_9.0_SP1_Core_Fix14, IS_9.9_Core_Fix2)
  Integration Server logs contain duplicate entries after a port is enabled and disabled.
  When a port is enabled and disabled, Integration Server creates two entries for each action in the server logs. This issue occurs if the logging level is set to Debug. Integration Server logs the same information in the Debug log and the Info log which causes duplicates.

This issue is resolved. Now, if the logging level is set to Debug Integration Server logs information related to enabling and disabling of ports in the Info log.

- PIE-36924 (IS_9.5_SP1_Core_Fix11)
  An additional prefix is included in an XML document input when restored from the pipeline.
  Integration Server includes an additional prefix dx: at the root of an XML document instance.
  This issue occurs when the XML document is updated as specified in the following sequence of steps:
  (1) The XML document is provided as input to an operation in a provider web service descriptor.
  (2) The document is saved to a pipeline.
  (3) The pipeline is restored.
  The issue is now resolved.

- PIE-39114 (IS_9.7_Core_Fix8, IS_9.9_Core_Fix2)
  Discrepancy in session count on Server > Statistics page and Server > Statistics > Session page.
  In Integration Server Administrator, the current total sessions displayed on the Server > Statistics page does not match the number of rows for Current Sessions displayed on the Server > Statistics > Sessions page.
  This issue is now resolved.

- PIEAR-746 (IS_9.7_Core_Fix8)
  The threads waiting for the connection and the threads releasing the connection from the connectionPool are blocked in the ConnectionPool.
  When the connection creation thread acquires a lock on the ConnectionPool, the thread goes to the wait state and the state of this thread does not change. This prevents the connection from being released.
  To resolve this issue, Integration Sever now includes the following server configuration parameter: watt.server.jca.connectionPool.createConnection.interrupt.waitTime Specifies the wait time, measured in milliseconds, that elapses before Integration Server interrupts a connection creation thread that is in a wait state. There is no default value. You must restart Integration Sever for changes to this parameter to take effect.

- PIE-39355 (IS_9.7_Core_Fix8)
  Integration Server does not indicate when it is disconnected from a cluster.
  Integration Server does not log an error message when it is disconnected from a cluster, preventing automatic detection of the situation.
  Now, Integration Server logs the following error message when it is disconnected from the cluster.
  [ISS.0033.151] The cluster is now not operational.
  Additionally, Integration Server logs the following error message when it rejoins the cluster.
  [ISS.0033.152] The cluster is now operational.

- PIE-34518 (IS_9.8_Core_Fix5)
  Addition of CDATA block support to outbound SOAP processing.
  When processing an outbound SOAP message, Integration Server ignores CDATA delimiters in String fields.
  If a String field contained text in a CDATA block, Integration Server treats the text as regular text

instead of character text and url-encodes special characters in the delimiters and in the text block. Integration Server now provides CDATA block support for processing of outbound SOAP messages only when Integration Server hosts the web service provider. When a service used as an operation in a web service provider returns String values containing CDATA blocks, when encoding the IData into a SOAP message, Integration Server places the CDATA text in the outbound SOAP message in a CDATA section and does not url-encode special characters in the delimiters or text block.
Keep the following information in mind:
- A CDATA block begins with <![CDATA[and ends with]]> - Multiple CDATA blocks may be used in a single String value.
- CDATA blocks may not overlap or be nested.
Note: When Integration Server is acting as the web service client, Integration Server does not provide CDATA block support when processing outbound SOAP messages. If a String value containing the request is passed to the web service connector and the string contains CDATA, the contents of CDATA block will be treated as regular text and special characters in the delimiters and text block will be url-encoded in the outbound SOAP request.

- PIE-35132 (IS_9.8_Core_Fix5)
  Changes to Integration Server to address the security vulnerabilities identified during internal security testing.
  This fix resolves the security issues found during internal security testing.

- PIE-38427 (IS_9.8_Core_Fix5)
  A NullPointerException occurs when modifying or saving a flow service if dependency checking features are disabled.
  A NullPointerException occurs in Software AG Designer when modifying or saving a flow service if the server configuration parameter watt.server.ns.dependencyManager is set to false.
  This issue is resolved.

- PIE-38649 (IS_9.8_Core_Fix5)
  Host name of an email port is displayed incorrectly in the View Email Client Details page in Integration Server Administrator.
  The host name of an email port is incorrect and contains garbled characters when the email port is viewed in the Security > Ports > View Email Client Details page in Integration Server Administrator.
  This issue is resolved. The host name is now displayed correctly in the Ports > View Email Client Details page in Integration Server Administrator.

- PIE-38920 (IS_9.8_Core_Fix5)
  Certification of Integration Server with MySQL version 5.6.
  Integration Server 9.8 is now certified for use with MySQL version 5.6

- PIE-39009 (IS_9.9_Core_Fix2)
  Messages are rolled back to Universal Messaging incorrectly if the webMethods messaging trigger

is configured to Suspend and Retry Later.
If a webMethods messaging trigger specifies Suspend and Retry Later for On Retry Failure, Integration Server rolls back a message to Universal Messaging if a transient error causes the trigger to fail. However, instead of rolling back a single message, Integration Server rolls back all of the received but unacknowledged messages for the trigger. For concurrent triggers, this can cause messages to be reprocessed. For serial triggers, this can cause messages to be lost.
Now, when a webMethods messaging trigger specifies Suspend and Retry Later and a transient error prevents the trigger from executing successfully, Integration Server rolls back a single message at a time to Universal Messaging. Additionally, Integration Server clears the trigger queue on the Integration Server immediately after suspending the trigger. Clearing the queue removes any messages that the trigger received but did not process. These messages will be redelivered.

- PIE-39287 (IS_9.9_Core_Fix2)
  Integration Server displays the predefined Client Prefix instead of the user-defined Client Prefix after a restart.
  After restarting Integration Server, the user-defined Client Prefix for a new Broker Connection Alias is replaced with the predefined Client Prefix that Integration Server creates.
  This issue is resolved. Now, Integration Server displays the user-defined Client Prefix correctly after a restart.

- PIE-39295 (IS_9.9_Core_Fix2)
  An attempt to create a web service descriptor form a WSDL document fails with a NullPointerException if the WSDL document contains multiple services but the services are not associated with all of the binding and portType definitions in the WSDL document.
  Creating a consumer web service descriptor or a WSDL first provider web service descriptor from a WSDL document fails with a NullPointerException if the WSDL document defines multiple services and every service is not associated with every binding and portType defined in the WSDL document.
  This issue is resolved. Each web service descriptor generated from a service in a WSDL document exposes only the binding and portTypes associated with the service.

- PIE-40157 (IS_9.10_Core_Fix1)
  Correction to a spelling error in Queue Provider field.
  On the Settings > Logging > Edit <loggerName> Details page, Integration Server Administrator lists Univeral Messaging instead of Universal Messaging as one of the Queue Provider values.
  The spelling error is now corrected.

- PIE-37272
  Deadlock among threads in XA recovery store prevents XA transactions from completing.
  The XA recovery store contains information about each XA transaction, including the transaction ID (XID), the global state of the transaction at each point in the transaction, and the state of each resources participating in the transaction. During an XA transaction, a deadlock between threads accessing the XA recovery store occurred because an exception occurred after a thread acquired a lock. The exception prevented the release of the lock.

This issue is now resolved. In addition to resolving the issue described above, Integration Server now includes server configuration parameters to control recovery logging.
watt.server.transaction.xastore.performXALogging
Specifies whether or not Integration Server writes transaction information to the XA recovery store. Set to true to instruct Integration Server to log information about the state and progress of each XA transaction. Set to false to instruct Integration Server to skip logging XA transaction information. The default is true.
Important! If you set watt.server.transaction.xastore.performXALogging to false, Integration Server does not log any information to the XA recovery story while processing a transaction, making transaction recovery impossible. If you want Integration Server to automatically resolve incomplete transactions or you want to manually resolve incomplete transactions, Integration Server must perform XA logging.
You must restart Integration Server for changes to this parameter to take effect.
watt.server.transaction.xastore.maxTxnPerFile
Specifies the maximum number of unique XA transactions in an XA recovery log file. When the XA recovery log file reaches the maximum number of transactions, Integration Server creates a new file. The default is 2000 transactions.
Consider increasing the maximum number of unique XA transactions for the XA recovery log file if there are more than 2000 active XA transactions and Integration Server exhibits a performance delay due to input/output. Increasing the number of unique XA transactions allowed per file decreases the number of files used for the XA recovery log, which, in turn, may result in fewer files for Integration Server to search when performing XA recovery.
Decreasing the number of unique XA transactions stored in file may help during transaction recovery as it might decrease the time to read and consolidate open transactions.

- PIE-37566
  Executing anonymous services creates persistent sessions.
  Some anonymous services in the WmRoot package create persistent sessions. Repeated execution of these services can consume all of Integration Server's licensed sessions.
  This has been fixed. Anonymous services in WmRoot are now stateless which means that Integration Server creates sessions to execute these services and discards the sessions immediately.

- PIE-38112
  Integration Server does not restart after improper shut down.
  If Integration Server does not shut down properly, which can be caused by a JVM crash or a machine crash, configuration files such as acls*.cnf become corrupted or are reduced to a size of zero. In turn, this causes a restart of Integration Server to fail. To recover, data must be restored manually from a backup directory. This issue resulted from how Integration Server persists data into the file system. Prior to this fix, Integration Server tried to overwrite the existing file in the file system. If Integration Server shut down improperly right after the file was recreated but before the new content was written to the file system, the file content became corrupted or the file was reduced to a size of zero.
  With this fix, Integration Server changes how it saves changes to configuration files. When saving changes to configuration files, Integration Server first saves the configuration changes in a

temporary file in the IntegrationServer_directory/instances/instanceName/config/work directory. After saving the changes in a temporary file, Integration Server moves the temporary file to the actual configuration file. This ensures that if unexpected behavior occurs before the configuration changes are initially saved to the temporary file, only the temporary file is impacted. The actual configuration file is not corrupted. At start up, if Integration Server detects files in in the IntegrationServer_directory/instances/instanceName/config/work, it suggests that changes to a configuration file were not saved to the temporary file and that, therefore, the changes were not made to the actual configuration file. Use the contents of the IntegrationServer_directory/instances/instanceName/config/work directory to determine which configuration files were in the process of being changed. Decide whether or not you want to redo the changes to the configuration files. Delete the files under the directory and redo the configuration change if you so choose.

- PIE-38470
  The xsd:any element and attributes are not generated for a web service descriptor when the Allow Unspecified Fields property is true.
  The WSDL document for a web service descriptor does not include the xsd:any element and attributes when the web service descriptor uses a Document variable for which the Allow unspecified fields property is set to true. This issue occurs even when the server configuration parameter watt.core.schema.createSchema.omitXSDAny is set to false.
  To address this issue, the web service descriptor now includes a property, Omit xsd:any from WSDL. When set to false, the WSDL document generated by Integration Server includes an xsd:any element. When set to true, the WSDL document does not include the xsd:any element. The default value is true. For changes to this property to take effect, after saving the change to the property, either refresh the web service descriptor or reload the package that contains the web service descriptor.

- PIE-38658
  When a client sends multiple HTTP PUT requests to Integration Server, every second request fails with a 400 Bad Request response.
  Now, alternating HTTP PUT requests from the same client will not fail. Integration Server handles multiple HTTP PUT request from the same client correctly.

- PIE-38686
  GET request mandatorily adds a default value to the Content-Type header.
  If Content-Type header is not specified in a GET request, the pub.client.http service adds a default Content-Type:"application/x-www-form-urlencoded". According to HTTP 1.1, it is not mandatory to specify the Content-Type header. If the Content-Type header is not specified, the the pub.client.http service should not add a default Content-Type.
  Now, if no Content-Type header is specified, pub.client.http service does not add a default Content-Type to the request. However, if you pass the data using 'args' or 'table' keys, default Content-Type: "application/x-www-form-urlencoded" is added.

- PIE-38751

In Integration Server, sometimes publishing a guaranteed document to Universal Messaging server fails due to transaction failure.
This issue occurs when the Universal Messaging server does not respond to the transaction within the specified EvenTimeout.
This issue is resolved. A new server configuration property, watt.server.um.producer.transaction.commitRetryCount is introduced in the server configuration file. This property specifies the number of retry attempts Integration Server makes to publish the message to the Universal Messaging server. The maximum number of retries is 9. If you try to assign a value greater than 9, Integration Server automatically sets the value of the property to 9. The default is 0. When setting a retry value, you must ensure that the total transaction time does not exceed the MaxTransactionTime. The total transaction time is calculated by multiplying the total number of attempts with the EvenTimeout. For example, if the retry value is set to 9, and the EvenTimeout is set to 60s, the total transaction time is 60,000(9+1) = 600s.

- PIE-38932
  Integration Server loads a package more than once during deployment.
  During deployment of multiple packages at the same time, Integration Server reloads the packages more than once.
  Now, when a deployment operation includes multiple packages, Integration Server loads each package only once.

- PIE-39017
  In a clustered environment, Integration Server sometimes does not create child tasks when a new server is added to the cluster or when an existing server is restarted.
  When a task is scheduled to run on all servers in a clustered environment, Integration Server creates a parent task and a child task for each server in the cluster. When a new server is added to the cluster or when an existing server in the cluster is restarted, Integration Server creates a corresponding child task upon server restart. However, Integration Server sometimes does not create the child task for the newly added server or for the server that was restarted. As a result, the complete information for all servers in the cluster is not available on the Scheduler screen.
  This issue is resolved.

- PIE-39164
  SSL handshake fails as no client certificate is sent when a new connection is opened through proxy.
  When Integration Server tries to open a connection to web server that requires client certificate through proxy, the SSL handshake using JSSE fails as no client certificate is sent. This happens only when the keyStoreAlias and keyAlias parameters are set using pub.security.keystore:setKeyAndChain service and not when they are set using the Integration Server Administrator (Security > Certificates). This issue occurred because the client certificate attachment was missing in the request.
  This issue is now resolved. Now, client certificate is sent to web server when a connection is opened through proxy.

- PIE-39178

Repository-based deployment fails when deploying locally publishable documents on the target Integration Server.
When deploying locally publishable documents on the target Integration Server using a repository-based deployment, Integration Server cannot find a messaging connection alias for the locally publishable document. This causes the deployment to fail. When the publishable document type is set to locally only, there is no messaging connection alias attached to it.
This issue is resolved. Now, Integration Server does not check for a messaging connection alias during deployment when the publishable document type in Integration Server is set to locally only.

- PIE-39210
  Integration Server experiences memory leak due to orphaned entries of type com.wm.app.b2b.server.ostore.FileCache$InvokeCounter located in com.wm.app.b2b.server.ostore.FileCache.
  This issue is now resolved.

- PIE-39268
  Enhancement to Integration Server to use a file for specifying allowed cipher suites.
  The following server configuration properties identify the list of cipher suites for use with inbound and outbound SSL connections.
  watt.net.ssl.client.cipherSuiteList
  watt.net.ssl.server.cipherSuiteList
  watt.net.jsse.client.enabledCipherSuiteList
  watt.net.jsse.server.enabledCipherSuiteList
  Prior to this enhancement, the properties accepted a comma-separated list of cipher suites. However, specifying a long list of cipher suites can be cumbersome. To make it easier to specify a long list of cipher suites, Integration Server now allows specifying a file as the value for the cipher suite server configuration properties. In the file, specify each cipher suite on a different line. For each cipher suite server configuration property for which you want to specify a file instead of a list of cipher suites, specify the following as the value of the property: file:directoryName\filename For example: watt.net.jsse.server.enabledCipherSuiteList=file:c:\ssl\ciphers.txt.
  Note: You can set the value of a cipher suite server configuration property to a comma-separated list, default, or the absolute path to a file. You cannot specify a combination of these. Integration Server loads the file and its list of supported cipher suites at start up. Changes to the contents of the file that are made after Integration Server starts will not take effect until the next time Integration Server starts. Integration Server throws the following exception if it cannot find the specified file: ISS.0070.9048E Integration Server cannot find the file {0} specified for the server configuration parameter {1}.
  Cause The specified server configuration parameter uses a file to identify the allowed cipher suites; however, Integration Server cannot find the file.
  Action Make sure the server configuration parameter specifies the correct location of an existing file.

- PIE-39278
  Message not found for messageKey 68.29 and 68.30.

If an email port has "Log out after each mail check=Yes" , Integration Server fails to retrieve the error messages for messageKey 68.28 and messageKey 68.30.
Following messages appear in the server log:
For IMAP: ISP.0068.0029I] Message not found for messageKey 68.29. For POP3: ISP.0068.0029I] Message not found for messageKey 68.30.
This issue is now resolved. Now, correct messages are displayed for messageKey 68.28 and messageKey 68.30.

- PIE-39298
  Error in getting SFTP server host key, if a key exchange algorithm is not supported by SFTP server. Jsch has a default key exchange algorithm order.
  During the handshake, jsch checks the client key exchange algorithms one by one with SFTP server key-exchange algorithms. The first matching algorithm is used as the key-exchange algorithm between SFTP client and SFTP server. However, Jsch does not support 2048-bit keys for diffie-hellman-group-exchange-sha256 and diffie-hellman-group-exchange-sha1 key exchange algorithms in Java 1.7 and earlier versions. Consequently, if the Integration Server runs with Java 1.7 or earlier version and SFTP server expects 2048-bit keys for these algorithms, then the handshake between SFTP server and SFTP client fails.
  To avoid this issue, the order of these key exchange can be changed using the watt.ssh.jsch.kex parameter so that, any other matching key exchange algorithm can be selected as the key exchange algorithm between the SFTP client and SFTP server.
  To address this issue, Integration Server now include a server configuration parameter to change the order of the key exchange algorithm.
  watt.ssh.jsch.kex Specifies the order of the key exchange algorithm for Jsch. The specified order overrides the default key exchange algorithms order supported by Jsch.
  For example: watt.ssh.jsch.kex=diffie-hellman-group-exchange-sha1, diffie-hellman-group1-sha1,diffie-hellman-group14-sha1 If the SFTP server expects 2048-bit keys for diffie-hellman-group-exchange-sha1, then the order of this algorithm can be changed so that, any other matching algorithm can be selected as key exchange algorithm between the SFTP client and SFTP server.
  watt.ssh.jsch.kex=diffie-hellman-group1-sha1, diffie-hellman-group14-sha1, diffie-hellman-group-exchange-sha1 Integration Server must be restarted for changes to this parameter to take effect.

- PIE-39357
  Integration Server fails to retrieve the SFTP Get Host Key during the SFTP Server Alias creation. SFTP Server Alias creation fails with 'Auth Cancel' exception, as Integration Server fails to retrieve the SFTP Get Host Key.
  The issue is now resolved.

- PIE-39380
  Integration Server issues an Access Denied error message during the logon process and logs an authentication exception in the server log.
  Integration Server issues the following error message during the logon process and logs the exception in the server log:
  Access to Integration Server is denied because of the following authentication exception:

LoginModule "com.wm.app.b2b.server.auth.jaas.X509LoginModule" unavailable.
The issue is now resolved.

- PIE-39574
  Web service connector does not capture all the Set-Cookie HTTP response headers sent back by the web service provider.
  When a web service connector sends a request to a web service provider that sends back multiple Set-Cookie response headers, the connector captures only one Set-Cookie response header.
  This issue is resolved. Now, if the web service provider sends back multiple Set-Cookie HTTP response headers, the connector returns all of the headers in its output.

- PIE-39585
  Missing fields in an IS document type generated from an XML Schema Definition (XSD) that has complex type definitions referring to group elements defined later in the schema.
  When an Integration Server document type is generated from an XSD where the complex type definitions contain references to group elements defined later in the schema, the generated document type does not contain the fields corresponding to such references.
  This issue is now resolved.

- PIE-39701
  Integration Server migration utility reports an exception during migration of Trading Networks package.
  During migration of Integration Server, if the source Integration Server contains a Trading Networks package, the migration utility throws an exception if JDBC pool information was not selected during migration of configuration files and JDBC pool information was specified during installation of Trading Networks.
  Trading Networks data and configuration file Migrator : Unable to locate the database configuration information. File <IntegrationServer_installDirectory>\bin\migrate\..\..\instances\default\config\jdbc\pool\<poolName>.xml does not exist. Where poolName refers to the pool name specified for the Trading Networks functional alias.
  This issue is now resolved. Integration Server migration utility correctly migrates Trading Networks data.

- PIE-39735
  Synchronization of publishable documents with the messaging provider fails when using a startup service to run pub.publish:syncToProvider.
  When the pub.publish:syncToProvider service runs as part of a startup service, Integration Server reloads the webMethods messaging triggers but fails to update the state of the triggers.
  This issue is resolved.

- PIE-39762
  REST API descriptor treats parameter of type byte[] as byte.
  When creating a REST API descriptor, if a selected REST resource contains a service with byte[] in

the service signature, the REST API descriptor treats the parameter as a byte instead of byte[].
This issue is now resolved.

- PIE-39819
  An error occurs when you create or edit a file polling port if the path to the monitoring directory contains a backslash '\'.
  When you create or edit a file polling port and the path to the monitoring directory contains a backslash '\', the following error message is displayed. "No listener defined with the specified key: FilePollingListener: c: mp" This issue occurs because the Integration Server Administrator uses the wrong encodingType.
  This issue is resolved.

- PIE-39825
  A synchronous or asynchronous publish and wait does not receive a reply.
  If a publishable document type is empty, that is, it does not contain any fields besides the _env field, and values are mapped to fields the _env field before publishing the document using pub.publish:publishAndWait, Integration Server does not receive a reply to the published request. This occurs for synchronous and asynchronous publish and wait requests.
  This issue is now resolved.

- PIE-39839
  Universal Messaging does not reuse the session on Integration Server even though watt.server.trigger.reuseSession is set to true.
  When the server configuration property, watt.server.trigger.reuseSession is set to true and Broker is the messaging provider, Broker reuses the session on Integration Server. Whereas, Universal Messaging as the messaging provider does not reuse the session.
  This issue is resolved.

- PIE-39847
  JDBC connection pools are blocked after the database restarts.
  After the database used by a JDBC pool restarts, Integration Server does not release connections from the pool because of an unexpected exception thrown by the JDBC driver.
  Now, Integration Server exception handling prevents the exception thrown by the JDBC driver from blocking the release of connections from the JDBC pool.

- PIE-39848
  After migrating to Integration Server 9.5 or later, Integration Server displays an exception when calling a web service and using MTOM streaming.
  After migrating 2 to Integration Server 9.5 or later, sending a web service request that uses MTOM streaming for which more than one chunk is sent, the following exception occurs: "Exception --> org.apache.axis2.AxisFault: Connection reset by peer: socket write error"
  This issue is now resolved.

- PIE-39853
  Unable to view assigned input values for services in Integration Server Administrator when the server configuration property watt.server.disableXSSFilter=true.
  When creating a scheduled task, assigning input values using the "Assign Inputs" button displays an empty input field even though the assigned value is saved in the input field. Since the XSS filter is disabled by setting the server configuration property watt.server.disableXSSFilter=true, Integration Server in unable to encrypt quotation marks (") in the input values. Therefore, the assigned input values are not displayed in the input field in Integration Server Administrator.
  This issue is resolved. Integration Server is now able to encrypt quotation marks (") in input values when the server configuration property watt.server.disableXSSFilter=true.

- PIE-39876
  Swagger document generated by Integration Server does not represent REST resources with required list parameters correctly.
  If a REST API descriptor contains REST resources that refer to a list parameter, such as String list, Document list, Document Reference list, and Object list, and the list parameter is required, the definitions section of the generated Swagger document does not indicate that the parameter is required.
  This issue is now resolved.

- PIE-39877
  If a REST API descriptor contains a REST resource that refers to a parameter of type String table, the generated Swagger document does not indicate the type of the parameter as "array".
  This issue is now resolved.

- PIE-39938
  Reliable messaging sequences on Integration Server are timed out when the inactivity timeout interval is set to a value of -1.
  This issue is now resolved. The reliable messaging sequences do not get timed out when the inactivity timeout interval is set to -1 in the Integration Server Administrator (Settings > Web Services > Reliable Messaging > Edit Configuration).

- PIE-39967
  Service error statistics counter causes memory leak.
  An internal mechanism used to report the last 60 seconds worth of service failures has a memory leak. The memory leak occurs when a steady stream of exceptions, at least one every 60 seconds, are thrown without interruption.
  To resolve the memory leak, Integration Server clears the service error statistics counter when new entries are added.

- PIE-40014
  Selected Authentication Type does not get populated under HTTP Transport Properties in

consumer web service descriptor endpoint alias.
When creating a consumer web service descriptor endpoint alias, the selected Authentication Type is not populated under HTTP Transport Properties.
The issue is now resolved.

- PIE-40027
  Integration Server logs the wrong message when it cannot find the encoder "esapi".
  When Integration Server cannot find the encoder "esapi", it logs the following wrong error message: [ISC.0072.0023E] Couldnt initialize encoder "{0}".
  Whereas, Integration Server should log the following message:
  ISC.0072.0023E] Failed to initialize the bundle for encoder 'esapi'.
  This issue is resolved now.

- PIE-40048
  In the Service Usage screen, some of the values are displayed as   instead of the actual value.
  In the Service Usage screen of Integration Server Administartor, some of the values in the Count and Last Run columns are displayed as   instead of the actual value. This issue occurs because of encoding issues in Integration Server.
  This issue is resolved. Now, the values in the Count and Last Run columns are displayed correctly.

- PIE-40109
  The pub.xml:getNextXMLNode service incorrectly returns a NullPointerException when the NodeIterator does not have XML nodes to return.
  This issue is resolved. The pub.xml:getNextXMLNode service returns null when there are no XML nodes to return.

- PIE-40126
  Results window does not show parameter names when using Natural CALC subprogram.
  From the Natural CALC subprogram, the IDL and IS connection are created. When using Integration Server and Adapter 9.9, and running the example CALC flow service in Software Designer from the Service Development perspective, the results window does not show the parameter names. The field name abbreviator (as used for XmlData) truncates field names that start or end with #.
  With this fix, the Field name abbreviator no longer truncates field names that start or end with #.

- PIE-40139
  Integration Server becomes unresponsive due to an OutOfMemoryError caused by lack of PermGen space.
  A memory leak in the package classloader may result in an java.lang.OutOfMemoryError: PermGen space, which causes Integration Server to become unresponsive.
  The memory leak in the package classloader is now repaired.

- PIE-40141

The pub.event.routing* services are not working properly in Integration Server 9.9.
The pub.event.routing* services of send, subscribe, and unsubscribe are not working properly. For example, the send service throws the following ServiceException: Could not run 'send' com.wm.app.b2b.server.ServiceException: com.wm.app.b2b.server.ServiceException: Event Routing service not available.
This issue is resolved now.

- PIE-40183
  Different error messages for primary and regular HTTP ports.
  When Integration Server receives a client request for a web service that does not exist, it returns different error messages depending on whether the request was received through the primary port or an HTTP port.
  Now, Integration Server returns the same error message regardless of the port through which it receives the request.

- PIE-40189
  Missing schema definition for the envelope (_env) field in the WSDL document when a service containing reference to a publishable document type is exposed as a web service.
  When a service containing reference to a publishable document type is exposed as a web service, the resulting WSDL document does not contain the schema definition for the envelope (_env) field.
  This issue is now resolved.

- PIE-40194
  A webMethods messaging trigger that receives messages from a Universal Messaging cluster becomes disconnected and does not reconnect.
  When a Universal Messaging connection alias that specifies a cluster of Universal Messaging servers and the network between the Universal Messaging servers fails, one or more webMethods messaging triggers that use the alias might disconnect and then not reconnect. This might happen even if the trigger can successfully connect to one of the Universal Messaging servers but not the other servers in the cluster.
  Now, if a webMethods messaging trigger becomes disconnected from a cluster of Universal Messaging servers, the trigger reconnects only when the cluster has a quorum. In addition to resolving the issue described above, Integration Server now redirects the Universal Messaging client log entries from the default stdout to the Integration Server's log directory, Integration Server_directory/instances/instanceName/logs/umClient.log. The umClient.log file can be used when debugging Universal Messaging issues.

- PIE-40195
  Integration Server does not validate a Kerberos ticket sent by an Internet browser.
  If Integration Server receives a request on a port configured to accept Kerberos tickets, Integration Server returns a 401 status code with a "Negotiate" header challenge to the Internet browser. Upon receiving the Negotiate header challenge, a properly configured Internet browser generates a Kerberos ticket and sends the request, along with the Kerberos ticket, to Integration Server. Integration Server should validate the Kerberos ticket and either allow or deny the client request

based on the ACL settings. However, Integration Server could not process the Kerberos ticket because a Kerberos ticket sent by an Internet browser is structurally different from tickets generated by a Java client. Because Integration Server could not process the ticket, Integration Serer could not validate the Kerberos ticket. Instead, Integration Server returned a 401 status code and prompted the client for username and password credentials.
Integration Server can now process a Kerberos ticket generated by an Internet browser.

- PIE-40202
  JDBC connection pool for ISInternal functional alias is blocked.
  Integration Server does not release connections from the JDBC connection pool used by the ISInternal functional alias because of an unexpected exception thrown by the JDBC driver.
  Now, Integration Server exception handling prevents the exception thrown by the JDBC driver from blocking the release of connections from the JDBC connection pool.

- PIE-40212
  Enhancement for using a public cache, including a distributed cache, for service results caching.
  Previously, Integration Server stored cached service results in the ServiceResults system cache which is part of the SoftwareAG.IS.Services system cache manager.
  With this enhancement, a local or distributed public cache can now be used for service results caching. By using a distributed cache as the service results cache, multiple Integration Servers can access cached service results.
  Keep the following information in mind when using a public cache for service results caching:
  -The cache must be configured such that elements do not expire once they are placed in the cache. That is, the Eternal check box must be selected for the cache. The duration of cached service results depends on the Cache expire property value for the service and the watt.sever.cache.flushMins server configuration parameter value.
  -When using a distributed cache as a service results cache, make sure that all the Integration Servers that share the service results cache have the same packages.
  -When returning cached results for a service, by default, Integration server returns a reference to the cached results instead of the actual value of the cached results. If you want Integration Server to return the actual value instead of a reference, make sure that the Copy on Read and Copy on Write check boxes are selected for the public cache.
  -If you want to be able to use Integration Server Administrator or the pub.cache.serviceResuls:listCache service to view the cached elements for a service, make sure that the service results cache is searchable and that the cache allows automatic indexing for keys. That is, for the service results cache, the Searchable check box must be selected and the Key check box next to Allow Automatic Indexing must be selected.
  -When a public cache used for service results caching is disabled or a public cache manager that contains the cache used for service results caching is shut down, Integration Server does not cache or retrieve service results. Instead of using cached results, Integration Server executes the service.
  -When a public cache used for service results caching is enabled or the public cache manager that contains the public cache used for service results is started, Integration Server re-initializes the cache.
  For detailed information about creating a public cache, public cache manager, and a distributed

cache, see the webMethods Integration Server Administrator's Guide.
Note: In Integration Server Administrator, the Server > Service Usage page displays statistics about service results. For a distributed cache, this statistics corresponds to the current Integration Server instance only. Integration Server Administrator does not provide aggregated statistics for all the Integration Servers using the same distributed cache for service results caching.
To configure Integration Server to use a public cache for service results caching, you specify the name of the cache and cache manager in the server configuration parameters watt.server.serviceResults.cache and watt.server.serviceResults.cacheManger, respectively.
watt.server.serviceResults.cache
Specifies the name of the public cache to use for service results caching. If no value is specified for the watt.server.serviceResults.cache parameter, Integration Server uses the ServiceResults cache in the cache manger specified in the watt.server.serviceResults.cacheManager parameter as the service results cache. If the cache manager in the watt.server.serviceResults.cacheManager parameter does not contain a cache named ServiceResults, Integration Server throws an error at start up and does not cache service results. You must restart Integration Server for changes to this parameter to take effect.
watt.server.serviceResults.cacheManager
Specifies the name of the public cache manager that contains the public cache to use for service results caching. If no value is specified for this parameter, Integration Server uses the SoftwareAG.IS.Services system cache manager as the service results cache manager. If the SoftwareAG.IS.Services system cache does not contain a cache with a name that matches the value of the watt.server.serviceResults cache, Integration Server throws an error at startup and does not cache service results. You must restart Integration Server for changes to this parameter to take effect.
Note: To use the ServiceResults system cache located in the SoftwareAG.IS.Services system cache manager as the service results cache, do not specify a value for watt.server.serviceResults.cache or watt.server.serviceResults.cacheManager.

- PIE-40246
  The pub.client:soapClient service does not use the private key and certificate chain set using the pub.security.keystore:setKeyAndChain.
  This issue is now resolved.

- PIE-40259
  Using the delete icon to delete an OpenID Provider on the Security > OpenID page does not delete the OpenID Provider.
  In the Security > OpenID page of Integration Server Administrator, clicking the delete icon in the Delete Provider column invokes an unknown service, resulting in the display of the following message:
  [ISC.0072.9001] Unknown service: wm.server.security.openid:deleteProvider
  Furthermore, the OpenID Provider is not deleted.
  Now, clicking the delete icon in the Delete Provider column on the Security > OpenID page results in Integration Server deleting the OpenID Provider.

- PIE-40261
  Use JSSE option is missing on external port if the internal port is set to HTTP.
  On Integration Server Administrator, when you view a port for which the Enterprise Gateway External Port is set to HTTPS and Enterprise Gateway Registration Port is set to HTTP, the "Use JSSE" option does not appear. The "Use JSSE" option appears only if the Enterprise Gateway Registration Port is set to HTTPS.
  This issue is now resolved.

- PIE-40275
  Enhancement to allow the default locale for pub.date* services to be the server locale instead of the client locale.
  When executing a pub.date* service with a locale input parameter for which no locale is specified Integration Server uses the locale from the
  session used by the client that invoked the service. Integration Server now includes a server configuration parameter that you can use to specify that the default locale for pub.date* services should be the server locale.
  watt.server.session.locale.ignore
  Specifies whether the default locale for the pub.date* services is the server locale or the locale from the session used by the client that invoked the service. When set to true, when executing a pub.date* service for which a locale input parameter value is not specified, Integration Server uses the server locale as the value of the locale parameter. When set to false, when executing a pub.date* service for which a locale input parameter value is not specified, Integration Server uses the locale from the session used by the client that invoked the service. The default is false.
  You do not need to restart Integration Server for changes to this parameter to take effect.

- PIE-40300
  Under heavy load, Integration Server might generate duplicate contextIDs for audit log messages resulting in an AuditLogManagerException.
  Under heavy load, Integration Server might generate duplicate contextIDs for audit log messages, causing Integration Server to write the following AuditLogManagerException to the server.log:
  [ISS.0095.9998] AuditLogManager Exception:
  com.webmethods.sc.auditing.api.logger.WmAuditLoggerException: Null or duplicate context given to logger 'Error Logger'
  Now Integration Server generates unique contextIDs even under heavy load.

- PIE-40324
  Integration Server throws an error when an incoming message contains a pre-populated contextID and audit contextID.
  Integration Server write the following error to the server.log when an incoming message contains a pre-populated context ID and audit contextID.
  [BAA.0000.0061] This context has already been used in the current context stack.
  Integration Server now handles a message with a pre-populated contextIDs and audit contextID and no longer logs the above error.

- PIE-40362
  Unable to publish a package to multiple subscribers.
  When publishing a package to multiple subscribers, clicking the 'Send Release' button in Integration Server Administrator prompts you to select a subscriber even though subscribers are selected.
  This issue is resolved.

- PIE-40363
  UserInfo service does not receive error information.
  If an OpenID Provider's UserInfo Endpoint returns an error, information about the error should be passed to the userInfoError input variable in the UserInfo service registered for the OpenID Provider. This is not happening.
  This issue is now resolved.
  Note: Previously, the userInfoError input variable was named error.

- PIE-40372
  Reply messages are sometimes not received with asynchronous request-reply using webMethods messaging and Universal Messaging as the messaging provider.
  In an asynchronous request-reply for webMethods messaging, the pub.publish:publishAndWait service is first invoked followed by the pub.publish:waitForReply. When the messaging provider is Universal Messaging, some reply messages are not received if Integration Server receives the reply message before invocation of the pub.publish:waitForReply service.
  This issue is now resolved.

- PIE-40408
  Enhancements for managing a service results cache. Integration Server now includes built-in services that you can use to manage a service results cache, including:
  pub.cache.serviceResults:resetServerCache resets the entire cache.
  pub.cache.serviceResults:resetServiceCache resets the cache for a particular service.
  pub.cache.serviceResults:listServiceCache lists the cached results for a particular service.
  In addition to the above services, Integration Server Administrator now includes a way to view the cached service results for a particular service. To use Integration Server Administrator to view the cached service results, do the following:
  1. Open Integration Server Administrator if it is not already open.
  2. In the Packages menu of the Navigation Panel, click Management.
  3. In the Packages list, click the package containing the service for which you want to view cached service results.
  4. Click Browse Services in packageName.
  5. In the Services list, click the name of the service for which you want to view the cached service results.
  6. On the Packages > Management > packageName > Services > serviceName page, click List Service Cache. Integration Server displays a list of the cached results for the service. For each cached element, Integration Server displays the key for the cached element, the cached service inputs, and the associated cached service outputs.
  Notes:

- You can also access the Packages > Management > packageName > Services > serviceName page in the following way: Under Server, click Service Usage. On the Server > Service Usage page, click the name of the service for which you want to list cached results.
- To return a list of cached result for a service, the services results must be searchable and that the cache allows automatic indexing for keys. That is, for the service results cache, the Searchable check box must be selected and the Key check box next to Allow Automatic Indexing must be selected. Note that exposing the contents of the service results cache may represent a security risk.
- You can view cached service results for a public service results cache only. You cannot view cached service results in the ServiceResults system cache.

Below is more information about each of the new built-in services.

pub.cache.serviceResults:listServiceCache WmPublic.

Returns a list of the cached service results for a particular service.

Input Parameters

serviceName String. Name of the service for which you want to view the cached service results.

Output Parameters elements Document List. Conditional. A document list (IData) containing the cached service results for the specified service. The pub.cache.serviceResults:listServiceCache service returns the elements output only if the service results cache contains cached results for the specified service. For each set of cached service results, the pub.cache.serviceResults:listServiceCache returns the following information:

key String. Optional. Key for the cached element containing the service results.

input. Document. Optional. An IData containing the key/value pairs for the cached service input.

output Document. Optional. An IData containing the key/value pairs for the cached service output

Usage Notes:

- If serviceName specifies a service that does not exist or a service for which Integration Server does not cache service results, Integration Server returns an empty elements output parameter.
- You can use the pub.cache.serviceResults:listServiceCache with a public service results cache only. You cannot use the pub.cache.serviceResults:listServiceCache with the ServiceResults system cache.
- For the pub.cache.serviceResults:listServiceCache service to return results, make sure that the service results cache is searchable and that the cache allows automatic indexing for keys. That is, for the service results cache, the Searchable check box must be selected and the Key check box next to Allow Automatic Indexing must be selected.
- Exposing the contents of the service results cache via the listCacheService may represent a security risk.

pub.cache.serviceResults:resetServerCache

WmPublic. Resets the cache for all services in the service results cache, resulting in the removal of all cached service results for all services from the service results cache.

Input Parameters None.

Output Parameters message String. Message indicating whether or not Integration Server cleared the service results cache successfully.

- “Cache reset successfully” indicates that Integration Server cleared the entire service results cache successfully.
- “Error resetting cache!” indicates that Integration Server did not clear the entire service results cache successfully. Review the sever log and error log to determine why Integration Server did not clear the service results cache successfully.

pub.cache.serviceResults:resetServiceCache

WmPublic. Resets the cache for specific service, resulting in the removal of cached service results for the service.
Input Parameters serviceName String. Fully qualified name of the service in the format folder.subfolder:serviceName for which you want to remove cached service results.
Output Parameters message String. Message indicating whether or not Integration Server cleared the service results cache for the specified service successfully.
- "Cache reset successfully" indicates that Integration Server cleared the cached service results for the specified service successfully.
- "Error resetting cache!" indicates that Integration Server did not clear the cached service results for the specified service successfully. Review the sever log and error log to determine why Integration Server did not clear the service results cache successfully.
Note: To avoid revealing whether or not a service exists, if serviceName specifies a service that does not exist, the message output parameter returns the message "Cache reset successfully"

- PIE-40422
  Integration Server grants access to a user account disabled by the external user manager.
  Integration Server caches information for users who provide valid credentials. If the user later provides invalid credentials, Integration Server denies access but does not remove the cached information about the user. Consequently, if the user later provides valid credentials, Integration Server grants access even if an external user manager disabled the user account.
  Now, when a user provides invalid credentials, Integration Server removes the user information from the cache.

- PIE-40454
  The pub.storage:get service fails in a cluster.
  Integration Server improves the performance of the pub.storage* services by caching the DATASTORE_ID values from the IS_DATASTORE table. However, in a cluster, a cached DATASTORE_ID value might become stale due to actions taken by other Integration Servers in the cluster. A pub.storage* service fails when it attempts to use a stale DATASTORE_ID.
  Now, when a pub.storage* service attempts to use a stale DATASTORE_ID, Integration Server replaces it with the current DATASTORE_ID.

- PIE-40467
  Corrections for cosmetic issues in Integration Server Administrator.
  Integration Server Administrator displays some cosmetic issues, such as empty cells, deeply nested tables, and missing graphics, that are now repaired.

- PIE-40480
  When restarting Integration Server fix after applying a fix, expected changes are not made to the embedded database.
  If the ISInternal functional alias uses the embedded, internal database and application of an Integration Server fix made changes made to the database structure, Integration Server should perform some database updates upon restart of Integration Server. However, this was not happening.

This issue is now resolved.

- PIE-40504
  A NullPointerException occurs when Integration Server enters quiesce mode and the JMS subsystem has not been initialized.
  This issue is resolved. Integration Server can now enter quiesce mode even if the JMS subsystem has not been initialized.

- PIE-40505
  Memory leak when invoking pub.jms:reply Integration Server did not correctly release JMS Session and MessageProducer objects when invoking the pub.jms:reply service, resulting in a memory leak.
  The issue is now resolved.

- PIE-40516
  In a cluster of Integration Servers, the scheduled task for which the target node is set to "Any Node" and "Repeat After Completion" executes the same service simultaneously on different cluster nodes when the Terracotta Server Array becomes unavailable.
  This issue is now resolved. Now, in a cluster of Integration Servers, a scheduled task with target node set to "Any Node" and "Repeat After Completion", executes the service only on one of the cluster nodes at a time when the Terracotta Server Array becomes unavailable.

- PIE-40517
  Specifying a value of true for the watt.net.ssl.client.useJSSE server configuration property does not use JSSE for all of the outbound HTTPS connections from Integration Server.
  After applying a fix or upgrading to a release that includes PIE-38599, Integration Server no longer honors the value of watt.net.ssl.client.useJSSE for outbound HTTPS connections. This occurs because PIE-38599 changed the default value of the useJSSE input parameter in the pub.client:http service to “no” from a null value. A value of “yes” or “no” for the useJSSE input parameter overrides the value of the watt.net.ssl.client.useJSSE server configuration property. A null value for the useJSSE input parameter causes the service to defer to the value of the watt.net.ssl.client.useJSSE server configuration property.
  Now, the default value of the useJSSE input parameter for the pub.client:http service is null, which allows the watt.net.ssl.client.useJSSE server configuration property to determine the default behavior for outbound HTTPS connections.

- PIE-40548
  Performance degradation observed in Integration Server.
  Integration Server exhibits a performance degradation in the GA versions 9.8, 9.9, and 9.10. Integration Server versions 9.6 and 9.7 exhibit a similar performance degradation after applying the latest fix.
  The cause of the apparent performance degradation is now resolved.

- PIE-40561

During the migration of Integration Server from 9.0 to a later release, the migration utility also migrates the server configuration parameters watt.core.schema.validateIncomingXSDUsingXerces and watt.server.wsdl.validateWSDLSchemaUsingXerces.
The migration utility need not migrate these server configuration parameters during the migration of Integration Server from 9.0 to a later release because the functionalities provided by the two parameters are replaced in releases starting with 9.0.
- The 'Validate schemas using Xerces' option in the New Web Service Descriptor wizard replaces the functionality of the watt.core.schema.validateIncomingXSDUsingXerces parameter.
- The value of the 'Validate schemas using Xerces' option is stored as the web service descriptor property 'validateSchemaUsingXerces' (which replaces the functionality of the watt.server.wsdl.validateWSDLSchemaUsingXerces parameter).
The issue is resolved. The specified server configuration parameters are removed from Integration Server starting with release 9.0.

- PIE-40569
  Integration Server logs a message about JDBC connection pool waiting threads threshold count being exceeding erroneously.
  Integration Server should log the following message only when a thread is waiting for the JDBC connection pool to have an available connection.
  [ISS.0096.0009I] JDBC Connection pool waiting threads threshold exceeded, <number> threads waiting for connection for pool <JDBCPoolName> Integration Server should not log the above message if the JDBC pool is empty or the JDBC driver threw an exception when Integration Server attempts to create a connection. In these cases, there is not actually a waiting thread.
  This issue is now resolved.

- PIE-40576
  SFTP transfers fail due to timestamp parsing failure.
  A change in the Log Timestamp Format (Settings > Logging > View Server Logger Details > Log Timestamp Format) changes the timestamp format returned by pub.client.sftp:ls service. This causes the SFTP transfers to fail due to the timestamp parsing failure.
  To address this issue, Integration Server now includes a server configuration parameter which specifies the timestamp format for SFTP client public services.
  watt.server.sftp.dateStampFmt
  Specifies the format of date to be used in the SFTP client public services.
  To specify the date format to use, you can use any format that is supported by the Java class java.text.SimpleDateFormat. For example, to display the date with the format 08-12-02 14:44:33:1235, specify dd-MM-yy HH:mm:ss:SSSS. The default format for watt.server.sftp.dateStampFmt property is yyyy -MM -dd HH:mm:ss z.
  It is not necessary to restart Integration Server after you change the value of this parameter.

- PIE-40578
  Reloading the Packages > Management page in Integration Server Administrator results in a re-execution of the last command on the page.
  The Packages > Management page in Integration Server Administrator encodes the last action as

part of the URL. Web browsers remember the last action as part of the history, resulting in the re-execution of the last action when reloading the frame.
To resolve this issue, for HTML5-compatible browsers, Integration Server alters the browser history so that that the URL for the Packages > Management page does not include the last action as part of the URL. As a result, when reloading the frame, the last action will not be re-executed.

- PIE-40629
  A concurrent webMethods messaging trigger may not utilize all available threads.
  When a concurrent webMethods messaging trigger uses the maximum available threads for message processing, the next request for a thread must wait for a thread to be returned to the thread pool before another message can be processed. Integration Server returns a thread to the thread pool once message processing completes. When a thread becomes available, the waiting request should begin executing. However, instead of the request using a thread as soon as it becomes available, the request waits until the number of threads used by the trigger reaches 0 (zero). This results in periods of time when the trigger is not using all of the available threads.
  Note: A trigger uses the maximum available threads when the number of messages being processed by the trigger equals the Max execution threads property value. For example, if Max execution threads is set to 10, the trigger uses the maximum available threads when it is processing 10 messages.
  Now, a concurrent webMethods messaging trigger will not wait for the number of the threads used by the trigger reaches zero before processing a waiting request. Instead, the trigger begins processing the waiting request as soon as a thread become available.

- PIE-40664
  The JSSE-enabled HTTPS ports fail to use the updated certificate.
  After adding a new certificate to the truststore and then reloading the truststore using the Integration Server Administrator (Security > Keystore), the JSSE-enabled ports do not use the added certificate.
  This issue is now resolved. The JSSE-enabled HTTPS ports now use the updated certificate after the corresponding truststore is reloaded using Integration Server Administrator.

- PIE-40684
  Integration Server Administrator sometimes displays two scrollbars right next to each other instead of a single scrollbar.
  This issue is now resolved.

- PIE-40687
  Display non-ASCII Unicode characters in the body of a Java service.
  When you persist Java services, Integration Server encodes non-ASCII Unicode characters as ASCII Unicode escape sequences (for example, the Korean character '?' is saved as '\uD55C'). By default, Integration Server does not decode the escape sequences. Therefore, when Integration Server sends Java service code to Software AG Designer, escape sequences appear in Designer instead of the original Unicode characters.
  This fix lets you configure Integration Server to decode the escape sequences. In Integration Server

Administrator, go to Extended Settings and add "watt.server.ns.decodeJavaService=true." The change will take effect immediately (no server restart necessary).
Note: After this change, Unicode escape sequences will no longer display in the Java service code in Integration Server. For example, if you use the string "\uD55C" in Java service code, the string will save correctly, but the editor will display it as "?".

- PIE-40688
  Invoking pub.storage:get causes a pub.storage lock to be released immediately.
  When using pub.storage:get to retrieve an item, Integration Server released the lock on the item immediately. However, when using pub.storage:get to retrieve an item, the lock on the item should remain until the lock is removed by a call to pub.storage:unlock, a call to pub.storage:put, or the lock expires.
  This issue is now resolved.

- PIE-40693
  Slow file transfer speed using pub.client.ftp:put.
  While transferring files with large size (around 1 GB) using pub.client.ftp:put service, the file transfer speed is observed to be slow. Hence, it takes longer to complete the file transfer. This issue was due to the buffer limit in the amount of data that can be read and written to the stream (1KB). This issue is now resolved. Now, the buffer size is increased (32 KB) and hence, the transfer time for large files is less and is comparable with the FTP client on Microsoft Windows.

- PIE-40702
  Change to Integration Server to address security vulnerability.
  A certain form of URL, if executed, can cause a redirection that allows for the possibility of credential theft. The form of URL no longer causes a redirection. Instead, the Integration Server user receives an HTTP 404 response.

- PIE-40742
  Package deployment fails because some packages are partially loaded.
  When using Deployer to deploy IS packages, some packages only partially load. This causes deployment to fail.
  This issue is now resolved. Packages are no longer partially loaded.

- PIE-40867
  Modification to Integration Server to control the logging of messages about duplicate universal names for document types.
  Whenever Integration Server loads a document type with an explicit universal name (such as when a package is loaded), Integration Server registers the universal name. If Integration Server loads a document type whose explicit universal name is a duplicate of one that is already registered, Integration Server logs the following error message:
  "[ISC.0081.0002E] Error registering universal name <universal_name>, already registered to <document_type>" filling the IS logs
  A user cannot use Designer or Developer to assign the same universal name to a document type.

However, if the same WSDL document is used to generate multiple consumer Web service descriptors and/or multiple WSDL first provider Web service descriptors, Integration Server creates multiple document types with the same universal name explicit. When loading a package containing these document types, Integration Server logs the error message mentioned above multiple times which can clutter the log file. To suppress the error message about registering a duplicate universal name, add the following to extended settings on the Settings > Extended > Edit Extended Settings page
watt.server.ns.logErrorsOnRegisteringMultipleDocTypesForAUniversalName=false
After you save your changes, you do need to restart Integration Server for these changes to take effect. If you want Integration Server to resume logging message about registering duplicate universal names, set watt.server.ns.logErrorsOnRegisteringMultipleDocTypesForAUniversalName to true. The default value is true.
Note: Setting watt.server.ns.logErrorsOnRegisteringMultipleDocTypesForAUniversalName to false suppresses the error messages about duplicate universal names only. It does not resolve the duplicate names.

- PIE-40940
  OAuth authentication is not disabled for requests that contain an Auhorization header with a Bearer access token even after setting the watt.server.auth.oauth.accessToken.useHeaderFields parameter to false.
  When watt.server.auth.oauth.accessToken.useHeaderFields is set to false, Integration Server should not perform OAuth authentication if Authorization header field contains an access_token. However, if the Authorization header field of an incoming request contains a Bearer access token and the watt.server.auth.oauth.accessToken.useHeaderFields is set to false. Integration Server writes the following messages to the server log:
  [ISS.0012.0012W] Authentication of user "bearer" failed with exception: [ISS.0010.8044] Integration Server rejected the request to access this resource. The access token is either invalid or expired.
  [ISS.0053.0002C] Access denied for user bearer on port 5555 -> ...
  This issue is now resolved. If watt.server.auth.oauth.accessToken.useHeaderFields is set to false and a request contains an Authorization header field with a Bearer access token, Integration Server disables OAuth authentication for the request.

- PIE-40950
  Failure to close JSSE SSL connections after handling stateless requests may negatively impact performance.
  When Integration Server finishes handling a stateless request received on a port that uses JSSE for SSL, Integration Server does not close the SSL connection. This causes Integration Server to build up stale connections and slows down port allocation, which affects performance.
  This issue is now resolved.

- PIE-40962
  The encode method of IDataXMLCoder class closes the OutputStream after encoding the IData object.
  The encode method of IDataXMLCoder class, encode(java.io.OutputStream os, IData data) encodes

the IData object and closes the OutputStream even though the OutputStream is created by the caller.
This issue is resolved.

- PIE-40984
  Configuration property to determine whether missing SOAP headers result in an error message. Prior to Integration Server version 9.0, when processing a SOAP received by a web service descriptor, Integration Server did not properly validate that all of the SOAP headers were present. As a result, Integration Server did not throw an error when a SOAP response was missing a SOAP header. Note that all headers in a web service descriptor, whether generated from the original WSDL document or added to the web service descriptor, are treated as required. This is an application of the WS-I basic profile rules declaring that all headers in a WSDL be treated as required. Beginning in Integration Server version 9.0, Integration Server properly validates SOAP responses for required headers. If a required header is not present, Integration Server throws the following error: [ISS.0088.9443] One or more required Headers <headerName> are not present in the SOAP response."
  After upgrading to Integration Server 9.0 or higher from an earlier version, web service connectors that previously succeeded when a required header was missing from a SOAP response now fail. While failure when a required header is missing is the correct and documented behavior, Integration Server now provides a configuration property to control whether missing required headers in a SOAP response results in an error. This can be useful in migration situations. When watt.server.SOAP.ignoreMissingResponseHeader is set to true, a SOAP response that does not contain a required header will not result in an error. The default is false, a SOAP response that does not contain a required header results in an error. Integration Server restart is not required for changes to take effect.

- PIE-40985
  SOAP web service fixes for backward compatibility.
  This fix bundles four separate fixes relating to upgrade and migration of web services. The fixes allow backward compatibility of behavior that has since been prohibited through stricter validation in newer releases.
  (1) Allow 7.1.3 web service providers to process requests with mismatched SOAP versions.
  A range of fix levels in 7.1.3 allowed web service providers to process SOAP requests with a SOAP version that did not match the SOAP version that was declared in the WSDL binding. This fix adds a new extended server setting to emulate the old, less strict behavior so that consumers will not have to update their SOAP requests. The setting only affects web service providers that were created in releases older than 8.2.2 and for which the property "Pre-8.2 compatibility mode"=true. The new parameter is watt.server.SOAP.pre82WSD.ignoreVersionMismatch. By default, this parameter is set to false. To use the parameter to emulate the old behavior, go to Integration Server Administrator and add watt.server.SOAP.pre82WSD.ignoreVersionMismatch=true to the extended settings.
  (2) Correctly perform document type-directed decoding of a SOAP message when the corresponding namespace qualified document type field does not have a namespace prefix. Starting with release 8.2.2, any document type field that contains a namespace must have a

namespace prefix in its name in order to be used with web services. In 7.1.x, this prefix was not required. With this fix, document types migrated from 7.1.x that do not meet the 8.2.2 and later IS web service requirements will match the decoded IData representations of SOAP messages as they did in 7.1.x. Specifically, this issue applies in cases where the Decoder needs to choose between converting a simple type value into a string field or into a mixed content DocType with a *body field.
(3) Allow empty or absent *body values to pass validation.
A validation error occurred in some 9.x releases during decoding of mixed content elements that have an enumeration restriction. The error occurred when optional missed content was absent, because an empty value was not listed as an option in the enumeration set for the *body field. This fix adds an extended setting to skip this validation and treat the *body as completely optional.
The new parameter is watt.core.validation.skipAbsentStarBody. By default, this parameter is set to false.
To use the parameter to skip the new validation, go to Integration Server Administrator and add watt.core.validation.skipAbsentStarBody=true to the extended settings. (4) Process one-way SOAP request without a Null Pointer Exception. After receiving a SOAP request, some one-way web service providers return an error containing a Null Pointer Exception. This fix handles the condition that resulted in an error when processing the SOAP request.

- PIE-41066
  When executing the pub.soap.wsrm:createSequence service without specifying the value of the sequenceKey input parameter, Integration Server incorrectly reports the messaging sequence as null.
  This issue is now resolved. When the pub.soap.wsrm:createSequence service is executed without specifying the value of the sequenceKey input parameter, Integration Server returns the server Sequence ID associated with the messaging sequence.

- PIE-41090
  Enhancement to Integration Server to use regular expressions for specifying the URIs for allowed origin servers.
  When CORS is enabled, the watt.server.cors.allowedOrigins server configuration parameter indicates the origin servers from which Integration Server will accept requests. The watt.server.cors.allowedOrigins value can be a comma-separated list identifying the specific origin servers or a "*", meaning any origin server is allowed. A comma-separated list can become long and difficult to maintain.
  To make the list of origin servers easier to maintain, Integration Server now supports the use of regular expressions in the comma-separated list of allowed origin servers. Integration Server treats any value in the comma-separated list that begins with "r:" as a regular expression. Integration Server treats any value that does not begin with "r:" as a simple string. The server configuration parameter uses the Java regular expression syntax, as documented at https://docs.oracle.com/javase/7/docs/api/java/util/regex/Pattern.html. A regular expression value must match the entire value of the Origin header in the HTTP request for it to be considered a match.
  Example:

watt.server.cors.allowedOrigins=http://test1.domain.com,r:https?://.*.test2.domain.com:[0-9]+,r:.+\.[a-zA-Z]*-int.domain.com
Integration Server treats the first value, "http://test1.domain.com", as a simple string. If an Origin header contains this value, it will be allowed.
The second value, "r:https?://.*.test2.domain.com:[0-9]+", contains a regular expression. The "r:" is not part of the regular expression. The actual regular expression used to match supplied Origin headers is "https?://.*.test2.domain.com:[0-9]+".
The third value, "r:.+\.[a-zA-Z]*-int.domain.com", contains a regular expression. The "r:" is not part of the regular expression. The actual regular expression used to match supplied Origin headers is ".+\.[a-zA-Z]*-int.domain.com".
"Origin: http://test1.domain.com" will be allowed because it is equal to the first value.
"Origin: http://my.test2.domain.com:8080" will be allowed because it matches the second value.
"Origin: https://my.test2.domain.com:8088" will be allowed because it matches the second value.
"Origin: http://my.test2.domain.com" will not be allowed. If it had a port number, it would match the second value.
"Origin: nbps://example.prod-int.domain.com" will be allowed because it matches the third value.
"Origin: example.qa.staging-int.domain.com" will be allowed because it matches the third value.
"Origin: example.dev1-int.domain.com" will not be allowed. If the second token of the host name did not include any digits, it would have matched the third value.
watt.server.cors.allowedOrigins=*
The simple wildcard "*" continues to work as before. It indicates that any origin server will be allowed.
Regular expressions that match any host name, IP address and port (e.g. "r:.+" and "r:.*") will have the same effect as "*".
Note that when CORS is enabled, Integration Server evaluates the list of regular expressions in watt.server.cors.allowedOrigins sequentially for every request. Integration Server performs a regular expression match operation on each regular expression until a match is found or all regular expressions in the list have been evaluated. Software AG recommends that you put the more frequently matched regular expressions at the beginning of the comma-separated list.

- PIE-41109
  Swagger document and REST Resources tab for REST API descriptor does not represent service input correctly when the service signature includes one or more Document, Document List, Document Reference, or Document Reference List field and another type of field.
  The Swagger document and REST Resources tab for a REST API descriptor that includes a REST resource (service) whose service signature includes one or more Document, Document List, Document Reference, or Document Reference List fields in addition to another type of field does not correctly represent the service signature. Integration Server places all of the input parameters for that resource into a REST Definition and sets the source to Body which is incorrect. Integration Server should place the Document, Document List, Document Reference, or Document Reference List fields in the REST Operation as Body parameters that reference the REST Definitions and place the parameters that are not documents in the REST Operation as Header parameters.
  This issue is now resolved.

- PIE-41121
  Integration Server does not show reliable messaging sequence reports in certain situations.
  When Integration Server exchanges messages with a reliable messaging client where the web service operation uses In-Only Message Exchange Pattern (MEP), the reliable messaging sequence reports are not displayed on Integration Server.
  The issue is now resolved. The reliable messaging sequence reports specifying the Server Sequence ID are displayed on Integration Server in situations where the web service operation uses In-Only MEP.

- PIE-41147
  Integration Server Administrator returns a blank page when you run the wm.server.query:getSettings service from the WmRoot package.
  This issue is resolved.

- PIE-41152
  When watt.net.http401.throwException is set to false and the pub.client:http service receives a 401 error, the service does not include the body of the response in the output.
  If the watt.net.http401.throwException server configuration property is set to false, when the pub.client:http service receives a 401 error response, the service places the HTTP response header and body in the output pipeline. However, the pub.client:http service was not placing the response body in the output pipeline.
  This issue is now resolved.

- PIE-41155
  Integration Server fails to act as an FTP server. An attempt by an FTP client to connect to an FTP port on Integration Server fails with a NullPointerException.
  This issue is now resolved.

- PIE-41176
  Web service fails with a RampartException while handling a holder-of-key SAML 2.0 assertion.
  When handling a holder-of-key SAML 2.0 assertion, a web service fails with the following exception: RampartException: No crypto property file supplied for decryption.
  This issue is now resolved.

- PIE-41281
  Integration Server Administrator displays incorrect values for fields in Security > Ports.
  Integration Server Administrator displays incorrect values (default values) for "Use JSSE" and "Client Authentication" fields in the Security Configurations section of Security > Ports.
  This issue is now resolved.

- PIE-41315
  When Integration Server receives a request with a REST-style URL and an OAuth Bearer token, Integration Server rejects the request with a 403 HTTP status code.

This issue is now resolved. An OAuth Bearer token can be used to access a REST resource that is in the scope for which the token was issued.
Note: Because the service name does not appear in a REST-style URL, do not include the service name when defining the OAuth scope. A scope for an Integration Server REST resource must include the full name of the resource but not the name of the service.

- PIE-41320
  Memory leak in transaction manager.
  Transaction manager retains an association to com.wm.app.b2b.server.ServerThread which is not being removed during transaction manager cleanup. Consequently, the association between the transaction and the server thread is not being cleaned up, which prevents the transaction manager entry from being removed.
  This issue is now resolved.

- PIE-41324
  Integration Server Administrator displays a Package Load Error loading a package created on Integration Server 7.x or earlier.
  Using Integration Server Administrator to load a package created on Integration Server 7.x might result in a Package Load Error caused by a NullPointerException.
  This issue was originally resolved in fixes that included PIE-33326. Unfortunately, recent revisions of some Integration Server fixes introduced a regression that allowed the problem to reappear. This fix resolves the regression.

- PIE-41345
  The pub.utils.messaging:migrateDocTypesTriggersToUM service does not migrate filters with parentheses properly.
  When migrating a trigger filter condition that contains parentheses, the pub.utils.messaging:migrateDocTypesTriggersToUM service removes the parentheses from the filter. The pub.utils.messaging:migrateDocTypesTriggersToUM service now preserves parenthesis when migrating trigger filter conditions.

- PIE-41375
  Integration Server does not indicate when it is disconnected from a cluster.
  Integration Server does not log an error message when it is disconnected from a cluster, preventing automatic detection of the situation. Now, Integration Server logs the following error message when it is disconnected from the cluster.
  [ISS.0033.151] The cluster is now not operational,
  Additionally, Integration Server logs the following error message when it rejoins the cluster.
  [ISS.0033.152] The cluster is now operational.

- PIE-41444
  Integration Server throws a NullPointerException instead of logging trace level information when the HTTP Header (0038) server log facility is set to Trace and an incoming request does not contain any credentials.

This issue is now resolved.

- PIE-41464
  Exception handling for the pub.client:smtp service results in a ClassCastException being thrown for a SocketTimeoutException or a ConnectException.
  The pub.client:smtp incorrectly handles the exceptions java.net.SocketTimeoutException and java.net.ConnectException by throwing them as a java.lang.ClassCastException.
  This issue is now resolved.

- PIE-41497
  A request that includes a URL alias for a REST resource and includes an OAuth access token fails.
  When a URL alias exists for a REST resource and partial matching is enabled for URL aliases (watt.server.url.alias.partialMatching=true), the URL alias can be used with variable trailing tokens to create a request URL that invokes services for the REST resource and passes the $resourceID, $path, and custom variables to the services. (With the Bearer authorization scheme, the Authorization request header includes an OAuth access token instead of username and password.) However, if the request URL uses the Bearer authorization scheme, the request fails and Integration Server returns an HTTP 401 status code.
  This issue is now resolved. A request that uses the Bearer authorization scheme can also use a URL alias to request a REST resource.

- PIE-41502
  When acting as a web service client, Integration Server displays an error if the response from a web service provider contains the value of the content-encoding header as identity.
  When acting as a web service client, Integration Server displays the following error when the response from a web service provider contains the value of the content-encoding header as identity: "Received unsupported content-encoding: identity"
  This issue is now resolved.

- PIE-41529
  Info message is logged continuously in the server log.
  If you configure the email port to IMAP email server and select "Log out after each mail check" functionality, then the following Info message is continuously logged in the server log: "[ISP.0068.0029I]Logging out of IMAP Server"
  This issue is now resolved. Now, this message is moved to DEBUG level.

- PIE-41582
  Integration Server Administrator does not allow Username/Password as the Client Authentication method if Realm URL specifies nsps or nhps as the protocol.
  When creating a Universal Messaging Connection Alias, Integration Server Administrator performs a UI validation to check if Realm URL specifies nsps or nhps as the protocol. Integration Server Administrator displays the following message when you select Username/Password as the Client Authentication method. "Client authentication must be set to SSL if Realm URL specifies includes nsps or nhps."

This issue is resolved. The UI validation is now disabled which allows you to select Username/Password as the Client Authentication method if Realm URL specifies nsps or nhps as the protocol.

- PIE-41611
  Client side queue for webMethods messaging does not drain completely.
  When Integration Server drains the client side queue by publishing or delivering messages from the client side queue to the webMethods messaging provider, some failures may occur. Integration Server handles the failures based on the exception type. If the exception type is fatal, Integration Server writes the message to the audit log and removes it from the client side queue. If the exception type is transient, Integration Server retries publishing or delivering the message. However, if the client side queue contains published and delivered messages and fatal exception occurs during publish or delivery of a message, Integration Server might add the message back to the client side queue instead of writing it to the audit log. This prevents the client side queue from fully draining and may cause the queue to drain slowly.
  This issue is now resolved.

- PIE-41677
  Integration Server fails to clear the connections of failed remote service executions that were invoked using the pub.remote:invoke service.
  This issue is now resolved. Now, if a remote service execution fails, then the connection to remote server is closed completely.

- PIE-41782
  No option to select Java Secure Socket Extension (JSSE) socket factory for HTTPS outbound connections.
  When accessing a web service through HTTPS protocol using the pub.client:soapClient service, there is no option to select JSSE for HTTPS outbound connections. The server configuration property "watt.net.ssl.client:useJSSE" applies to all outbound HTTPS connections and hence, user cannot select JSSE for individual web services call.
  This issue is now resolved. Now, an optional input parameter "useJSSE" is added to the pub.client:soapClient service.
  If the value of "useJSSE" field is left empty or unspecified, then Integration Server uses JSSE for outbound web service call based on the server configuration property "watt.net.ssl.client.useJSSE".
  If the value of "useJSSE" field is set to "yes", then the Integration Server uses JSSE for the outbound web services call.
  If the value of "useJSSE" field is set to "no", then the Integration Server uses Entrust IAIK library for the outbound web services call.

- PIE-41794
  Changes to Integration Server to notify a caller that provides an expired session id.
  After applying a fix or installing a release that includes PIE-37166, Integration Server prompts users for credentials if no matching session object can be found for a given session ID stored in a cookie. This behavior is controlled by the watt.security.session.forceReauthOnExpiration server

configuration property. When set to true, the more secure behavior, Integration Server rejects requests that include a session id mapped to an expired or invalid session object and prompts the user for credentials. Setting the server configuration property to false instructs Integration Server to create a new session object, assuming the session id is valid and trusted. In case of the server configuration property value set to true (the default), Integration Server does not notify the caller that a valid session object no longer exists. Nor does Integration Server request that the caller deletes the cookie with the expired session.
Now, when Integration Server receives a request with a session id mapped to a session object that no longer exists, Integration Server notifies the caller and requests that the cookie containing the expired session id be deleted. It is then up to the caller, usually a browser, to react to the notification.

- PIE-41806
  Enhancement to allow loggers on multiple Integration Servers to share a Universal Messaging queue for logging across a Universal Messaging realm.
  The naming convention for the Universal Messaging queue used by a logger now includes the client prefix if the Share Client Prefix check box is selected for the Universal Messaging connection alias used by the logger. By including the client prefix in the namespace of the queue name, loggers for Integration Servers in a stateless or stateful cluster can share same Universal Messaging queue across a Universal Messaging realm. That is, loggers on multiple Integration Servers can write log entries to and read log entries from one Universal Messaging queue shared across a Universal Messaging realm.
  Previously, the Universal Messaging queue name did not include the client prefix as part of the queue namespace regardless of the state of the Share Client Prefix check box. If the Share Client Prefix check box is selected for the Universal Messaging connection alias, the Universal Messaging queue name uses the naming convention: wm/is/audit/clientPrefix/logger_nameQueue (for example, wm/is/audit/myClientPrefix/SessionQueue). If the Share Client Prefix check box is not selected for the Universal Messaging connection alias, the Universal Messaging queue name uses the naming convention: wm/is/audit/logger_nameQueue (for example, wm/is/audit/SessionQueue).
  If you change the state of the Share Client Prefix check box on the Universal Messaging connection alias is used by loggers, you must restart Integration Server for changes to the queue name to take effect. Additionally, you must make the same changes to other Integration Severs in the cluster that use the alias.

- PIE-41825
  Cookies not included in some HTTP requests.
  When the pub.client:http service is used to send requests to a remote server, and the server returns a cookie, in some cases the cookie is not included in subsequent calls to the server.
  With this fix, the cookies are used on subsequent calls.

- PIE-41880
  webMethods Messaging triggers do not recognize nested documents in a filter when parent and child documents have the same name.

The name of inline document fields are represented as "Message" names in the protobuf descriptors used by Universal Messaging filters. Because of the message name conflict, the filters are never satisfied and the triggers do not fire.
This fix corrects the problem by using the name of the parent plus the actual field as the protobuf message name. After you install this fix, edit and save the root document type, then sync it with the UM Provider. The filters will begin to work properly.

- PIE-41900
  The pub.client.http fails to set the auth token.
  If the 'auth' type is set to Bearer, then the pub.client.http service fails to set the auth token into the Authorization header while sending a request to the HTTP server.
  This issue is now resolved.

- PIE-41986
  After installing a fix or a release that includes PIE-37166, a dynamic server page (DSP) request that includes a service invoke of a stateless service prompts for credentials even though the service and DSP are secured with the Anonymous ACL.
  The resolution for PIE-37166 introduced the server configuration parameter watt.security.session.forceReauthOnExpiration, which, when set to true, causes Integration Server to reject any request that includes a cookie identifying an expired or invalid session even if the request includes valid user credentials. That is, when set to true, Integration Server does not implicitly create a new session for an expired session and Integration Server deletes the session object for the expired session. A result of this change is that a sequence a DSP requests that includes a service invoke of a stateless service prompts for credentials even though the service and DSP are secured with the Anonymous ACL.
  Note: This issue does not occur when watt.security.session.forceReauthOnExpiration is set to false. Keep in mind that setting watt.security.session.forceReauthOnExpiration to true, the default value, offers more secure behavior.
  Now, Integration Server preserves the session object.

- PIE-42132
  Enhancement to limit the number of server log files that Integration Server keeps on the file system. Integration Server writes its server log to a file named server.log. When this file is rotated, the existing contents of server.log are saved to a new file named server.log_<current-date>_<current-time>. Over time, the number of archived server log files increases and may consume large amounts of disk space.
  To address this issue, Integration Server provides the watt.server.serverlogFilesToKeep server configuration parameter to control the number of server log files that Integration Server maintains on the file system, including the current server log file. When Integration Server reaches the limit for the number of server log files, Integration Server deletes the oldest archived server log file each time Integration Server rotates the server log.
  If the parameter value is 30, for example, Integration Server keeps the current server log file and up to 29 previous server log files.
  If the parameter value is less than 1, Integration Server keeps an unlimited number of server log

files.
If the parameter value is 1, Integration Server keeps the current server log file (server.log) and no previous (archived) server logs.
The default for watt.server.serverlogFilesToKeep is -1, which places no limit on the number of server log files kept on the file system.
You must restart Integration Server for changes to this parameter to take effect.

- PIE-42173
  New parameter for existing service pub.cache.serviceResults:resetServiceCache and new service pub.cache.serviceResults:addCacheEntry are added to Integration Server as part of this fix.
  pub.cache.serviceResults:addCacheEntry
  WmPublic. Adds cached entry into service results for the service without executing the actual service. This service can be useful to perform bulk load of service results at Integration Server startup.
  Input Parameters <serviceName> String Required. Name of the service for which to add the cache entry into cached service results.
  <input> Document Required. An IData containing the key/value pairs for the cached service input.
  <output> Document Required. An IData containing the key/value pairs for the cached service output.
  Output Parameters None.
  Usage Notes If <serviceName> does not exist in Integration Server, or it is not enabled to cache service results, Integration Server throws an exception.
  pub.cache.serviceResults:resetServiceCache An optional input parameter is added to delete specific cached elements for a particular service.
  <input> Document Optional. An IData containing key/value pairs that indicate the cached elements to remove.

- PIE-42308
  Support for session caching for transacted JMS connection aliases.
  Previously, Integration Server provided session caching for non-transacted JMS connection aliases. Now, Integration Server provides support for session caching for transacted JMS connection aliases when the JMS provider is Universal Messaging 9.10 or WebSphere MQ 7.5. The following paragraphs provide more information about this feature.
  When sending a JMS message, Integration Server creates and closes a new JMS session object and a JMS MessageProducer object for each message. This can introduce overhead for some JMS providers. To improve performance when sending JMS messages using a transacted JMS connection alias, you can configure session caching for a JMS connection alias.
  For each JMS connection alias, Integration Server can create the following session pools:
  - A default session pool containing JMS Session objects. When a default session pool is defined for a JMS connection alias, Integration Server draws from a pool of open JMS Sessions for sending a JMS message instead of opening and closing a JMS Session for each JMS message. Integration Server uses the default session pool only when sending a message to a destination that does not have its own pool. Integration Server creates a new MessageProducer each time it sends a JMS message.
  - Destination-specific session pools containing JMS Session objects for sending JMS messages to

identified destinations. Integration Server creates a pool for each specified destination. When sending a JMS message to one of the specified destinations, Integration Server uses a Session object from the pool instead of creating and closing a Session object for each JMS message. Integration Server creates a new MessageProducer each time it sends a JMS message.
Note: When using destination-specific session pools for a transacted JMS connection alias, Integration Server creates a new MessageProducer each time it sends a JMS message. This is different from the destination pools that Integration Server creates for a non-transacted JMS connection alias where each entry in the destination-specific pools contains a Session object and a Message Producer object.
Note: A transacted JMS connection alias specifies LOCAL_TRANSACTION or XA_TRANSACTION for the Transaction Type.
To configure session caching for a transacted JMS connection alias, do the following:
1. Using Integration Server Administrator, open the JMS connection alias for editing.
2. Under Producer caching, for Caching Mode, select ENABLED PER DESTINATION.
3. To configure the size of the default session pool for this alias, specify the following:
- In the Minimum Pool Size field, specify the minimum number of entries in the default session pool for this alias. The default is 1.
- In the Maximum Pool Size field, specify the maximum number of entries in the default session pool for this alias. The default is 30.
4. To configure the size of the session pools created for specific destinations, specify the following:
- In the Minimum Pool Size Per Destination field, specify the minimum number of entries in each destination- specific pool.
- In the Maximum Pool Size Per Destination field, specify the maximum number of entries in each destination-specific pool. A value of 0 (or blank) indicates that Integration Server does not create separate pools for any of the destinations associated with the JMS connection alias.
In the Destination Lookup Name List, specify a semicolon-delimited list of the lookup names for the destinations for which you want Integration Server to create separate session pools for this alias.
5. Click Save Changes.
This issue is now resolved.

- PIEAR-799
  The threads which creates the connection and the threads which ends the connection from the connectionPool can go to blocked state.
  To recover from such a situation, Connection pool now has a monitor thread which is a pool interrupter thread, to interrupt the server threads which are in blocked state while creating or ending the connection.
  The following properties are introduced to configure the connection time outs:
  1-> watt.server.jca.connectionPool.threadInterrupter.sleepTime. The default value of the watt property is 2000msec, which is the sleep time for the pool interrupter thread.
  2-> watt.server.jca.connectionPool.threadInterrupt.waitTime. This property specifies the wait time, measured in milliseconds, that elapses before Integration Server Connection pool interrupts a connection creating or ending thread which is in a wait state. The pool interrupter thread will start monitoring the server threads, only if this property is set. There is no default value.
  You must restart Integration Sever for changes to this parameter to take effect.
  Use the following service to manage the connections which are hung:

pub.art.connection:getInterruptedThreadStatus. This service takes the connection alias name as input and lists the connection threads which are not responding even after interrupting by the connection pool interrupter. We recommend a manual intervention for the server threads which gets hung while creating or destroying the connections and also not responding to the interrupt mechanism.

Release 9.10

- PIE-36529 (IS_8.2_SP2_Core_Fix18, IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  An outbound web service request that used MTOM attachments causes out of memory issues if the attachments are large.
  An outbound web service request incorrectly used a memory-buffered output stream when requests with large MTOM attachments were made to external endpoints.
  Outbound web service requests that use MOTM attachments now use the correct output stream and chunk the large MTOM attachment.

- PIE-36506 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  The pub.security.keystore:setKeyAndChain service clears security parameters after each outbound call instead of when the pub.security.keystore:clearKeyAndChain service executes.
  In previous releases, Integration Server did not clear the security parameters configured for the outbound call by the pub.security.keystore:setKeyAndChain service until the pub.security.keystore:clearKeyAndChain executed. Now, Integration Server clears the security parameters after each outbound call. The new behavior is not backward compatible.
  Now, the security values configured by pub.security.keystore:setKeyAndChain stay in effect until pub.security.keystore:clearKeyAndChain gets invoked.

- PIE-37676 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  An attempt to authenticate a cache manager user fails with an IllegalThreadStateException.
  When authenticating users of a cache manager, a race condition caused an IllegalThreadStateException to be thrown.
  The race condition that caused the IllegalThreadStateException is now resolved.

- PIE-36620 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  Integration Server returns an HTTP 500 error in response to successive requests made on persistent HTTP connections.
  When client reuses a persistent HTTP connection to send multiple requests, Integration Server should handle the request and send a response. However, Integration Server sometimes incorrectly returned a HTTP 500 error, which caused the request to fail.
  This issue is now resolved.

- PIE-37093 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)

When using the VCS Integration feature in Integration Server, delete and safe delete of a version-controlled node fails with an error.
This issue is now resolved.

- PIE-37325 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  Integration Server does not send HTTP cookies after a request is redirected.
  When the pub.client:http service sends a request to an HTTP server and the HTTP server responds with a redirection (a 300-level status code) and a Set-Cookie header, Integration Server includes the cookie in the request to the HTTP server to which the request is being redirected. However, subsequent requests to the second server do not include the cookie.
  Now, when a HTTP server includes a Set-Cookie header in a redirection response, Integration Server includes the cookie in the request and subsequent requests sent to the HTTP server to which the request is redirected.

- PIE-38245 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix13)
  The pub.flow:transportInfo document type signature is incorrect as seen on the Input/Output tab.
  The signature for the pub.flow:transportInfo document type is missing 2 fields: filePolling/lastModified and filePolling/length.
  This issue is now resolved. The signature of the pub.flow:transportInfo document type now includes the filepolling/lastModified and filepolling/length parameters.

- PIE-38290 (IS_8.2_SP2_Core_Fix19, IS_9.0_SP1_Core_Fix13)
  Integration Server resets the central user management system when lookup for a user in the central user management fails with an error.
  The reset causes a failure of other operations on the central user management system.
  This issue is resolved.

- PIE-37898 (IS_8.2_SP2_Core_Fix19, IS_9.6_Core_Fix9)
  Integration Server becomes unresponsive during startup.
  Integration Server sometimes became unresponsive at startup when initializing the scheduler. This occurred because of a database deadlock.
  This issue is now resolved and the deadlock will no longer occur.

- PIE-36477 (IS_8.2_SP2_Core_Fix19)
  After transitioning to or from daylight savings time, scheduled tasks run twice or not at all.
  Integration Server runs scheduled tasks based on the time relative to the time zone. This caused issues when entering and exiting daylight savings time, specifically tasks ran twice or not at all.
  Now, Integration Server runs scheduled tasks based on coordinated universal time (UTC). Because Integration Server runs the tasks without regard to the relative time zone, the start and end of daylight savings time does not affect the execution of scheduled tasks.

- PIE-36386 (IS_9.0_SP1_Core_Fix11, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix8, IS_9.7_Core_Fix5)
  When a flow service invokes a service that does not exist, Integration Server handles operations on the pipeline first before issuing a runtime exception.
  When a flow service invokes a service that does not exist, Integration Server performs operations on the pipeline, such as removing the dropped variables from the pipeline, before issuing a

com.wm.lang.flow.FlowException about the unknown service.
This issue is resolved. Integration Server now issues the runtime exception when a flow service invokes a service that does not exist and will not proceed with the pipeline operations.

- PIE-35990 (IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix8)
  When using Oracle Streams Advanced Queuing (AQ) as the JMS provider, if the JMS connection alias is disabled due to an error from the JMS provider, the JMS connection continues to show the status as "in progress".
  If a JMS connection alias, when attempting to establish a connection with Oracle Streams Advanced Queuing (AQ) as the JMS provider, is disabled due to an error from the JMS provider, the JMS connection continues to show the status as "in progress" and cannot be enabled or disabled.
  This issue is resolved.

- PIE-37022 (IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix8)
  Integration Server logs the following error twice for the same port in the server logs while shutting down:
  [ISP.0046.0011I] Disabling HTTP Listener on port <port number>
  This issue is resolved. Integration Server now logs this message only once while shutting down.

- PIE-35873 (IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  Change to allow use of forward slash in a regular expression.
  Prior to this change, regular expressions used in BRANCH steps and trigger filters could not include a forward slash. Now, a forward slash can be used. However, the forward slash must be preceded by the backslash (\) escape character. For example, to use a regular expression to match a variable whose value contains the string “a/b”, use the regular expression %variableName% = /a\/b/

- PIE-37271 (IS_9.0_SP1_Core_Fix12, IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  In certain scenarios, invoking the pub.xml:getNextXMLNode service fails with an exception.
  Invoking the pub.xml:getNextXMLNode service fails with a NullPointerException if the specified NodeIterator is returned by the pub.xml:getXMLNodeIterator service that has the criteria input parameter set to a string value that matches an element node of the XML node.
  This issue is resolved.

- PIE-34881 (IS_9.0_SP1_Core_Fix12)
  Integration Server does not behave as expected when validating an XML document against a document type created from an XML schema definition containing <xs:restriction base="xs:anyType">.
  When using the pub.schema:validate service to validate an XML document against a document type created from an XML schema definition containing <xs:restriction base="xs:anyType">, the validation does not fail even if the target element contains attributes other than the attributes defined in the XML schema definition.
  This issue is resolved. Now, validation of XML fails if there are any attributes other than the defined attributes.

- PIE-36217 (IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  An outbound HTTPS web service request fails when using JSSE.

If an outbound HTTPS web service request specifies the use of JSSE, the request fails because Integration Server does not send the client certificates to the endpoint.
This issue is now resolved.

- PIE-37071 (IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  Integration Server error log does not include the names of the affected JDBC pools in the error messages.
  When issuing error messages such as, "java.sql.SQLException: Could not get connection", Integration Server error log does not include the names of the JDBC pools to which the error message is referring.
  This issue is resolved. Integration Server error log now includes the name of the JDBC pools in its error messages.

- PIE-37551 (IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  Processing of webMethods messaging triggers fails with a java.lang.ClassCastException if the watt.server.trigger.local.checkTTL server configuration parameter is set to true.
  Processing of webMethods messaging triggers fails with the following error if the watt.server.trigger.local.checkTTL server configuration parameter is set to true:
  Unable to check document ttl: java.lang.ClassCastException: [B cannot be cast to com.wm.data.IData
  This issue is now resolved.

- PIE-37645 (IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  Incorrect logging level specified for error message.
  Integration Server gives the logging level of the following error message of Trace logging level incorrectly as Info:
  [ISC.0042.0001I] baseURL (Connection reset)
  This issue is now resolved. The logging level of the message is corrected to Trace.

- PIE-38560 (IS_9.0_SP1_Core_Fix13, IS_9.5_SP1_Core_Fix10)
  Integration Server logs a NullPointerException at one minute intervals.
  Once per minute, the Integration Server scheduler uses a background thread to check for scheduled tasks in an invalid state. If Integration Server is in a cluster and the watt.server.scheduler.logical.hostname property is not set, a NullPointerException occurs and is written to the error log.
  Now, the background thread used by the scheduler no longer throws a NullPointerException if Integration Server is in a cluster and the watt.server.scheduler.logical.hostname property is not set.

- PIE-35697 (IS_9.0_SP1_Core_Fix13)
  After refreshing a consumer web service descriptor, response services reference the backup folders.
  After refreshing a consumer web service descriptor, the response services contain references to the backup folders.
  This issue is now resolved.

- PIE-37921 (IS_9.0_SP1_Core_Fix13)
  The pub.client:http service does not include the supplied data in PUT requests.
  When using the PUT method with the pub.client:http service, the request transmitted to the remote

HTTP server does not include the value supplied for the data/args, data/string, data/table, data/bytes, data/stream or data/mimeStream input variables.
This issue is now resolved. When the PUT method is used with pub.client:http, the value of the data/args, data/string, data/table, data/bytes, data/stream or data/mimeStream input variables is now included as the HTTP entity of the transmitted request.

- PIE-37988 (IS_9.0_SP1_Core_Fix13)
  A NullPointerException occurs when SoftwareAG-IS-Services.xml configuration file is not present in the caching directory.
  When SoftwareAG-IS-Services.xml configuration file is not present in the directory location <Integration Server_directory>\instances\<instance_name>\config\Caching, Integration Server throws a NullPointerException.
  This issue is resolved. Integration Server now logs the following error message in the server logs to indicate that the configuration file is not present in the caching directory.
  Cannot cache "{0}" service. The cache manager SoftwareAG.IS.Services is not initialized."

- PIE-38019 (IS_9.0_SP1_Core_Fix13)
  Integration Server acting as an SFTP client faces issues while attempting to connect to an SFTP server.
  When attempting to connect to an SFTP server, Integration Server acting as an SFTP client issues the following error:
  [ISS.0147.9010] Cannot get host key from server [host_X]:22.
  Details: com.jcraft.jsch.JSchException: Algorithm negotiation fail
  This issue occurs because there is no common key exchange algorithm between the SFTP client and SFTP server.
  This issue is now resolved by updating the jsch jar file from 0.1.51 version to 0.1.53 version. The 0.1.53 version supports most of the key exchange algorithms that are required to be present in the SFTP client to connect to SFTP server.

- PIE-38429 (IS_9.0_SP1_Core_Fix13)
  Integration Server logs an exception when a service is invoked through a JSSE-enabled HTTPS port with client authentication set to "Username/Password" or "Request Client Certificates".
  When a service is invoked through an HTTPS port that uses JSSE and has client authentication set to "Username/Password" or "Request Client Certificates", Integration Server logs the following exception in the error log:
  javax.net.ssl.SSLPeerUnverifiedException: peer not authenticated.
  The issue is now resolved. Integration Server does not log any exception upon invoking a service successfully through a JSSE-enabled HTTPS port with client authentication set to "Username/Password" or "Request Client Certificates".

- PIE-38599 (IS_9.0_SP1_Core_Fix13)
  The pub.client:http service does not honor the value set for the useJSSE parameter.
  The useJSSE parameter of the pub.client:http service indicates whether to enable the use of the Java Secure Socket Extension (JSSE) socket factory for creating outbound HTTPS connections. However, the pub.client:http service fails to consider the value set for the useJSSE parameter and does not use JSSE for SSL connection with proxy configuration even if the "useJSSE" parameter is set to yes.

This issue is now resolved. The pub.client:http service now honors the value set for the useJSSE parameter.
- If "useJSSE" is set to yes, Integration Server uses JSSE for HTTPS connection.
- If "useJSSE" is set to no, Integration Server uses Entrust IAIK library for HTTPS connection.

- PIE-39117 (IS_9.0_SP1_Core_Fix13)
  Subsequent HTTPS requests through proxy to the server fail.
  When you send repeated outbound HTTPS requests to a server using the pub.client:http service with useJSSE=yes and HTTPS proxy alias, the first request is sent successfully but the subsequent requests fail with exception.
  The issue is now resolved.

- PIE-37937 (IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix8)
  Publishing a document as a JMS message from Designer fails with a NamingException.
  Using Designer to publish an instance of an IS document type as a JMS message fails with a NamingException. This occurs because the pub.jms:send service, which is used by Designer to publish the JMS message, includes a new input parameter named JMSMessage/header/replyTo that Designer populates with an empty String. Integration Server attempts a JNDI lookup using the empty String, which results in the NamingException.
  Now, Integration Server verifies that JMSMessage/header/replyTo parameter is not empty before performing the JNDI lookup.

- PIE-34925 (IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  When executing a web service connector, Integration Server does not check the Execute ACL of the parent consumer web service descriptor.
  When executing a web service connector contained in a consumer web service descriptor that has a Pre-8.2 compatibility mode value of false, Integration Server did not check the Execute ACL of the consumer web service descriptor. The documented behavior is to always verify the Execute ACL for a web service descriptor, but it was not being done.
  Now, when executing a web service connector, Integration Server checks the Execute ACL of the parent consumer web service descriptor.

- PIE-37804 (IS_9.5_SP1_Core_Fix10, IS_9.6_Core_Fix9)
  Integration Server KPI that Optimize uses to display lifetime statistics displays current statistics instead.
  The Integration Server KPI, getNumCompletedRequests, which Optimize uses to display the number of completed requests over the lifetime of the Integration Server, returns the number of requests in the last polling period instead.
  This issue is now resolved.

- PIE-37586 (IS_9.5_SP1_Core_Fix10)
  Integration Server deletes the parent task when all the servers in a cluster are shut down. When you schedule a task to run on all servers in a cluster, and when one server in the cluster is shut down, Integration Server deletes the corresponding child task. However, when all the servers in the cluster are shut down, Integration Server deletes all the child tasks as well as the parent task. As a result, the parent task information is lost upon restart of Integration Server.

This issue is resolved.

- PIE-38131 (IS_9.5_SP1_Core_Fix10)
  Change to Integration Server to allow the pub.client:http service to return response headers and response entity when receiving a 501 to 599 level response from a remote HTTP server.
  HTTP servers indicate success or failure by including a status code in the response. The pub.client:http service returns the status code, response headers, and response body. When the HTTP response includes a status code in the 501 to 599 range, the pub.client:http service throws a ServiceException. Some HTTP servers include useful information in the response headers and entity when returning a 501 to 599 level status code. However, this information is lost when pub.client:http throws a ServiceException.
  To address this issue, Integration Server now includes a server configuration parameter, watt.net.http501-599.throwException, that you can use to indicate how the pub.client:http service handles a 501 to 599 level response.
  watt.net.http501-599.throwException
  Specifies whether or not the pub.client:http service throws a ServiceException when receiving a 501 to 599 level response from a remote HTTP server. When set to true, the pub.client:http service throws a ServiceException when it receives a 501 to 599 level response from a remote HTTP server. When set to false, the pub.client:http service does not throw a ServiceException when it receives a 501 to 599 level response from a remote HTTP server. Instead, when the pub.client:http service returns a status code in the 501 to 599 range, the service returns the status code, response headers, and response body. The default is true. You do not need to restart Integration Server for changes to this parameter to take effect.
  Note: When the remote HTTP server returns a response code of 500, the pub.client:http service returns the status code, response headers, and response body.

- PIE-38442 (IS_9.5_SP1_Core_Fix10)
  Integration Server does not handle an element with xsi:nil=1 correctly.
  If an IS document type used by the web service contains a field of type Object for which the Allow null property is set to true and the XML instance document contains a corresponding element with an xsi:nil=1 and an xmlns:xsi= attribute, Integration Server does not properly convert the element. Instead, Integration Server incorrectly converts the element to a Document field with no children instead of converting the element to a field of type Object with a “null” value.
  This issue can also occur when the pub.xml:xmlNodeToDocument service executes and all of the following are true:
  - The preserveUndeclaredNS input parameter is set to true
  - The IS document type in the documentTypeName field contains a field of type Object for which the Allow null property is set to true
  - The supplied node contains a corresponding element with an xsi:nil=1 and an xmlns:xsi=

  Now, Integration Server properly converts the xsi:nil=1 element to an field of type Object with a "null" value.

- PIE-36837 (IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  Sessions are not being shared among Integration Servers in a cluster.
  When a dynamic server page (DSP) is requested by a client, a session is created in Integration Server and a Set-Cookie response header is returned with the session ID. If a subsequent request

from the client includes the session ID but a different Integration Server in the cluster receives the request, the second server should find the session in the cluster's session store and then use the session to service the request. This was not happening. The first server did not save the session to the cluster's session store. As a result, the client's session was not available to the second server. This has been fixed. When a clustered Integration Server receives a request for a DSP, the server saves the session to the cluster's session store.

- PIE-36942 (IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  Integration Server may become unresponsive when processing concurrent requests to disable file polling ports in different packages.
  If Integration Server receives concurrent requests to disable a file polling port in a package and the ports are located in different packages, Integration Server may become unresponsive. Additionally, HTTP/S ports on Integration Server might become unavailable.
  This issue is now resolved.

- PIE-37005 (IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  Enhancement to pub.jms:send service to allow specifying a destination for the JMSReplyTo header. Currently, if you want to specify the JMSReplyTo header for a JMS message that you are sending, you must use the pub.jms:sendAndWait service. The pub.jms:sendAndWait service sends a request message and waits for a response. The act of waiting for a response message comes with extra overhead for Integration Server which is unnecessary if you merely want to specify a JMSReplyTo destination but do not want the sending service to wait for a reply.
  To address this issue, the pub.jms:send service has been enhanced to include a new input parameter for setting the JMSReplyTo header. When invoking the pub.jms:send service, you can set the JMSMessage/header/replyTo field which is an optional parameter of type String. Set this parameter to one of the following:
  - If the JMS connection alias used by the pub.jms:send service connects to the JMS provider using JNDI, set JMSMessage/header/replyTo to be the lookup name of the destination lookup object name.
  If the JMS connection alias used by the pub.jms:send service connects to the JMS provider using a native Broker connection, set JMSMessage/header/replyTo to the Broker queue name. That is, if the JMS connection alias specifies the Broker as the JMS provider and uses the native webMethods API to connect directly to the webMethods Broker, specify the name of the queue on the Broker that should receive replies to the message.
  Note: When using the native webMethods API to connect to the Broker, the JMSMessage/header/replyTo destination must be a queue. Topics are not supported.
  When executing the pub.jms:send service with a valid value for the JMSMessage/header/replyTo parameter, Integration Server creates the javax.jms.Destination and maps it to the JMSReplyTo field within the message header. Integration Server sends the message and returns immediately. The service does not wait for the response message.
  If JMSMessage/header/replyTo is empty, then Integration Server does not set the JMSReplyTo header for the JMS message. If JMSMessage/header/replyTo is invalid, then Integration Server throws a ServiceException.

- PIE-37261 (IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix8)
  Integration Server logs the message “[B cannot be cast to com.wm.util.Values" in server.log file”.

If the ServiceResults cache has the Copy on Read and Copy on Write check boxes selected and the number of entries in the cache exceeds the value specified for Maximum Elements in Memory, Integration Server logs the following error message to the server log: [B cannot be cast to com.wm.util.Values
This issue is now resolved.

- PIE-37126 (IS_9.5_SP1_Core_Fix9, IS_9.6_Core_Fix9)
  In the Integration Server Administrator page, the Routing option under Adapters is not available in some cases.
  After a successful installation of the OnRamp for Commerce One Marketplace Adapter, the Routing option under Adapters in the Integration Server Administrator page is not available. The Integration Server console is unable to add this option in the Integration Server Administrators page because an incorrect configuration in the Server Log Facilities page results in a failure in the initialization process for the adapter.
  This issue is resolved. The Routing option is now available under the Adapters section in the Integration Server Administrator page.

- PIE-35036 (IS_9.6_Core_Fix8, IS_9.7_Core_Fix5)
  Integration Server does not reflect the changes made to the Create Temporary Queue option after the JMS connection alias is created.
  If the Create Temporary Queue option is selected while creating a JMS connection alias and if this selection is cleared later, Integration Server does not reflect this change. The setting of the Create Temporary Queue option that was chosen while creating a JMS connection alias is maintained.
  This issue is resolved. Integration Server now reflects the changes made to the Create Temporary Queue option after the JMS connection alias is created.

- PIE-37419 (IS_9.6_Core_Fix9)
  File polling consumed server threads that were not terminated at the end of file polling process.
  The thread leak related to file polling ports is now resolved.

- PIE-37581 (IS_9.6_Core_Fix9)
  Integration Server erroneously logs a message about the connection pool threshold being exceeded.
  Integration Server erroneously writes the following message to the server log:
  [ISS.0096.0008I] JDBC Connection pool threshold exceeded, 0 available for pool CentralUsers:CentralUsersPool
  This issue is now resolved.

- PIE-37893 (IS_9.6_Core_Fix9)
  The FTP command PWD returns incorrect structure in certain situations
  The FTP command PWD sometimes returns an incorrect directory path .
  The PWD command now returns a valid directory path.

- PIE-37268 (IS_9.6_Core_Fix9)
  When JSSE is enabled for outbound HTTP connections from Integration Server, watt.security.ssl.client.ignoreEmptyAuthoritiesList does not work as expected.
  When JSSE is enabled for outbound HTTP connections, Integration Server client accepts empty trusted authorities lists from the SSL server but does not return its CA certificate even if the

watt.security.ssl.client.ignoreEmptyAuthoritiesList is set to true.
This issue is resolved. Now, when JSSE is enabled for outbound HTTP connections, Integration Server client accepts empty trusted authorities lists from the SSL server and returns its CA certificate if the watt.security.ssl.client.ignoreEmptyAuthoritiesList property is set to true.

- PIE-36514
  Integration Server creates an exception when you invoke a flow service exposed as a web service.
  Integration Server creates the following exception when you try to invoke a flow service exposed as a web service:
  ServiceException: Fault returned by invoked service.
  This exception which is created in the stack before the service is executed is not logged in the Integration Server log but, monitoring tools like Dynatrace might interpret the exception as an error even though the service is successfully executed.
  This issue is resolved.

- PIE-37042
  When invoking the pub.client:http service with the useJSSE input parameter set to yes, a java.lang.ClassCastException error occurs if the server configuration parameter, watt.security.ssl.keypurposeverification is set to true.
  This issue is resolved.

- PIE-37056
  When the pub.client:http service sends an HTTPS request, the SSL handshake process fails when the useJSSE parameter is set to yes.
  When the pub.client:http service sends an HTTPS request and the useJSSE input parameter is set to yes, during the SSL handshake process Integration Server sends its certificate even though no matching CA certificate from the other endpoint server is found in the Certificate Authorities list for the SSL handshake.
  This issue is resolved. Integration Server now sends its CA certificate during the SSL handshake process only if a matching CA certificate is available from the other endpoint server.

- PIE-37178
  The watt.server.compile parameter is not set correctly if Integration Server instance is created through migration utility.
  When running the migration utility, selecting the option to create an Integration Server instance during migration results in an incorrect value for the watt.server.compile server configuration parameter, specifically: ${javac.exe} -classpath {0} -d {1} {2}
  Now, the migration utility substitutes the value of ${javac.exe} to point to javac executable located in the JDK shipped with Integration Server.

- PIE-37308
  At start up, Integration Server logs a warning message about audit logging even though no audit loggers are configured.
  At start up, Integration Server attempts to determine if there are sufficient JDBC connections in the JDBC connection pool even when audit loggers are not configured. If there are no connections, Integration Server logs the following message, which is erroneous if there are no configured audit

loggers:
[ISS.0095.0022W] Audit Logging Initialization: Unable to verify the Max Connections setting for the Audit Logging database.
Now, Integration Server does not check for JDBC connections at start up if there are no configured audit loggers.

- PIE-37377
  Update of scheduled tasks to use UTC fails.
  At startup, if Integration Server updates scheduled tasks to use UTC (Coordinated Universal Time) instead of local time, Integration Server writes the following message to the server.log:
  [ISS.0137.0035E] Migration of scheduled tasks to UTC timezone failed
  When Integration Server updates the tasks to UTC, Integration Server also validates the tasks, which, for a task scheduled to run on another Integration Server in a cluster, includes checking that the Integration Server is a member of the cluster. If the Integration Server is not in the cluster, task validation fails and the task timestamp is not updated to UTC. However, Integration Server incorrectly considers that the task that failed validation is now in UTC when, in fact, the task is still in local time.
  Now, the migration utility no longer validates the scheduled task during migration. Consequently a validation failure does not prevent the migration utility from updating the scheduled tasks.

- PIE-37457
  A webMethods messaging request-reply fails when the encoding type of the reply document type is protocol buffers.
  When encoding the reply message, Integration Server uses the encoding type specified for the publishable document type used as the reply. However, reply messages are sent to a dedicated reply-to channel on Universal Messaging. The channel is generic and is not associated with any specific document type. To receive a protocol buffer encoded message, a channel must be associated with a specific document type. Because the channel is generic, a reply message encoded as a protocol buffers cannot be processed.
  To address this issue, Integration Server now always encodes reply message as IData.

- PIE-37560
  Upgrade does not include layered products if the destination Integration Server does not have an instance with the same name as the source Integration Server.
  When upgrading to an Integration Server instances that does not have the same name as the source Integration Server instance, upgrade does not include layered products such as webMethods Mediator and webMethods Monitor.
  This issue is now resolved. Upgrade always includes layered products, regardless of whether or not the destination Integration Server instance is the same as the source Integration Server instance.

- PIE-37825
  When the logging level is set to Trace, upon invoking the pub.client:http service, Integration Server logs an entry for the HTTP Get method in the server log irrespective of the HTTP request type.
  This issue is resolved. Upon invoking the pub.client:http service, Integration Server now logs entries according to the HTTP request type.\

- PIE-37844
  After a database outage, Integration Server can run out of threads.
  When Integration Server cannot connect to the audit logging database, either due a problem in the database or a problem in the network, all threads requesting database connections can pause indefinitely. If this situation persists, all threads in the server thread pool will be paused. No new requests will be accepted.
  This issue has been fixed. A point of thread contention in the JDBC pool implementation was removed. Threads requesting database connections after a database outage no longer experience lengthy pauses.

- PIE-36702 (IS_9.8_SPM_Fix1)
  Command Central cannot be used to set the all the JDBC connection pool alias properties.
  When using Command Central to create or edit a JDBC connection pool, the Available Connections Warning Threshold and Waiting Thread Threshold Count properties cannot be specified.
  The Available Connections Warning Threshold and Waiting Thread Threshold Count properties can now be set through Command Central.

- PIE-34577
  Integration Server does not validate a certificate that uses the SHA-256 algorithm but should.
  The certificate chain verifier in Integration Server validates the certificates presented by SSL clients. The certificate chain verifier does not validate a certificate chain that uses the SHA-256 algorithm, but should. Instead Integration Server throws the following error:
  [ISC.0009.9002] Error in certificate chain: Entrust cannot verify the certificate chain: [ISC.0009.9002] Error in certificate chain
  The certificate chain verifier in Integration Server now validates a certificate chain that uses the SHA-256 algorithm.

- PIE-35422
  The jcode utility fails with a MalformedPatternException on Linux.
  Execution of jcode.sh on Linux fails with the following error: Exception in thread "main" java.lang.NoClassDefFoundError: org/apache/oro/text/regex/MalformedPatternException
  The exception occurs because one of the required jar files in common/lib/ext is missing from the jcode utility classpath.
  The jcode.sh file is now updated to include the required jars in the classpath. This issue is now resolved.

- PIE-35643
  After upgrading to version 9.7, when a webMethods messaging trigger, which has join conditions that are dependent on two or more documents, does not start because Integration Server cannot locate the publishable document types, Integration Server does not reload and start the trigger when the publishable document types are later loaded.
  Integration Server does not start a webMethods messaging trigger, which has join conditions that are dependent on two or more publishable document types, if it cannot find the document types specified in the join condition. However, Integration Server issues a PDT_DOES_NOT_EXIST (InvalidDocumentException) exception stating the reason the trigger did not fully load and when Integration Server loads the package containing the publishable document types to which the

trigger subscribes, Integration Server reloads the trigger. But, after upgrading to version 9.7, instead of the PDT_DOES_NOT_EXIST exception, Integration Server returns an INVALID (ServiceException) exception incorrectly. As a result, Integration Server fails to reload and start the trigger when the publishable document types are later loaded.
This issue is resolved. Integration Server now returns the PDT_DOES_NOT_EXIST exception correctly if it cannot find the document types specified in the join condition. In addition, when Integration Server loads the package containing the publishable document types specified in the join condition, Integration Server reloads the trigger.

- PIE-35716
  If the database associated with Integration Server is restarted abruptly, service invocations or database calls made through JDBC connection pool alias fail and do not return any records from the database.
  When the database associated with Integration Server is restarted abruptly, Integration Server does not close and release the existing JDBC connections that are stale due to the abrupt database shutdown, and fails to return these connections to the JDBC connection pool. As a result, service invocations or database calls made through the JDBC connection pool alias fail and do not return any records from the database.
  The issue is now resolved.

- PIE-35907
  After migrating to Integration Server 9.5 or later, Integration Server displays an exception when calling a web service and using MTOM streaming.
  After migrating 2 to Integration Server 9.5 or later, sending a web service request that uses MTOM streaming for which more than one chunk is sent, the following exception occurs:
  "Exception --> org.apache.axis2.AxisFault: Connection reset by peer: socket write error"
  This issue is now resolved.

- PIE-36224
  When installed on Unix or Linux, scripts located in IntegrationServer/instances/<instanceName>/packages/<packageName> directory, such as IntegrationServer/instances/myInstance/packages/WmDeployer, do not have permission to execute.
  This issue is now resolved.

- PIE-36288
  Executing the jcode.bat/sh utility removes the name of the output template assigned to a service.
  Running the jcode.bat/sh utility removes the value of the Output template Name property for services in the package containing the Java service.
  This issue is now resolved.

- PIE-36399
  Using pub.schema:createXSD to create an XML Schema definition for a document type ends with a NullPointerException.
  Using the pub.schema:createXSD service to create an XML Schema definition for a document type ends with a NullPointerException if the document type contains a field named *body.
  This issue is now resolved.

- PIE-36644
  Memory leak with JMS request-reply.
  Integration Server did not correctly close MessageProducer objects when invoking the pub.jms:reply service, resulting in a memory leak.
  This issue is now fixed.

- PIE-36824
  Users that are members of the Developers group cannot use Designer to build and upload processes.
  When a user that belongs to the Developers group uses Designer to build and upload a process, Designer throws the following exception:
  Error: Build of process <processName> failed.
  com.webmethods.process.connection.is.IntegrationServerConnectionException: [ISC.0064.9314] Authorization Required: [ISS.0084.9004] Access Denied
  at
  com.webmethods.process.generator.util.GeneratorUtils.getJMSProviderData(GeneratorUtils.java:934)
  at
  com.webmethods.process.generator.util.GeneratorUtils.createJNDIDestinations(GeneratorUtils.java:718)
  This issue is now resolved. Members of the Developers group can now use Designer to build and upload processes.

- PIE-36962
  Integration Server fails to enable email ports configured to use transport layer security.
  Upon creating an email port configured to use transport layer security, Integration Server fails to enable the email port and issues the following error message:
  Unsupported ciphersuite SSL_DH_DSS_WITH_3DES_EDE_CBC_SHA
  This issue is resolved.

- PIE-36990
  Duplicate port aliases are assigned during upgrade.
  When upgrading Integration Server 9.5 or earlier to version 9.6 or later, Integration Server might assign the same port alias to multiple Internal Server ports. Upon startup of Integration Server, this may result in only one of the Internal Server ports becoming active and in the following warning:
  [ISS.0070.30] yyyy-mm-dd hh:mm:ss zone WARN: Duplicate alias protocolListener_portNumber_packageName encountered creating protocol listener on port portNumber.
  This occurs because the naming convention used to assign a port alias to an existing port creates a duplicate alias if more than one Internal Server ports connect to an Enterprise Gateway Server through the same Registration port.
  Now, to ensure that each port alias is unique, Integration Server includes the host name for the port in the port alias for migrated ports. The new naming convention is:
  protocolListener_portNumber _hostName_packageName

- PIE-37004

Integration Server reloads packages more than once in a run-time-based deployment.
When there are dependencies across different Integration Server packages in a run-time-based deployment, Integration Server reloads these packages more than once.
Now, Integration Server reloads the packages just once.

- PIE-37041
  While converting an XML node to a document, Integration Server does not issue any validation errors upon receiving empty fields that are not included in the enumeration list.
  When converting an XML node to a document that contains fields with *body attributes, the text specified in *body represents the values of the document fields. These elements can have valid values specified in the enumeration fields. However, while converting, if Integration Server receives an empty value for a field and if the empty value is not included in the enumeration list, Integration Server should issue a validation error, but does not.
  This issue is resolved. Integration Server now issues the following validation error upon receiving an empty field that is not included in the enumeration list:
  No matching enumeration value.”

- PIE-37142
  On Windows, the script for creating a new instance of Integration Server does not use the JVM bundled with the product installation.
  The script for creating an Integration Server instance now uses the JVM bundled with the Integration Server product installation.

- PIE-37159
  Users can log in to Integration Server with old and new passwords.
  When central user management is configured for Integration Server and an authentication cache is enabled for Integration Server, users can log in with an old password even after successfully log in with the new password. This occurs because Integration Server does not remove the cached entry with the old password until after the time specified in watt.server.auth.cache.timeout elapses.
  Now, once a user logs in with a new password, Integration Server clears the cached password.

- PIE-37166
  Web browser users are not forced to supply credentials after their session expires.
  When Integration Server receives a request that includes a cookie that identifies a session and valid user credentials, Integration Server will do one of two things:
  - If the session identified by the cookie is valid, Integration Server will use the existing session for the request.
  - If the session identified by the cookie has expired, or is otherwise invalid, Integration Server will use the supplied credentials to authenticate the client and create a new session for the request.
  Modern web browsers cache user credentials and send them to servers with each request. For Integration Server Administrator users, this means a user's session may expire but because the browser sends the user's credentials every time, a new session is created and the user may continue to use Integration Server Administrator without re-entering their user name and password. The only way to force the re-entry of a user's credentials is to close the browser. This may be considered a security flaw.
  Integration Server addresses this situation by adding a new configuration parameter:

watt.security.session.forceReauthOnExpiration. When set to true, Integration Server rejects any request that includes a cookie identifying an expired or invalid session, even if the request includes valid user credentials. The rejection response directs the browser to clear its session identifier and to prompt the user for credentials. When set to false, Integration Server creates a new session using the credentials in the cookie. The default value for watt.security.session.forceReauthOnExpiration is false. A value of true offers more secure behavior. Changes to watt.security.session.forceReauthOnExpiration take effect immediately.

- PIE-37211
  The pub.flow:getLastError service does not return a lastError document.
  The pub.flow:getLastError service does not return a lastError document if a parent SEQUENCE step specifies a timeout value but a service called by an INVOKE step within the SEQUENCE causes the SEQUENCE to time out.
  This issue is now resolved.

- PIE-37222
  A signed XML document or a node in an XML document fails verification performed by the pub.security.xml:verifyXML service.
  If the pub.security.xml:signXML service signs an XML document or a node in an XML document and the service input specifies "true" for the includeCertChain parameter or a value other than the default value "X509_CERTIFICATE" for the certData parameter, the resulting signed document fails verification performed by the pub.security.xml:verifyXML service.
  This issue is resolved.

- PIE-37276
  After migrating a consumer web service descriptor that uses Web Services Addressing (WS-Addressing) from Integration Server 8.2 to a later release, invoking a web service connector in the descriptor ends with SocketTimeoutException.
  If a consumer web service descriptor was created from a WSDL document that declared both the Web Services Addressing namespace as defined in the World Wide Web Consortium (W3C) Recommendation and the namespace from the earlier W3C Submission, after migration from Integration Server 8.2, execution of a web service connector fails with the following:
  java.net.SocketTimeoutException: Read timed out
  The timeout occurs because Integration Server incorrectly uses the WS-Addressing namespace from the earlier W3C Submission of WS-Addressing when executing the web service connector. As a result, the web service provider does not respond in the expected manner which causes the request to time out.
  Now, if a web service descriptor that uses WS-Addressing was created from a WSDL that declared namespace declarations for the WS-Address Recommendation and the Submission, Integration Server uses the namespace declarations defined in the Recommendation.

- PIE-37473
  Package deployment fails when the package contains a document type.
  Using Deployer to deploy a package that contains a publishable document type fails with the following error:
  [DEP.0005.0326] An error occurred while deploying package "packageName". Item

"documentTypeName" could not be loaded because of reason "[ISS.0026.9112] Document type documentTypeName has failed to load. Duplicate Broker document type name brokerDocumentTypName is also referenced by documentTypeName". The package may have partially loaded; please check your target server.
This issue is now resolved.

- PIE-37508
  Integration Server logs an erroneous exception when executing web services without an outbound callback service.
  When executing web service that is part of a provider web service descriptor for which an outbound callback service is not specified, Integration Server sometimes writes the following erroneous message to the error log:
  ISC.0088.9998E Exception --> null.
  This issue is now resolved. Integration Server no longer logs an exception when executing a web service that is part of a web service descriptor that does not specify an outbound callback service.

- PIE-37589
  XSLT services experience intermittent XSLT transformation errors or exhibit slow transformation performance.
  This fix addresses both issues.

- PIE-37790
  Enhancement to use Universal Messaging for audit logging queues.
  In asynchronous audit logging, Integration Server first writes a log entry to a queue and subsequently writes the log entry from the queue to the log destination. Previously, Integration Server provided only an internal queue, sometimes called the light-weight queue, to use as an audit logging queue. With this enhancement, Integration Server provides the option of using a Universal Messaging queue instead of the internal queue as the audit logging queue. Using Universal Messaging with audit logging offers increased performance for asynchronous and synchronous logging.

- PIE-37834
  When using the jcode utility to compile Java services, Integration Server generates wrong jcode utility classpath.
  When using the jcode utility to compile Java services, Integration Server generates wrong jcode utility classpath if the code or classes directory added to the classpath does not include path separator.
  This issue is now resolved.

- PIE-37977
  A web service connector throws a SOAPException about an invalid envelope.
  When executing a web service connector for an InOnly or InOnlyRobust operation for which the parent consumer web service descriptor has the Pre-8.2 compatibility mode property set to true, Integration Server may log the following extraneous error message indicating an invalid SOAP Envelope has been received even though the connector executed successfully.
  [ISS.0088.9155] this SOAPMessage does not contain a valid Envelope object

This fix eliminates the extraneous error message.

- PIE-38099
  A trigger with an AND join fails when receiving messages concurrently across a cluster of Integration Servers or a non-clustered group of Integration Servers.
  When a JMS trigger or a webMethods messaging trigger with an AND join receives messages at the same time on two different Integration Servers, one of the messages might be lost. The lost message will not be processed which prevents the AND join from being satisfied and causes the trigger to fail. This situation occurs when the trigger resides on Integration Servers in a cluster or on a group of non-clustered Integration Servers.
  This issue is now resolved.

- PIE-38134
  Enhancement to provide the ability to configure the allowed protocols for JSSE on a per port basis.
  In Integration Server, the watt.net.jsse.server.enabledProtocols server configuration parameter specifies the allowed protocols for all JSSE ports. However, there might be times where you wish to allow specific protocols for use with a particular JSSE port only. Integration Server now provides the ability to specify the allowed protocols for JSSE on a per port basis.
  Note: The 'jsseEnabledProtocols' value specified for the port record in the listeners.cnf file overrides the value set by watt.net.jsse.server.enabledProtocols server configuration parameter.
  Note: When the logging facility 0006 Server SSL Interface is set to the Debug logging level, Integration Server writes messages about protocols used for inbound and outbound ports to the server log. At the Trace logging level, Integration Server writes messages about the enabled cipher suites. You can use these server log messages to confirm the enabled protocols for any JSSE port.

- PIE-38158
  The pub.utils.messaging:migrateDocTypesTriggersToUM service incorrectly returns an message indicating a filter was successfully converted.
  When the pub.utils.messaging:migrateDocTypesTriggersToUM service cannot convert a filter for a webMethods messaging trigger because of a filter conversion error, the service returns the error message in the failedTriggers/reason parameter. However, the service also returns a message stating that the filter was successfully converted, which is not correct.
  If a filter cannot be converted successfully, the pub.utils.messaging:migrateDocTypesTriggersToUM no longer returns a message about successful conversion of the filter.

- PIE-38244
  Web service fails with a RampartException while handling a holder-of-key SAML assertion.
  When handling a holder-of-key SAML assertion, a web service fails with the following exception: RampartException: Invalid signature algorithm for Asymmetric binding.
  This issue is now resolved.

- PIE-38300
  A concurrent JMS trigger makes a retry attempt after Integration Server suspends the trigger because of a transient error.
  When a concurrent JMS trigger encounters a transient error when processing a message, the trigger

makes an extra retry attempt after the trigger is suspended. For example, if Max retry attempts is 3, Integration Server suspends the trigger after the third retry attempt fails. However, the trigger makes a fourth retry attempt.
This issue is resolved. When Integration Server suspends a concurrent JMS trigger because of a transient error, the trigger does not make an additional retry attempt.

- PIE-38391
  In a clustered environment, Integration Server sometimes does not create child tasks when a new server is added to the cluster or when an existing server is restarted.
  When a task is scheduled to run on all servers in a clustered environment, Integration Server creates a parent task and a child task for each server in the cluster. When a new server is added to the cluster or when an existing server in the cluster is restarted, Integration Server creates a corresponding child task upon server restart. However, Integration Server sometimes does not create the child task for the newly added server or for the server that was restarted. As a result, the complete information for all servers in the cluster is not available on the Scheduler screen.
  This issue is resolved.

- PIE-38404
  Integration Server resumes document retrieval and/or processing for webMethods messaging triggers after package reload or server restart even when the Apply Change Permanently option was selected.
  When using the Integration Server Administrator or the built-in services for suspending document retrieval and/or processing for a webMethods messaging trigger that receives documents from Universal Messaging, Integration Server does not honor the value of the Apply Change Permanently check box. When selected, the Apply Change Permanently check box indicates that Integration Server persists the change in document retrieval or document processing across package reloads and server restart. However, Integration Server reverts the state and enables retrieval and/or processing of documents when Integration Server restarts or when a package is reloaded.
  This issue is resolved.

- PIE-38473
  While creating an Enterprise Gateway Server port that uses the HTTPS protocol, the 'Use JSSE' option is not available in the Edit Enterprise Gateway Server Configuration screen in Integration Server Administrator.
  This issue is resolved. The 'Use JSSE' option is now available in the Edit Enterprise Gateway Server Configuration screen while creating an Enterprise Gateway Server port that uses the HTTPS protocol.

- PIE-38526
  When creating an Internal Server port that uses the HTTPS protocol, the "Use JSSE" option is not available in the Edit Internal Server Configuration screen in Integration Server Administrator.
  This issue is resolved. The Edit Internal Server Configuration screen now includes the "Use JSSE" option when the selected protocol is HTTPS.

- PIE-38530

An HTTPS port that uses JSSE fails to start when a keystore is specified.
If Use JSSE is set to Yes for an HTTPS port and the key alias password is different from the password used for the keystore, the port does not start.
This issue is now resolved.

- PIE-38536
  The pub.client:smtp service completes successfully even though the service finishes with errors.
  Improper exception handling allowed the pub.client:smtp service to execute successfully even though the service encountered errors. This could lead to missing MIME parts in the email sent by the service.
  Now, the pub.client:smtp service includes proper exception handling, which prevents successful completion of the service when the service encounters errors.

- PIE-38557
  When entering quiesce mode, Integration Server writes messages to the client-side queue because Integration Server disables connection aliases before disabling packages.
  When Integration Server enters quiesce mode, Integration Server disables the webMethods messaging connection aliases and JMS connection aliases before disabling packages. As a result, services that publish messages might execute after the needed connection alias is disabled, causing messages to be written to the client-side queue.
  Now, when entering quiesce mode, Integration Server disables packages before disabling connection aliases. This will prevent new messages from being written to the client-side queue as Integration Server enters quiesce mode.

- PIE-38660
  The jcode utility does not scan the jar files present in the static folders of the packages.
  The jar files present in the static folders of the packages (package's code\jars\static folders) were not being scanned and added to the classpath by the jcode utility.
  This issue is resolved.

- PIE-38881
  When migrating from Integration Sever 8.2 or later to a newer version of Integration Server, the migration utility overwrites server configuration parameter values set during an earlier migration.
  If you migrated Integration Server from version 7.x to version 8.2 or later and the later version introduces new behavior for existing functionality, the migration utility prompts you to choose the new behavior or the existing behavior and then sets a server configuration parameters in the server.cnf accordingly. When you migrate Integration Server from 8.2 or later to a newer version of Integration Server, the migration utility prompts to use the new or existing behavior for existing functionality that was changed in the new version. However, the Integration Server migration utility incorrectly overwrites some of the settings that were already set during earlier migrations.
  This issue is now resolved. Integration Server migration utility retains previously selected behavior and sets server configuration parameters for behavior introduced in the new version only.

- PIE-38921
  Setting the watt.server.db.connectionCache server configuration parameter to server increases the number of database connections.

Setting the watt.server.db.connectionCache server configuration parameter to server tells Integration Server to maintain a pool of connections for each database. However, when a connection became stale, a new connection was getting created without the stale connection getting closed. This increased the number of connections even though the pool reached its maximum number of connections.
This issue is resolved. Integration Server now closes all the stale connections before creating new connections.

Release 9.9

- PIEAR-616 (WAR_9.5_SP1_Fix5, WAR_9.7_Fix1)
  The change in status of an adapter listener is not displayed in Integration Server Administrator if you query the listener using an existing search filter.
  In Integration Server Administrator, if you query an adapter listener using an existing search filter, the status of the listener is not refreshed and the current status of the listener is not displayed correctly.
  This issue is resolved. The status of an adapter listener is now refreshed on access to display the correct status using an existing search filter.

Release 9.8

- PIE-31623 (IS_7.1.2_Core_Fix47, IS_7.1.3_Core_Fix27, IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  Sessions on remote servers are reused by different users. When Integration Server is acting as an HTTP client, it retains the HTTP cookies from the remote server. If two users connect to the same remote server, they use the same set of cookies. Since the session ID is often stored in a cookie, this can result in the two users using the same session on the remote server. Each user should use a unique session when connecting to a remote server.
  This issue is resolved. HTTP cookies are now associated with a specific user as well as the remote server so that a separate set of cookies are used for each user.

- PIE-31372 (IS_7.1.3_Core_Fix27, IS_9.0_SP1_Core_Fix7, IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  Secure LDAP connections fail when running Integration Server on HP-UX.
  When running Integration Server on HP-UX, configuring LDAP connections using SSL fails because the default secure random algorithm in the Entrust library fails with an exception.
  This issue is resolved. Integration Server introduces the new watt.net.ssl.randomAlgorithm server configuration parameter to identify the random algorithm name. The default is FIPS186_2usingSHA1. If you change the setting of this parameter, you must restart Integration Server for the changes to take effect.

- PIE-34054 (IS_7.1.3_Core_Fix27, IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  Remove use of SSLv3 from any HTTPS or FTPS Integration Server ports.
  In order to protect against POODLE vulnerability (CVE-2014-3566),this fix exposes server configuration parameters that allow you to disable the use of SSLv3.0 on Integration Server HTTPS

and FTPS ports.

Depending on whether connections use the Entrust library (entoolkit.jar) or JSSE (where useJSSE=true), you use a different procedure to disable SSLv3.0. Follow the appropriate procedure as follows:
For connections that use Entrust (entoolkit.jar) library:
When Integration Server uses the Entrust library to handle inbound and outbound requests, you disable SSLv3.0 by setting the following server configuration parameters:
- watt.net.ssl.server.handshake.minVersion
- watt.net.ssl.server.handshake.maxVersion
Possible values for these server configuration parameters are "sslv3"and "tls" (the default). With this fix, these two parameters take the default value "tls", which indicates that all server side SSL listeners will support only TLSv1 and no longer accept SSLv3 connections.
When Integration Server acts as a client and makes an outbound request, it configures the allowed protocols using the following server configuration parameters:
- watt.net.ssl.client.handshake.minVersion=sslv2
- watt.net.ssl.client.handshake.maxVersion=tls
Possible values for these server configuration parameters are "sslv2", "sslv3", and "tls". If you want to disable the use of "sslv3", set watt.net.ssl.client.handshake.minVersion as follows:
watt.net.ssl.client.handshake.minVersion=tls
To change the values of the server configuration parameters, from Integration Server Administrator, navigate to Settings > Extended and add the parameters as follows:
watt.net.ssl.server.handshake.minVersion=tls
watt.net.ssl.server.handshake.maxVersion=tls
watt.net.ssl.client.handshake.minVersion=tls
watt.net.ssl.client.handshake.maxVersion=tls
If any of your clients require SSLv3 to connect (the previous default),set watt.net.ssl.server.handshake.minVersion as follows:
watt.net.ssl.server.handshake.minVersion=sslv3
When making outbound connections, you can configure Integration Server to first try to connect using sslv3 and, if that fails, to use tlsv1, set watt.net.ssl.client.handshake.minVersion as follows:
watt.net.ssl.client.handshake.minVersion=sslv3
This will allow Integration Server to use sslv3 with endpoints that do not support tlsv1.
For connections that use JSSE (where useJSSE=true):
When Integration Server uses JSSE to handle inbound and outbound requests, you disable SSLv3.0 by setting the following server configuration parameters:
- watt.net.jsse.server.enabledProtocols
- watt.net.jsse.client.enabledProtocols
Possible values for these server configuration parameters are a comma-separated values consisting of one or more of the following:
- SSLv2Hello
- SSLv3
- TLSv1
- TLSv1.1
- TLSv1.2

With this fix, watt.net.jsse.server.enabledProtocols and watt.net.jsse.client.enabledProtocols are set to the default value of "TLSv1,TLSv1.1,TLSv1.2", which indicates that all server side SSL listeners and client side outbound connections that use JSSE will not accept any SSLv3 or SSLv2 connections.
To change the values of the parameters, from Integration Server Administrator, navigate to Settings > Extended and add the parameters as follows:-
watt.net.jsse.server.enabledProtocols=TLSv1,TLSv1.1,TLSv1.2
watt.net.jsse.client.enabledProtocols=TLSv1,TLSv1.1,TLSv1.2
Note: These values are case-sensitive. Specify the values exactly as shown.
If any of your clients need to connect using SSLv3, add SSLv3 to watt.net.jsse.server.enabledProtocols, for example:
watt.net.jsse.server.enabledProtocols=TLSv1,TLSv1.1,TLSv1.2,SSLv3
When starting JSSE ports, at DEBUG level of logging facility 6 (Server SSL Interface), Integration Server logs a message to indicate what protocols are enabled for each JSSE port.

- PIE-34463 (IS_7.1.3_Core_Fix27, IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  When you invoke the pub.client:http service, Integration Server does not create a new session when the newSession parameter is set to yes.
  This issue is resolved.

- PIE-33340 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  While deploying BPM (ProcessModel) assets using webMethods Deployer, Integration Server issues an exception if a specified package does not exist in the source server.
  While creating a deployment map and adding it to the target group to deploy BPM (ProcessModel) assets using webMethods Deployer, Integration Server issues a NullPointerException if a specified package does not exist in the source Integration Server.
  This issue is resolved. In the above scenario, Integration Server now issues an error message stating that the specified package does not exist in the source server.

- PIE-32686 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  Integration Server returns a 401 Unauthorized error when it receives a request with no authentication scheme specified in the Authorization header.
  Requests with no authentication scheme do not conform to the HTTP Authorization header specification. Integration Server versions prior to 8.2 CoreFix 12 did not strictly enforce the HTTP Authorization header specification, so requests from HTTP clients that did not conform to that standard still worked. However, starting with Integration Server version 8.2 CoreFix 12, Integration Server forces requests to have an authentication scheme in the Authorization header.
  This issue is resolved. Now, Integration Server treats requests with no authentication scheme in the Authorization header as BASIC authentication requests and performs authentication for valid credentials.

- PIE-32800 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  In certain scenarios, SOAP fault that Integration Server generates includes the hostname and IP address of the endpoint reference.
  Upon invoking a web service that does not exist in the Integration Server, the SOAP fault that Integration Server generates includes the hostname and IP address of the endpoint reference in the values specified for fault reasons and actor/role attributes.

This issue is resolved. This fix introduces a new server configuration parameter, watt.server.SOAP.hideEPRHostInFault, to hide the endpoint reference host name and IP address details in the SOAP fault. When this parameter is set to true, Integration Server replaces the host name and IP address with *:* in the SOAP fault. When this parameter is set to false, Integration Server includes the host name and IP address details of the endpoint reference in the SOAP fault. The default value of this parameter is false.
Note: This parameter applies only when the Pre-8.2 compatibility mode property of the web service descriptor is set to false.

- PIE-32920 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  Integration Server returns the wrong error information when the format of an incoming HTTP Authorization header value is invalid.
  When Integration Server receives a request whose HTTP Authorization header value is in an invalid format, it returns a 500 Internal Server Error. Integration Server should return a 401 Unauthorized Error.
  This issue is resolved.

- PIE-33354 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)Integration Server logs an exception in the server logs while invoking web services that has no value set for the Outbound callback service property.
  While invoking certain web services, Integration Server logs following message in the server logs: ISC.0088.9998E Exception --> null.
  This issue occurs only if no value is set for the Outbound callback service property of the web service descriptor.
  This issue is now resolved. Integration Server no longer logs an exception if a value is not set for the Outbound callback service property of the web service descriptor.

- PIE-33421 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)After applying IS_9.0_SP1_Core_Fix6, the Dynamic Server Pages in Integration Server Administrator are not cached.
  This issue is resolved. This fix introduces a new server configuration parameter, watt.cachedirective.exclude.packages that you can use to specify a comma-separated list of packages whose Dynamic Server Pages you want the browser to cache. You can specify the packages as regular expressions. The asterisk (*) is the only wildcard character allowed in the regular expression. By default, the value of this parameter is empty, meaning none of the Dynamic Server Pages in the Integration Server Administrator are cached.
  Note: Software AG recommends that you use watt.cachedirective.exclude.packages to cache the Dynamic Server Pages that are related to custom packages only.
  Important: If you change the setting of this parameter, you must restart Integration Server for the changes to take effect.

- PIE-31376 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3)
  Querying for a user in an LDAP directory results in a "size limit exceeded" error.
  When Integration Server is configured to use LDAP for external user management, and Integration Server Administrator is used to query LDAP for a specific LDAP user or group of users, Integration Server retrieves all users from the LDAP directory instead of retrieving only the specified user(s).

This behavior results in the following error in the Integration Server server log:
ISS.0002.0044E Error querying for user(s) on (LDAP server) with search root (LDAP: error code 4 - Sizelimit Exceeded)
This issue is resolved.

- PIE-32725 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3)
  In certain scenarios, the entries in the stats.log file become corrupted.
  This issue is now resolved.

- PIE-33193 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3)
  Even after modifying the database columns to make them wider, Integration Server truncates the length of data in the WMSERVICEACTIVITYLOG.FULLMESSAGE and WMSERVICECUSTOMFLDS.STRINGVALUE columns of the audit logging database.
  The WMSERVICEACTIVITYLOG.FULLMESSAGE and WMSERVICECUSTOMFLDS.STRINGVALUE columns of the audit logging database are hard-coded in Integration Server to be 1024 characters and 512 characters respectively. When you edit the width of the database columns to make them wider, Integration Server truncates the data to the hard-coded values before writing the data to the database table.
  This issue is resolved. You can now increase the widths of the WMSERVICEACTIVITYLOG.FULLMESSAGE and WMSERVICECUSTOMFLDS.STRINGVALUE columns in the audit logging database. Now, when the audit records corresponding to the WMSERVICEACTIVITYLOG and WMSERVICECUSTOMFLDS database tables are created during server initialization, Integration Server checks the database to determine the width of the WMSERVICEACTIVITYLOG.FULLMESSAGE and WMSERVICECUSTOMFLDS.STRINGVALUE columns, and sets the length accordingly.
  Keep the following points in mind when increasing the column widths:
  - The data written to these columns can contain multibyte characters. With multibyte characters, data can be truncated in the middle of a character, which could cause the last character written to the database column to be a character other than the intended character. To avoid this, Integration Server truncates the last character boundary before the maximum length of the field, meaning that the data might be slightly smaller than the maximum value set in the audit logging database.
  - Integration Server checks the database for column width by obtaining the metadata and examining the CHAR_OCTET_LENGTH field of the column. If the database vendor does not supply a CHAR_OCTET_LENGTH value for the column, Integration Server uses the hard-coded default lengths for the fields as follows:
    - WMSERVICEACTIVITYLOG.FULLMESSAGE = 1024
    - WMSERVICECUSTOMFLDS.STRINGVALUE = 512
  Integration Server introduces the following new server configuration properties:
  - The watt.server.audit.schemaName server configuration parameter specifies the user name of the ISCoreAudit JDBC functional alias. By default, Integration Server uses the user name from the ISCoreAudit JDBC functional alias.
  - The watt.server.audit.dbEncoding server configuration parameter specifies the character set that the audit logging database uses. The default is UTF-8. The value for this property must be a standard IANA-assigned character set name, as defined on http://www.iana.org/assignments/character-sets.
  If you change the setting of either of these server configuration parameters, you must restart

Integration Server for the changes to take effect.

- PIE-33250 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3)
  Settings within a package's node.ndf files are changed after the package is compiled during a repository-based deployment.
  When a package is deployed to a target Integration Server using webMethods Deployer, and the Compile Package on Install global value is set to true, Integration Server performs a fragmentation step during compilation of the package. This step creates new node.ndf files for any Java services contained in the package. As a result, any settings previously defined in the node.ndf files are lost. This issue is resolved. This fix introduces a new global property - fragPackage (Fragment Package on Install), for package assets. A value of true indicates that you want to allow Integration Server to perform the fragmentation step and overwrite a package's node.ndf files when the package is compiled on the target server. A value of false indicates that you want to prevent the server from performing the fragmentation step, thereby preserving custom settings defined in the package's node.ndf files when the package is compiled on the target server. The default is true.

- PIE-33256 (IS_9.0_SP1_Core_Fix7, IS_9.6_Core_Fix3)Integration Server gives the datatype of the returnCode output parameter of the pub.client.sftp* services incorrectly as integer instead of correctly specifying it as string.
  This issue is now resolved. The returnCode output parameter of the pub.client.sftp* services is now updated to string datatype.

- PIE-32235 (IS_9.0_SP1_Core_Fix7)Integration Server thread dump indicates a deadlock state between webMethods Broker polling and synchronization threads when Broker disconnects while a publishing event is in progress.
  The BrokerPoller thread, which determines Broker's connection status, and the BrokerSynchronizer thread, which synchronizes documents between Integration Server and Broker, may become deadlocked. This can happen when Broker disconnects and/or reconnects while Integration Server is publishing a document to Broker.
  This issue is resolved. Integration Server now prevents deadlocks from occurring between the two threads.

- PIE-32458 (IS_9.0_SP1_Core_Fix7)
  Integration Server support for using user-defined prefixes with the document types created when creating or refreshing a consumer web service descriptor or a WSDL first provider web service descriptor.
  This fix contains the server-side functionality required to support the Designer functionality described in WED-4598 which is available in a webMethods Service Development fix. Together, PIE-32458 and WED-4598 provide the ability to associate user-defined prefixes with the namespaces used in document types instead of the prefixes defined in the schema contained in or referenced by a WSDL document used as the source for a web service descriptor. For more information about this functionality, see the readme file for the webMethods Designer Service Development fix. For webMethods Service Development 9.6, WED-4598 is available in ESB_9.6_Fix2.
  Note: The ability to refresh a web service descriptor is available in Integration Server and webMethods Service Development versions 9.0 SP1 and later.

- PIE-32990 (IS_9.0_SP1_Core_Fix7)
  Copying and pasting Integration Server packages from one server to another results in a "no such remote server" error.
  When a package is copied from an Integration Server and pasted to a remote Integration Server using Software AG Designer, the following error message is displayed in the server log:(ISS.0085.9102) No such remote server
  This occurs even when the target server is running normally and has a valid remote server alias.
  This issue is resolved.

- PIE-32895 (IS_9.0_SP1_Core_Fix8, IS_9.5_SP1_Migration_Fix1, IS_9.6_Core_Fix3, IS_9.6_Migration_Fix2)
  Integration Server issues a java.lang.NullPointerException error while migrating from Integration Server version 8.0 SP1 to Integration Server version 9.0 SP1 or 9.5 SP1 in a different installation directory.
  This issue is now resolved.

- PIE-30419 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  Editing the connection details of a remote Integration Server does not work as expected.
  After a remote Integration Server connection is created and a successful connection is established, if the remote server connection settings are changed (for example, if a different port number is specified), Integration Server does not create a new session when subsequent connection attempts are made. As a result, Integration Server Administrator indicates that subsequent connections are successful, even if the revised remote server settings are incorrect (for example, if the revised port number is not valid).
  This issue is resolved.

- PIE-32999 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  After applying a fix containing PIE-30630 or when using Integration Server 9.7, if Platform Manager is in use, Integration Server can have a high number of active stateful sessions.
  The number of active stateful sessions becomes high because sessions created by the Platform Manager were not being cleaned up upon disconnect but were not being removed from memory until the session time out limit elapsed. This issue was introduced by PIE-30630 which is included in Integration Server 9.7, IS_8.2_SP2_Core_Fix13, IS_9.0_SP1_Core_Fix6, IS_9.5_SP1_Core_Fix3, IS_9.6_Core_Fix1, and IS_9.6_Core_Fix2.
  Integration Server now removes a session created by the Platform Manager from memory at the time the Platform Manager disconnects.

- PIE-31474 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  Integration Server creates additional session threads while executing triggers and displays a misleading expiration value.
  When watt.server.trigger.reuseSession (for Broker/local triggers in Integration Server version 9.0 SP1 and earlier or webMethods messaging triggers in version 9.5 SP1 and later) or watt.server.jms.trigger.reuseSession (for JMS triggers) is set to false, Integration Server displays an additional session thread for the trigger. In addition, regardless of the values set for watt.server.trigger.reuseSession and watt.server.jms.trigger.reuseSession server configuration parameters, Integration Server Administrator displays the session on the Server > Statistics >

Session screen with a Session Expires value of 9223372036854775807 and the session never expires. This issue is resolved. When either the watt.server.trigger.reuseSession or watt.server.jms.trigger.reuseSession server configuration parameter is set to false, Integration Server no longer creates extra sessions for the respective trigger. For these sessions, Integration Server Administrator displays “upon service completion” in the Session Expires column on the Server > Statistics > Sessions screen for trigger-related sessions. This indicates that the session will remain until the service executed by the trigger finishes. Once the service finishes, Integration Server removes the session.
When either the watt.server.trigger.reuseSession or watt.server.jms.trigger.reuseSession server configuration parameter is set to true, Integration Server shares one session for each execution of the trigger. In this case, Integration Server Administrator displays a value of "never" in the Session Expires column of the Server > Statistics > Sessions screen and the session does not expire.

- PIE-33336 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_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 elements with attributes containing undeclared namespaces, 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 is available only if the datatype of the document is of type 'Object'.

- PIE-33632 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  The service results cache does not delete expired elements from Ehcache.
  Expired service results remain in Ehcache even after the cache sweeper thread runs.
  This issue is resolved.

- PIE-33376 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix3)
  Integration Server issues a NullPointerException when it receives an HTTP request with no User-Agent header.
  This issue is resolved.

- PIE-33601 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server is unable to process incoming XML files if the XML files contain non-English characters, such as Greek or Japanese.
  While processing an incoming XML file, Integration Server uses the charset encoding defined in the XML header. If the encoding is not defined in the XML header, Integration Server processes the XML file using the charset encoding of the request or the character encoding specified in the watt.server.fileEncoding server configuration parameter. However, after migrating to higher versions, using the character encoding specified in watt.server.fileEncoding parameter to process an incoming XML file causes Integration Server to return garbled messages.
  This issue is resolved. To resolve this issue, this fix introduces a new server configuration parameter, watt.server.xml.encoding, that specifies the encoding that Integration Server must use when processing incoming XML files.
  If an encoding is not defined in the XML header, Integration Server attempts to process the XML

file using the charset encoding of the http or ftp request. If charset encoding is not available in the request header, then Integration Server uses the character encoding specified in the att.server.xml.encoding server configuration parameter. There is no default value for this parameter. You must restart Integration Server for changes to this parameter to take effect.
Note: If you have configured Integration Server to use the character encoding specified in the watt.server.fileEncoding parameter to process incoming XML files, after installing this fix or after upgrading to a higher version of Integration Server, ensure that the value of watt.server.fileEncoding parameter is set to the same value specified for watt.server.xml.encoding.
If you have not configured watt.server.fileEncoding for processing XML files previously, after installing this fix or after upgrading to a higher version of Integration Server, you can configure watt.server.xml.encoding to process incoming XML files. You can use watt.server.fileEncoding to process all files other than incoming XML files.

- PIE-33615 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server is unable to parse incoming XML files if the XML files contain non-English characters, such as Greek or Japanese.
  While processing an incoming XML file, Integration Server uses the charset encoding defined in the XML header. If the encoding is not defined in the XML header, Integration Server parses the XML file using the charset encoding of the request or the character encoding specified in the watt.server.fileEncoding server configuration parameter. However, after migrating to higher versions, using the character encoding specified in watt.server.fileEncoding parameter to process an incoming XML file causes Integration Server to return garbled messages.
  This issue is resolved. To resolve this issue, this fix introduces a new server configuration parameter, watt.server.xml.encoding, to specify the encoding that Integration Server must use when processing incoming XML files.
  If an encoding is not defined in the XML header, Integration Server attempts to process the XML file using the charset encoding of the http or ftp request. If charset encoding is not available in the request header, then Integration Server uses the character encoding specified in the watt.server.xml.encoding server configuration parameter. There is no default value for this parameter. You must restart Integration Server for changes to this parameter to take effect.
  Note: If you have configured Integration Server to use the character encoding specified in the watt.server.fileEncoding parameter to process incoming XML files, after installing this fix or after upgrading to a higher version of Integration Server, ensure that the value of watt.server.fileEncoding parameter is set to the same value specified for watt.server.xml.encoding.

- PIE-33637 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server generates an invalid WSDL document if it encounters identically named elements that are declared to be of different types but belonging to the same target namespace.
  When generating the WSDL document, if Integration Server encounters identically named elements that are declared to be of different types but belonging to the same target namespace, Integration Server cannot correctly represent this in a WSDL document. Instead, when generating the WSDL document, Integration Server replaces the element declaration it creates for the identically named element first with the element declaration that it generates last.
  With this fix, when creating a service first web service descriptor, Integration Server issues a warning message stating that the element declaration it creates for the identically named element first is replaced with the element declaration that it generates last.

- PIE-33762 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  The pub.cache.atomic:putIfAbsent and pub.cache.atomic:replaceIfKeyExists services show the incorrect data type for the oldValue output parameter.
  The pub.cache.atomic:putIfAbsent and pub.cache.atomic:replaceIfKeyExists services display the oldValue output parameter as a String data type, but should display the data type as Object.
  This issue is resolved.

- PIE-33799 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  When running flow services in debug mode, Integration Server cannot retrieve parent service information from a calling child service.
  Integration Server cannot retrieve the parent service information from a calling child service in debug mode.
  This issue is resolved. Integration Server introduces the new public service pub.flow:getCallingService that can be invoked from the calling child service and returns the service and package name of the parent service. The pub.flow:getCallingService service returns the following output parameters:
  - svcName - String (optional) Fully qualified namespace name of the parent service.
  - pkgName - String (optional) Package name of the parent service.
  If pub.flow:getCallingService is invoked from a service that does not have a parent service (for example, if the service is a top level service), Integration Server does not return the output parameters.

- PIE-33938 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server continues to execute a flow service even after global variable substitution fails.
  When a flow service expects an input through global variable substitution and if the expected global variable does not exist, Integration Server displays an error message and continues executing the flow service instead of stopping the service execution.
  The issue is resolved. If the global variable that a flow service expects does not exist, Integration Server displays an error message and stops the flow service execution.

- PIE-34080 (IS_9.0_SP1_Core_Fix8, IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Adding an HTTP or HTTPS port in the Integration Server Administrator results in a blank Security > Ports screen.
  When the server configuration parameter watt.server.http.listRequestVars is set to "error" and a new HTTP or HTTPS port is added, Integration Server returns a blank Security > Ports screen and writes the following message to the server log:
  (ISC.0038.2) Duplicate query tokens found in URI: threadPool
  This issue is resolved.

- PIE-33821 (IS_9.0_SP1_Core_Fix8)
  The watt.server.SOAP.hideEPRHostInFault server configuration parameter is not available in the Extended Settings page in Integration Server Administrator.
  This issue is resolved. The watt.server.SOAP.hideEPRHostInFault server configuration parameter now appears in the Extended Settings page.

- PIE-32771 (IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  JMS provider connection attempts are refused during the processing of messages.
  When a trigger service uses a transacted JMS connection alias, and that service sends JMS messages using the pub.jms:send service to a different transacted connection alias, the sessions on the JMS provider are not closed. As a result, connection attempts are refused because channel and process limits are reached.
  This issue is resolved.

- PIE-33468 (IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  Web service descriptor does not use user-defined prefixes for fault and handler document types.
  When creating a consumer web service descriptor or a WSDL first provider web service descriptor, the user creating the web service descriptor can specify namespace prefixes to replace the prefixes used in the WSDL document. However, Integration Server was not using the user-defined prefixes for the IS document types generated for fault or handlers messages.
  This issue is now resolved.

- PIE-33531 (IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  After installing a newly generated license file for Terracotta, Integration Server disables editing for BigMemory settings.
  The issue occurs because of a parsing error in the license file.
  This issue is resolved.

- PIE-33660 (IS_9.6_Core_Fix3, IS_9.7_Core_Fix1)
  Integration Sever does not acknowledge all of the messages received in a batch by a JMS trigger.
  When a standard JMS trigger receives and processes a batch of messages from the JMS provider, the JMS trigger should acknowledge the last message received in the batch. This results in acknowledgement of all the messages received in the batch. However, the JMS trigger currently acknowledges the first message received in a batch instead of the last which causes several messages to be unacknowledged.
  Now, a JMS trigger that performs batch processing acknowledges the last message in the batch.

- PIE-33552 (IS_9.6_Core_Fix3, IS_9.7_Core_Fix2)
  The pub.client:http service fails with an access denied HTTP response if the url input parameter contains special characters.
  If the encoded value of the url input parameter of the pub.client:http service contains hexadecimal characters that are greater than 7f, the authorization information for the resource specified in the url parameter is not submitted by the http service. As a result, the pub.client:http service fails with the following error:
  (ISC.0064.9314) Authorization Required: (ISS.0084.9004) Access Denied
  This issue is resolved.

- PIE-33498 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)Integration Server generates an invalid WSDL document if it encounters identically named elements that are declared to be of different types but belonging to the same target namespace.
  When generating a WSDL document, if Integration Server encounters identically named elements that are declared to be of same type and belonging to the same target namespace, Integration Server issues a warning message stating that the element declaration it creates for the identically named element first is replaced with the element declaration that it generates last. Integration Server must do this only in case of identically named elements that are declared to be of different types but belonging to the same target namespace.
  This issue is resolved. Integration Server now issues a warning message only if the identically named elements are declared to be of different types but belonging to the same target namespace.

- PIE-33539 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Wrong message type identifier assigned to some messages of "0088 SOAP" server log facility.
  Integration Server assigns I (Info) as the message type identifier, instead of D (Debug), to some messages of "0088 SOAP" server log facility. As a result, there are discrepancies in the list of log messages displayed in the Logs > Server page of the Integration Server Administrator when Integration Server receives SOAP requests.
  The issue is resolved. The log messages of "0088 SOAP" server log facility now have the correct message type identifier.

- PIE-33764 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Wrong port shown in Mediator WSDL if multiple ports are configured in Integration Server.
  If a HTTP or HTTPS port is defined in Integration Server's Security > Ports page and added in the selected ports section in Solutions > Mediator > Administration > General page, the non-primary port with the lowest port number should be shown for the virtual service endpoint deployed in Mediator. However, Integration Server randomly chooses a port and makes the port available to the Mediator WSDL.
  This issue is resolved. The virtual service WSDL in Mediator will now see the non-primary port with the lowest port number if multiple ports are configured for Mediator in Integration Server.

- PIE-33811 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server becomes unresponsive while processing requests from a JMS provider.
  In certain circumstances, thread cleanup tasks performed during the processing of JMS messages fail to release the lock on an object. Other server threads that need that object go into a wait state, which eventually causes the server to become unresponsive.

This issue is resolved.

- PIE-33886 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  The pub.flow:getLastError service does not return any results when the invoke step of a flow service reaches its timeout threshold.
  When a parent flow service (service A) invokes a child flow service (service B) with the Timeout parameter specified at the invoke step, and the child flow service invokes another flow service (service C), and timeout is triggered, pub.flow:getLastError in parent flow service (service A) returns no error information.
  This issue is resolved. When you invoke the pub.flow:getLastError service in the parent flow service (service A), the parent flow service returns the lastError output parameter as an errorType element with a value of "com.wm.lang.flow.FlowTimeoutException".

- PIE-34051 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server Administrator displays the number of completed requests over the lifetime of the Integration Server in the Current column on the Statistics screen.
  Integration Server Administrator displays the number of completed requests in two columns in the Requests area of the Statistics screen: Current and Lifetime. The Current column should display the number of requests in the last polling period, and the Lifetime column should display the number of completed requests over the lifetime of the Integration Server. Instead, the Current column displays the number of requests over the lifetime of the Integration Server, and the Lifetime column does not display any value. In addition, Integration Server Administrator does not properly display the Average Time row.
  This issue is resolved.

- PIE-34109 (IS_9.6_Core_Fix4, IS_9.7_Core_Fix2)
  Integration Server does not honor the watt.server.control.triggerInputControl.delays or watt.server.control.triggerInputControl.delayIncrementInterval values.
  When the values for watt.server.control.triggerInputControl.delays or watt.server.control.triggerInputControl.delayIncrementInterval are changed, Integration Server saves but does not use the specified values if an exception occurred when parsing the supplied values. Regardless of which parameter value caused the parsing error, Integration Server uses the default values for both parameters. However, there was no log message or other type of notification to inform the user that the default values would be used instead.
  Now, Integration Server logs the following message if it cannot parse the values of the watt.server.control.triggerInputControl.delays or watt.server.control.triggerInputControl.delayIncrementInterval parameters:
  ISS.0125.0015W
  The trigger input control parameters, watt.server.control.triggerInputControl.delaysIncrementInterval and watt.server.control.triggerInputControl.delays, were set to their default values because an exception occurred when parsing the supplied values.
  Cause
  Integration Server could not set the trigger input control configuration parameter watt.server.control.triggerInputControl.delaysIncrementInterval and/or watt.server.control.triggerInputControl.delays to the new value because an exception occurred

when parsing the new value. Integration Server reset both configuration parameters to the default values.
Action
Use a valid value for the watt.server.control.triggerInputControl.delaysIncrementInterval or watt.server.control.triggerInputControl.delays parameter.

- PIE-32407 (IS_9.7_Core_Fix2)
  While using the pub.schema:validate service to validate an object, Integration Server considers a string ending with a decimal point to be a valid long data type.
  While validating an object using the pub.schema:validate service, Integration Server considers a string ending with a decimal point (for example, <longType>5.</longType>) to be a valid long data type.
  This issue is resolved. Integration Server no longer considers a string ending with a decimal point to be a valid long data type.

- PIE-33458 (IS_9.7_Core_Fix2)
  Validation of web service request or response fails because of an extraneous *body field.
  When processing an inbound web service request or response that has an element that contains whitespace only and the associated field in the IS document types is defined as a document with optional children, Integration Server inserts a *body field to contain the whitespace. This is incorrect as Integration Server should ignore the whitespace. The presence of the extraneous *body field causes validation to fail because the associated IS document type does not contain a *body field.
  This issue is now resolved.

- PIE-33583 (IS_9.7_Core_Fix2)
  A thread dump of Integration Server suggests a thread contention issue occurs during the creation of secure outbound connections.
  When Integration Server attempts to create multiple secure outbound connections at the same time, only one connection is created and other threads must wait.
  This issue is resolved.

- PIE-33990 (IS_9.7_Core_Fix2)
  An inbound HTTP/S request that includes access_token in the query parameters or header fields is rejected and results in an error message in the security.log file.
  If an inbound HTTP/S request includes access_token in the query parameter or header fields, Integration Server performs OAuth authentication, denies the request, and logs the following message in the security.log file:
  SYSTEM AUTHENTICATION Integration Server rejected the request to access this resource. The access token is either invalid or expired.
  To address this issue, Integration Server now includes server parameters to enable or disable OAuth authentication by Integration Server when an inbound HTTP/S request access_token in the query parameters or header fields
  watt.server.auth.oauth.accessToken.useHeaderFields
  Specifies whether Integration Server performs OAuth authentication when an inbound HTTP/S request includes an access_token in the header fields. Specify true to perform OAuth

authentication. Specify false to skip OAuth authentication. The default is true.
For changes to this parameter to take effect, you must restart Integration Server.
watt.server.auth.oauth.accessToken.useQueryParameters
Specifies whether Integration Server performs OAuth authentication when an inbound HTTP/S request includes an access_token in the query parameter. Specify true to perform OAuth authentication. Specify false to skip OAuth authentication. The default is true.
For changes to this parameter to take effect, you must restart Integration Server.

- PIE-34248 (IS_9.7_Core_Fix2)
  While using the extended character sets, Integration Server issues a java.io.UnsupportedEncodingException error.
  This issue occurs because the wm-converters.jar file, which is required to support extended character sets, is not present in the Integration Server classpath.
  To resolve this issue in Integration Server version 9.5 SP1, do the following:
  1. Shut down Integration Server.
  2. Using a text editor, navigate to and open the following file:
     Software AG_directory/profiles/configuration/custom_wrapper.conf
  3. Edit the custom_wrapper.conf file by adding the following jar entry:
     wrapper.java.classpath.100=Software AG_directory\common\lib\wm-converters.jar
     Where <Software AG_Directory> is the installation directory for Software AG products.
  4. Save your changes to the custom_wrapper.conf file and then close the file.
  5. Start Integration Server.

  To resolve this issue in Integration Server versions 9.6 and 9.7, do the following:
  1. Shut down Integration Server.
  2. Using a text editor, navigate to and open the following file:
     Software AG_directory/profiles/IS_instance_name/configuration/custom_wrapper.conf
  3. Edit the custom_wrapper.conf file by adding the following jar entry:
     wrapper.java.classpath.100=Software AG_directory\common\lib\wm-converters.jar
     Where <Software AG_Directory> is the installation directory for Software AG products.
  4. Save your changes to the custom_wrapper.conf file and then close the file.
  5. Start Integration Server.

- PIE-34323 (IS_9.7_Core_Fix2)
  While executing SQL queries, the Integration Server scheduler sometimes leaves the database cursor open, which causes the database cursor to reach its maximum limit.
  The issue is now resolved.

- PIE-34330 (IS_9.7_Core_Fix2)
  Integration Server returns different results in debug and run modes when an input variable to a MAP step is mapped to an output variable of the same name.
  When an input variable to a MAP step is mapped to an output variable of the same name, Integration Server returns different results in debug mode than it does in run mode.
  This issue is resolved.

- PIE-34444 (IS_9.7_Core_Fix2)
  The pub.client:http service does not consider the Content-Type headers if the data/args and data/table input parameter value is empty.
  If the data/args and data/table input parameter value of the pub.client:http service is not null, but empty, Integration Server uses the "application/x-www-form-urlencoded" content type and ignores the specified Content-Type headers.
  The issue is resolved, If the data/args and data/table input parameter value of the pub.client:http service is empty, Integration Server now uses the "application/x-www-form-urlencoded" content type only if no Content-Type is specified as the value of input field /headers/Content-Type.

- PIE-34481 (IS_9.7_Core_Fix2)
  Integration Server does not use service output templates for JSON requests.
  When Integration Server receives a request containing the header "Accept: application/json" and the invoked service has an output template defined, Integration Server does not use the template to create the output.

- PIE-34482 (IS_9.7_Core_Fix2)
  Integration Server throws a NullPointerException followed by a SocketTImeoutException.
  If Integration Server sends an outbound HTTP request and the request times out before a response is received, Integration Server may throw the following superfluous NullPointerException before throwing a SocketTImeoutException:
  java.lang.NullPointerException: null
  at com.wm.app.b2b.server.ServerThread.removeListener(ServerThread.java:272)
  at com.wm.util.lifecycle.LifecycleManager.unregisterLifecycleListener(LifecycleManager.java:103)
  at com.wm.app.b2b.server.HTTPMessageHandler.process(HTTPMessageHandler.java:266)
  at com.wm.app.b2b.server.HTTPDispatch.handleRequest(HTTPDispatch.java:173)
  This issue is now resolved.

- PIE-34503 (IS_9.7_Core_Fix2)
  The pub.string:bytesToString does not filter the byte order mark (BOM) characters while converting a byte array to string.
  This issue is now resolved. This fix introduces a new optional input parameter, ignoreBOMChars, to the pub.string:bytesToString service.
  If ignoreBOMChars is set to true and the value of the encoding input parameter is set to UTF-8, UTF-16, or UTF-32, Integration Server will remove the byte order mark (BOM) characters before converting the input byte array to string, if the byte array contains BOM characters.
  If ignoreBOMChars is set to false and the value of the encoding input parameter is set to UTF-8, UTF-16, or UTF-32, Integration Server will include the byte order mark (BOM) characters while converting the input byte array to string, if the byte array contains BOM characters. The default is false.

- PIE-34661 (IS_9.7_Core_Fix2)
  Integration Server connects to an SFTP server directly while retrieving the public key of an SFTP server, even if the connection between Integration Server and the SFTP server is through a proxy.
  While defining an SFTP server alias, upon clicking the Get Host Key button to retrieve the public

key of the SFTP server, Integration Server connects to the SFTP server directly even if the connection between Integration Server and the SFTP server is through a proxy.
The issue is now resolved. If the connection between Integration Server and an SFTP server is through a proxy, Integration Server connects to the SFTP server through the proxy while retrieving the public key of the SFTP server.

- PIE-34662 (IS_9.7_Core_Fix2)
  When creating an IS schema from an XML document that does not reference a DTD, Integration Server throws a NullPointerException.
  An IS schema can be created from an XML document only if the XML document references an existing DTD or contains a DTD inline. However, when creating an IS schema from an XML document that does not reference or contain an existing DTD, Integration Server throws a NullPointerException instead of a ServiceError.
  This issue is now resolved.

- PIE-31363
  Integration Server Administrator displays facility code 0090 as "Unknown".
  On the View Server Logger Details Screen, Integration Server Administrator displays the facility name for code 0090 as "Unknown". The facility name for 0090 should be "pub Flow Services".
  This issue is resolved.

- PIE-33148
  When creating a WSDL first provider web service descriptor, the Addressing action property in the WSDL does not show up correctly in the web service descriptor.
  Upon creating a WSDL first provider web service descriptor from a WSDL document containing the Addressing action property in the prefix:namespace format, Integration Server does not include the prefix in the Addressing action property of the newly created WSDL first provider web service descriptor.
  The issue is now resolved. The same Addressing action property that is in the WSDL is included in the web service descriptor created from the WSDL.

- PIE-34287
  Integration Server does not recycle the stats.log file at the correct time.
  By default, Integration Server should recycle the stats.log file daily at midnight. However, the first time to recycle the stats.log file was incorrect. This caused the file to be recycled daily but at the wrong time.
  This issue is now resolved. Integration Server now recycles the stats.log file daily at midnight.

- PIE-34509
  After setting the server configuration property watt.core.xml.expandGeneralEntities to false, Integration Server does not encode the apostrophe properly.
  This issue is now resolved.

- PIE-34627
  Integration Server displays an error message when editing a JNDI provider alias if Integration Server Administrator is accessed via Mozilla Firefox or Google Chrome.
  Integration Server displays the following error message when attempting to edit any field of a JNDI

provider alias using Integration Server Administrator: JNDI Alias Name must be specified.
This issue occurs only if Integration Server Administrator is accessed via Mozilla Firefox or Google Chrome.
The issue is now resolved.

- PIE-34669
  When Integration Server is installed as a service, the service is not unregistered when it is uninstalled.
  While uninstalling Integration Server that is installed as a service on a Windows operating system, Integration Server does not uninstall the registered service.
  This issue is resolved.

- PIE-34898
  A scheduled task configured to run on any one of the Integration Servers connected to the same database does not run as expected and fails with an error.
  When a scheduled task is configured to run on any of the Integration Servers that are part of a non-clustered group of Integration Servers in which the ISInternal functional alias on each server points to the same database, the scheduled task fails with the following error:
  Could not complete last run
  This issue is resolved.

- PIE-34899
  The pub.client.ftp:get service does not consider files of 0 KB size to be large files even if the largefilethreshold input parameter is set to 0.
  If the largefilethreshold input parameter of the pub.client.ftp:get service is set to 0, Integration Server must consider all files to be large files. The output parameter islargefile must be true and the file content must be returned in the output parameter contentstream as a java.io.InputStream object. However, the pub.client.ftp:get service does not behave as expected. The pub.client.ftp:get service does not consider files of 0 KB size to be large files even if the largefilethreshold input parameter is set to 0. The service returns the islargefile parameter as false and the file content is returned in the output parameter content.
  This issue is resolved. The pub.client.ftp:get service now considers files of 0 KB size to be large files if the largefilethreshold input parameter is set to 0.

- PIE-35009
  Integration Server appears to become unresponsive because of blocked client requests.
  An internal component in Integration Server fails to release a lock when it should. Client threads wait indefinitely to acquire the lock, eventually causing requests to block. As result, Integration Server appears to be unresponsive.
  This issue has been resolved.

- PIE-35012
  At start up, Integration Server resets the persistence strategy of a cache to none.
  When Integration Server starts, it resets the default persistence strategy for a cache to “none”. Integration Server should change the default persistence strategy to “none” only when TerracottaConfiguration is set to “clustered”.

This issue is resolved.

- PIE-35059
  Integration Server does not display an appropriate error message when an FTP client makes an active connection to the Integration Server FTP port, if there is a port in Integration Server with port number that is one less than the FTP port.
  If the FTP port configured in Integration Server is running in active mode and if there is a port in Integration Server with port number that is one less than the FTP port, when the FTP client makes an active connection to the FTP port configured in Integration Server, the connection fails with a NullPointerException message.
  The issue is resolved. Integration Server now issues the following error message to the FTP client: Could not create data port <port number>. Try passive mode."

- PIE-35143
  After applying IS_8.2_SP2_Core_Fix13 or higher, deserialization of SOAP messages to IData does not work as expected.
  After applying IS_8.2_SP2_Core_Fix13 or higher, while deserializing SOAP messages to IData, Integration Server erroneously adds a default namespace prefix of "xmlns" to those fields that are contained in an implicit namespace declaration. This results in broken endpoint service field mappings. This issue occurs only when the Pre-8.2 compatibility mode property of the web service descriptor is set to true.
  This issue is now resolved.

- PIE-35151
  Integration Server logs an SQLException during startup.
  When Integration Server starts, it uses the schema name to:
  - Access the audit logging database to determine the length of the WMSERVICECUSTOMFLDS.STRINGVALUE and WMSERVICEACTIVITYLOG.FULLMESSAGE columns. Integration Server uses the lengths to automatically adjust the size of the values inserted into these columns.
  - Retrieve the database metadata.
  By default, Integration Server uses the User ID specified in the ISCoreAudit functional alias as the schema name for the audit logging database. You can override this value by specifying a value for the watt.server.audit.schemaName server configuration parameter. However, if the User ID does not match the schema name specified in watt.server.audit.schemaName, Integration Server logs a SQLException to the server log.
  This issue is resolved. Integration Server no longer uses the User ID of the ISCoreAudit functional alias as the default schema name. Now, Integration Server requires that you specify a value for the watt.server.audit.schemaName parameter to retrieve the database metadata and resize the audit logging values in the WMSERVICECUSTOMFLDS.STRINGVALUE and WMSERVICEACTIVITYLOG.FULLMESSAGE columns. If watt.server.audit.schemaName is not set, Integration Server does not retrieve the metadata and assumes the lengths of the WMSERVICECUSTOMFLDS.STRINGVALUE and WMSERVICEACTIVITYLOG.FULLMESSAGE columns are 512 and 1024, respectively.
  Note: Some databases are case-sensitive. When specifying the value for watt.server.audit.schemaName, you should match the case of the schema name with the schema

name required by the database.

- PIE-32619
  After fix IS_8.2_SP2_Core_Fix12 is installed, the SOAP response for a migrated web service contains a document instead of a document list.
  Before the fix is installed, data elements are formatted in the SOAP response in a document list, as expected. After the fix is installed, these data elements are formatted as separate documents. This change in output structure makes it difficult to map the documents in the flow.
  This issue is resolved. The SOAP response is formatted in the same way it was before fix IS_8.2_SP2_Core_Fix12 was installed.

- PIE-32737
  Deployer fails when deploying a package that contains a new trigger that does not exist in the earlier version of the package on the target Integration Server.
  When deploying a package that contains a trigger that does not exist in the same package on the target Integration Server, Deployer fails because the target Integration Server attempts to suspend the trigger that does not exist. Deployment might fail with one of the following messages:
  (ISS.0098.9067) Trigger not found for triggerName: "triggerName"
  (ISS.0098.9074) Unable to suspend document retrieval for Trigger "triggerName"
  Now, when a package containing triggers is deployed to a target Integration Server, the target Integration Server suspends a trigger only after first verifying that the trigger exists on the target Integration Server.

- PIE-32873
  It takes a long time for Integration Server to stop all JMS triggers once the triggers are disabled.
  All the JMS triggers on Integration Server can be disabled at the same time when Integration Server is shut down or when Integration Server Administrator is used to disable all JMS triggers. Once disabled, all of the JMS triggers stop receiving messages immediately. However, Integration Server closes the JMS Session and MessageConsumer objects sequentially. Some JMS providers, including WebSphere MQ, may take a second or two to close the objects for each JMS trigger. When many JMS triggers are disabled at once, closing the JMS Session and MessageConsumer objects can take a significant amount of time.
  Now, Integration Server stops closes JMS Session and MessageConsumer objects simultaneously instead of sequentially.

- PIE-33279
  Option to control how Integration Server decodes duplicates of nested elements in an element of type anyType in a SOAP request.
  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 decoding a SOAP request for the service, Integration Server places duplicate elements in line in the resulting IData. However, some users want Integration Server to create an array for the duplicate elements in the resulting IData.
  To accommodate this, Integration Server now includes a server configuration parameter that you can use to specify how Integration Server decodes duplicate elements nested in an anyType element.

watt.server.xml.xmlNodeToDocument.makeArrayforWS
Specifies how Integration Server decodes duplicate elements contained in an anyType Element.
- Set watt.server.xml.xmlNodeToDocument.makeArrayforWS to true if you want Integration Server to create an array for duplicate elements contained in an element of type anyType.
- Set this parameter to false if you want Integration Server to leave duplicate elements as separate, repeated elements in the element defined to be of type anyType. When set to false, Integration Server does not create an array for elements that appear more than once in the element defined to be of type anyType.
The default is false.

- PIE-33318
  Integration Server displays the wrong message in the server log.
  Integration Server logs the following message to the server log:
  (ISC.0088.9443W) Message not found for messageKey 88.9443
  This issue is resolved.

- PIE-33326
  After IS_8.2_SP2_Core_Fix14 is installed, Integration Server issues a NullPointerException while loading some custom services.
  This issue is resolved.

- PIE-33553
  Logging off the Integration Server Administrator fails with an error.
  Attempting to log off the Integration Server Administrator fails with the following error message: Logoff Failed.
  This issue is resolved. Upon clicking Log Off, Integration Server terminates the session and displays a message confirming that the session is terminated.

- PIE-33883
  Integration Server does not include the initial SOAP request message in the SOAP fault that is generated when an error occurs upon invoking a web service.
  Upon invoking a web service, in case of an error, the SOAP fault that Integration Server generates does not include the initial SOAP request even if the pub.soap.handler:getInitialSOAPMessage service is used to retrieve the initial SOAP request message in the outbound callback service.
  This issue is resolved. Integration Server now includes the initial SOAP request message in the SOAP fault that is generated when an error occurs upon invoking a web service.

- PIE-33895
  Enhancements to Integration Server to provide NTLM (Windows NT LAN Manager) authentication support to allow clients to access resources in web servers that support NTLM authentication.
  Prior to this fix, Integration Server could use Integrated Windows Authentication as a means of authenticating its identity while establishing connections between Integration Server and web servers on an intranet only if the Integration Server was running on a Windows platform. If Integration Server is running as an NT service, it uses the local system rights for authentication when responding to an Integrated Windows Authentication request. If you log on as a user, Integration Server uses the credentials associated with that session when responding to an

Integrated Windows Authentication request.
After installing this fix, when Integration Server is acting as a client to access resources in web servers, the authentication credentials must be provided by the user explicitly. You can specify NTLM as the authentication type while configuring the transport properties for web service endpoints to authenticate clients who are already logged into a domain using their existing credentials.
In addition, you can specify NTLM as the value for the auth\type parameter of pub.client:http or pub.client:soapClient services and web service connector. If you specify NTLM as the authentication type, you must specify the user name that the service will submit when requesting a protected resource in the following format: domain_name/user_name.

- PIE-34213
  Enabling a Salesforce.com Adapter connection results in a javax.net.ssl.SSLHandshakeException.
  If the Salesforce.com Adapter is installed on an Integration Server for which the WmCloud package is enabled, enabling a Salesforce.com Adapter connection results in the following exception: javax.net.ssl.SSLHandshakeException: sun.security.validator.ValidatorException: PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target
  This issue is now resolved.

- PIE-34311
  The Polling Notifications page in localized versions of Integration Server Administrator displays an Adapter Runtime error if there are no scheduled tasks for polling notifications.
  When there are no scheduled tasks associated with adapter polling notifications, localized versions of Integration Server return a SQLException that cannot be verified by the Adapter Runtime causing the following message to be displayed in the Polling Notifications page:
  (ART.116.3020) Adapter Runtime (Notification): Unable to get list of notification types supported by node JDBCAdapter. java.sql.SQLException: Invalid task ID
  Now, when there are no scheduled tasks for polling notifications, a localized Integration Server returns a SQLException with a predefined error code that can be verified by the Adapter Runtime.

- PIE-34373
  Integration Server throws a java.lang.NoClassDefFoundError when a user defined in the central user management attempts to log in.
  A jar file required for central user management, specifically jsf-api.jar, is not present in the Integration Server classpath. To resolve this issue in Integration Server versions prior to 9.5 SP1 do the following:
  1. Shut down Integration Server.
  2. Using a text editor, navigate to and open the following file:
     IntegrationServer_InstallDirectory/bin/ini.cnf
  3. Edit the ini.cnf file by adding the following jar entry to the application.classpath parameter:
     <Software AG_Directory>/common/lib/ext/jsf-api.jar
     Where <Software AG_Directory> is the installation directory for Software AG products.
     Note: Make sure to use the appropriate directory separator for the operating system.
  4. Save your changes to the ini.cnf file and then close the file.
  5. Start Integration Server.

Note: For versions of Integration Server 9.5 SP1 and later, the Software AG Update Manager will handle updates to the ini.cnf.

- PIE-35015
  Updating webMethods Cloud account settings from Integration Server Administrator fails.
  Using Integration Server Administrator to update webMethods Cloud account settings results in the following error when changes to the account are saved:
  The following error occurred while saving account settings :
  com.wm.app.b2b.server.ServiceException:
  iaik.security.ssl.SSLException: Server certificate rejected by ChainVerifier. See the error log for the full stack trace.
  This issue is now resolved.

- PIEAR-625 (WAR_9.5_SP1_Fix5)
  Exceptions thrown by adapter services are logged multiple times in the error log. The error log contains multiple entries of an exception thrown by an adapter service because the exception is logged by Adapter Runtime, Adapter Development Kit, and Integration Server.
  This issue is resolved. The following two server configuration parameters are introduced to prevent error logging by Adapter Runtime and Adapter Development Kit for exceptions in adapter services:
  - watt.art.adapterService.disable.errorlogging
  - watt.adk.adapterService.disable.errorlogging
  The default value of each parameter is false.
  Add the new server configuration parameters to Extended Settings in Integration Server Administrator and set the parameters to true.

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:getInitialSOAPMessage. 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-27241Integration 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 <br> 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.

Release 9.6

- 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:setReponse 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:setReponse 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.setReponse.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 socked 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.

Release 9.5

- PIE-26728 (IS_8.0_SP1_Core_Fix28)
  On the Settings > Cluster page, Integration Server Administrator displays the physical host name instead of the logical hostname.
  If the watt.net.localhost configuration parameter sets a logical host name for an Integration Server, when the Integration Server is a member of a cluster, the Settings > Cluster page should display the logical host name under Cluster Hosts.
  This issue is now resolved.

- PIE-27619 (IS_8.0_SP1_Core_Fix28, IS_8.2_SP1_Core_Fix10, IS_8.2_SP2_Core_Fix9)
  Designer and Developer do not handle password changes as expected.
  The following password issues are present in Designer and Developer:
  - You cannot change the password for Integration Server local users in Developer or Designer. This should be possible.
  - Even though neither Developer nor Designer support changing the passwords for central users, both should issue a message informing users of this limitation.
  This issue is resolved. Designer and Developer now:
  - Support changing passwords for Integration Server local users.
  - Display a message indicating that you cannot change the password for central users.

- PIE-27965 (IS_8.0_SP1_Core_Fix28, IS_8.2_SP1_Core_Fix11)
  If Integration Server is unable to write audit records to the audit logging database, administrators are not informed unless they monitor the database or the FailedAudit log.
  To resolve this issue, Integration Server introduces a new audit error event. To register an event handler service for this new type of event, invoke the pub.event:addSubscriber service, setting the <EventType> input variable to "Audit Error Event".
  If a SQLException is encountered while trying to insert an audit record into the audit logging database, your event handler will be notified. If the Service logger is configured to retry failed auditing attempts, the audit error event will be fired for each failure. The event is also fired while Integration Server is initializing if it cannot connect to the audit logging database.

The specification for audit error event handlers is pub.event:auditError. Its structure is as follows:
Input Parameters:
<time> String Date and time that the event occurred, in the format yyyy-MM-dd HH:mm:ss.SSS.
For example, "2013-07-04 14:46:39.77".
<destination> String The audit logging destination.
<message> String The exception message.
<stackTrace> String The exception stack trace.
<errorCode> String Optional. The SQL error code returned with the exception.
Output Parameters:
None.
Usage Notes:
- When you subscribe to an audit error event, you can supply a filter to limit the events that your event handler receives. The filter applies to the concatenated values of the destination and <errorCode> fields. Surround your search term with wildcards (i.e. *YourSearchTerm*) to find the desired value in either field. If either field matches the filter, the event will be passed to the event handler. See the description of the pub.event:addSubscriber service in the Integration Server Built-In Services Reference for more information about event filters.
- Use the watt.server.event.audit.async server parameter to indicate whether event handlers for audit error events are invoked synchronously or asynchronously. When this parameter is set to "true", Integration Server invokes the event handlers that subscribe to audit error events asynchronously. When this parameter is set to "false", Integration Server invokes the event handlers that subscribe to audit error events synchronously. The default is "true" (asynchronous).

- PIE-27840 (IS_8.2_SP1_Core_Fix10)
  Integration Server throws an exception while creating a new scheduled task if the service does not have any input parameters.
  Integration Server throws a java.lang.NullPointerException while creating a new scheduled task if the service you want Integration Server to execute does not have any input parameters. Integration Server throws this exception when you attempt to assign inputs to the service.
  This issue is resolved. Integration Server now creates the scheduled task even if the service does not have any input parameters.

- PIE-26996 (IS_8.2_SP1_Core_Fix11, IS_8.2_SP2_Core_Fix9)
  When the vector passed into the pub.list:vectorToArray service contains two different IData, such as com.wm.util.Values and com.wm.data.ISMemDataImpl, the service throws the following exception:
  java.lang.IllegalArgumentException: array element type mismatch.
  This issue is resolved. Now the pub.list:vectorToArray service processes all types of IData types that appear in a vector.

- PIE-27013 (IS_8.2_SP1_Core_Fix11, IS_8.2_SP2_Core_Fix9)
  Integration Server returns an incorrect or an unusable SOAP Fault when processing a request that contains invalid UTF-8 data.
  When a SOAP request is sent to Integration Server using the soap directive and the SOAP request

contains a character that is not UTF-8, Integration Server returns a SOAP fault that contains a NullPointerException. As a result, the SOAP fault does not contain any information about the cause of the error.
This issue is now resolved. The SOAP fault will now contain information about the cause of the error.

- PIE-27308 (IS_8.2_SP1_Core_Fix11)
  Integration Server 8.2 SP2 and Integration Server 7.1.x produce different results if an operation in a provider web service descriptor references a missing document type.
  Integration Server 8.2 SP2 and Integration Server 7.1.x produce different results when a web service client invokes an operation in a provider web service descriptor and the flow service used as the operation:
  - Contains a document reference and the referenced document type is missing
  - Maps data to the fields in the missing document type
  In Integration Server 7.1.x, the web service output is properly encoded. In Integration Server 8.2 SP2, the service output is not properly encoded.
  Integration Server 8.2 SP2 now behaves in the same way as Integration Sever 7.1.x.

- PIE-27341 (IS_8.2_SP1_Core_Fix11)
  Integration Server does not support the backslash (\) character in the User Name field for email ports.
  This issue is now resolved.

- PIE-27858 (IS_8.2_SP1_Core_Fix11)
  Integration Server considers an element to be invalid if it contains child elements and the IS schema declares it to be of type “anyType”.
  When validating XML against an IS schema, if the IS schema contains an element declared to be of type “anyType” and the corresponding element in the document contains child elements, Integration Server considers the XML to be invalid. This is incorrect.
  This issue is now resolved.

- PIE-27897 (IS_8.2_SP1_Core_Fix11)
  Integration Server ignores the value of the watt.server.jms.trigger.stopRequestTimeout parameter if it is set to 5 seconds or less.
  This issue is resolved. Integration Server now honors a value of 5 seconds or less for the watt.server.jms.trigger.stopRequestTimeout parameter. The minimum value for this parameter is 0.
  Note: If you set the watt.server.jms.trigger.stopRequestTimeout parameter to 0 (zero), when a JMS trigger is disabled while it is processing messages, Integration Server stops the trigger immediately and does not wait for any processing to complete. This can result in a javax.jms.IllegalStateException.

- PIE-28086 (IS_8.2_SP1_Core_Fix11)
  Integration Server returns an incorrect or an unusable SOAP Fault when processing a request that contains invalid UTF-8 data.
  When a SOAP request is sent to Integration Server using the soap directive and the SOAP request

contains a UTF-16 character, Integration Server returns a SOAP fault that contains WmDocumentException. As a result, the SOAP fault does not contain any information about the actual cause of the error.
This issue is resolved. Now, if the SOAP request contains UTF-16 characters, Integration Server displays theUTF-16 characters as UTF-8 characters. Integration Server will not return a SOAP fault simply because the SOAP request contained UTF-16 characters.

- PIE-28174 (IS_8.2_SP1_Core_Fix11)
  Integration Server is unable to parse XML files available on a file polling port if the XML files do not have a charset encoding defined in the header.
  While parsing an XML file, Integration Server uses the charset encoding defined in the XML header. If the encoding is not defined in the XML header, Integration Server parses the XML file using the default encoding "UTF-8" instead of using the charset encoding of the request or the character encoding specified in the watt.server.fileEncoding server configuration parameter.
  This issue is resolved. If an encoding is not defined in the XML header, Integration Server attempts to parse the XML file using the charset encoding of the request. If charset encoding is not available in the request header, then Integration Server uses the character encoding specified in the watt.server.fileEncoding server configuration parameter.

- PIE-26985 (IS_8.2_SP2_Core_Fix9)
  During shut down, Integration Server issues an “Object Not Found” error for every service URL alias created in Developer or Designer.
  While Integration Server shuts down, it issues an “Object Not Found” error for URL aliases that were created in Developer or Designer. Integration Server does not issue an error if the URL alias has an association to a server or a package.
  This issue is now resolved.

- PIE-27537 (IS_8.2_SP2_Core_Fix9)
  Services executed from triggers are unable to query the current session.
  A trigger creates a session in order to execute a service, but the trigger's session cannot be queried by the service. Calling InvokeState.getCurrentSession() does not return the session in which the service was executing.
  This issue is resolved. Services that are invoked by either broker/local triggers or JMS triggers are now able to call InvokeState.getCurrentSession() to get the session in which they are executing. These sessions appear on the Server > Statistics > Sessions page in Integration Server Administrator and they count toward the maximum number of sessions allowed by the Integration Server license. All triggers that are executed create a non-expiring session. If the watt.server.trigger.reuseSession parameter is "false", an additional session is created for each execution of a broker/local trigger. The session is deleted immediately after the broker/local trigger's services are invoked. If the watt.server.jms.trigger.reuseSession parameter is "false", an additional session is created for each execution of a JMS trigger. The session is deleted immediately after the JMS trigger's services are invoked. See the webMethods Integration Server Administrator's Guide for more information about the watt.server.trigger.reuseSession and watt.server.jms.trigger.reuseSession parameters.

- PIE-27636 (IS_9.0_SP1_Core_Fix1)

While generating document types from XML Schema definitions, the namespace prefixes that Integration Server uses depend on the order in which the namespaces are specified.
While generating a document type from an XML Schema definition, if the XML Schema contains namespace prefix as well as default namespace pointing to the same namespace URI, the namespace prefix that Integration Server uses depends on the order in which the namespaces are specified in the XML Schema definition.

This issue is resolved. Integration Server now gives preference to the user-specified namespace prefixes over default namespace regardless of the order in which the namespaces are specified in the XML Schema definition.

- PIE-27939 (IS_9.0_SP1_Core_Fix1)
  Integration Server functioning as an FTP server does not return any results when the FTP: dir command is executed with filename as the parameter.
  When attempting to list the files by executing the FTP: dir command with filename as the parameter, Integration Server functioning as an FTP server does not return any results. The FTP: dir command works as expected if the filename parameter is specified as a regular expression.
  This issue is now resolved.

- PIE-25410
  Reverse Gateway Integration Server fails when handling requests that contain a 100-Continue HTTP header.
  For requests that should be challenged with 401: Access Denied error, Reverse Gateway Integration Server does not return 401: Access Denied error if that request includes a 100-Continue HTTP header.
  This issue is now resolved.

- PIE-25998
  Under heavy load, the Reverse HTTP Gateway Server logs an error about a closed connected repeatedly.
  When the Integration Server acting as the Reverse HTTP Gateway Server is under heavy load, it logs the following error repeatedly:
  (ISS.0053.0010E) The Reverse Gateway Integration Server encountered an error: (ISC.0064.9306) Connection was closed during read while handling the request. It is unable to retry the request at this time. The retry count is 1.
  An error on the Internal Server closes the connection to the Reverse HTTP Gateway Server, causing the above message to be logged repeatedly.
  This issue is now resolved.

- PIE-26925
  Decrease in performance when processing certain services.
  Integration Server performance decreases when processing services that have a content type of text/xml.
  This issue is now resolved. To resolve this issue, Integration Server no longer generates a default

template name when services are created. This change greatly increases performance when processing services with content type of text/xml.

- PIE-27035
  The following issues occur when using the AS2 restart capability of webMethods EDIInt solution:
  - When reusing a pooled connection, if there is a connection related failure, EDIInt automatically retries the transaction using the AS2 Restart capability.
  This issue is resolved. Now EDIInt can disable the retry to process the AS2 Restart.
  - Some EDIINT solutions experience interoperability issues when the request uses Transfer-Encoding (chunking). This occurs because the Content-Length header is included in the request, and chunked requests do not require Content-Length.
  This issue is resolved. Now Integration Server removes the Content-Length header when the request uses Transfer-Encoding.

- 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 issue is now resolved.

- PIE-27580
  After installing Integration Server 8.2 SP2 Core Fix 7, HTML script related to the CSRF guard feature is added to the DSP pages even if the CSRF guard feature is disabled.
  This issue is resolved. Integration Server now adds the HTML script related to the CSRF guard feature to the DSP pages only if the:
  - CSRF guard feature is enabled
  - DSP file contains the <html> tag.
  Note: Because Integration Server does not insert CSRF secure tokens in custom DSPs that use the JavaScripts Location object such as document.location and window.location.href, you must update these pages manually.
  For example, if you have the following code in your custom DSP:

```
document.location="ldap-settings.dsp";
```

  You must replace it with the following code:

```
if(is_csrf_guard_enabled && needToInsertToken) {
   document.location="ldap-settings.dsp?"
   + _csrfTokenNm_ + "=" + _csrfTokenVal_;
} else {
   document.location=”ldap-settings.dsp”;
}
```

  You do not have to define the JavaScript variables _csrfTokenNm_, _csrfTokenVal_, is_csrf_guard_enabled, and needToInsertToken. However, you must import <IntegrationServer_directory>\packages\WmRoot\csrf-guard.js to your DSP before using these variables.
  For more information about configuring CSRF guard in Integration Server, see webMethods

Integration Server Administrator's Guide.

- PIE-27628
  Designer and Developer find document types located in deleted packages.
  When deleting a package, Integration Server did not properly delete document types if auditing was enabled. As a result, Designer or Developer would display the document types in search results.
  This issue is resolved. Integration Server now deletes document types correctly.

- PIE-27648
  ebXML acknowledgements fail due to intermittent SSL errors.
  The Integration Server HTTP client fails intermittently, causing outbound HTTPS requests delivering ebXML acknowledgements to fail.
  This issue is now resolved.

- PIE-27713
  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-27831
  The Settings > Messaging > Broker/Local Trigger Management page in Integration Server Administrator shows the message "null" after suspending document retrieval for a trigger.
  If Integration Server Administrator is used to suspend document retrieval for a Broker/local trigger when Integration Server is not connected to the Broker, the Settings > Messaging > Broker/Local Trigger Management page displays the message "null" which is not informative.
  This issue is resolved. Now, when Integration Server Administrator is used to suspend a Broker/Local trigger when Integration Server is not connected to the Broker, Integration Server Administrator displays the following message:
  Unable to suspend document retrieval for Trigger "triggerName": Broker not connected.

- PIE-27848
  Designer and Developer do not show enumeration values for an element defined to be a union of a defined type and an in-line simple type with enumerated values.
  This issue is now resolved.

- PIE-27880
  WSDLs that Integration Server 8.2 SP2 generates from web services that are migrated from Integration Server 7.1.2 show broken schema references for the unresolved imports.

The WSDLs that Integration Server 8.2 SP2 generates from web services that are migrated from Integration Server version 7.1.2 to 8.2 SP2 show broken schema references for unresolved imports of web services. Integration Server 7.1.2 generated the WSDLs of web services with schema imports correctly even if the imports were unresolved.
This issue is now resolved. Integration Server 8.2 SP2 generates WSDLs without broken schema references for all web services migrated from version 7.1.2 even if the imports are unresolved.

- PIE-27966
  When using the webMethods Platform Manager to configure ports on Integration Server, some error messages might be returned that refer to Software AG Platform Manager. These messages should reference webMethods Platform Manager instead.
  This issue is resolved. The error messages now refer to webMethods Platform Manager.

- PIE-27972
  When you enable or disable security logging, Integration Server does not log the event to the audit logger.
  This issue is resolved. Now when you enable or disable security logging, Integration Server logs the event to the audit logger.

- PIE-28003
  Integration Server issues an error when creating a scheduled task without any inputs.
  When creating a new scheduled task that does not take any inputs, Integration Server creates the task successfully. However, Integration Server also writes the following message to the error log: (ISS.0137.0015E) Scheduler: Exception getting task from database: Invalid task ID
  The issue is now resolved.

- PIE-28032
  Deployment fails when deploying Integration Server assets to an Integration Server in a cluster.
  When deploying Integration Server assets to a target group that is part of an Integration Server cluster, deployment to the second Integration Server node fails with the following message: Unknown system type: "java.io.FileNotFoundException: <IntegrationServer_directory>\replicate\deployer\out\isconfiguration.zip"...
  This issue is resolved.

- PIE-28064
  When the pub.storage services are used by multiple threads in the same session, the threads are not able to prevent one another from accessing the same items at the same time.
  This issue occurs because pub.storage locks are owned by the session. Multiple threads in the same session cannot lock each other out since their locks all have the same lock owner: the session itself.
  This issue is resolved. The pub.storage services now qualify the lock owner with the current thread. The owner of a pub.storage lock is now the current session AND the current thread.

- PIE-28075
  In Integration Server Administrator, displaying the error log entries from newest to oldest starting from the end fails with an exception.

In Integration Server Administrator, selecting the "Display Log Entries newest to oldest starting from the end" option to view the error log entries fail with an exception if the log file is UTF-8 encoded.
This issue is now resolved.

- PIE-28104
  When running in passive mode, the Integration Server FTP port does not switch to active mode when the FTP client sends a PORT command.
  This issue is now resolved.

- PIE-28125
  Integration Server does not interrupt a service thread when a timeout event is triggered or a flow service is cancelled.
  When timeout interval is specified for a flow step, and if the step invokes a long running Java service, the service continues to run even after the timeout interval is exceeded and the timeout is triggered or the service is cancelled.
  This issue is resolved. Integration Server introduces a new server configuration parameter that you can use to interrupt a service for which a timeout is triggered or is cancelled. If watt.server.threadKill.interruptThread.enabled is set to "true", when a timeout is triggered or the service is cancelled, Integration Server interrupts the service thread with an underlying service. The default is "false". If you change the setting of this parameter, you must restart Integration Server for the changes to take effect.

- PIE-28190
  After applying IS_8.2_SP2_Core_Fix8, Integration Server generates an invalid SOAP response. IS_8.2_SP2_Core_Fix8 includes a fix for PIE-26504 which ensures that when converting between IData and XML the xsi:type attribute is generated for an element declared to be of xsd:anyType when it is declared in the nsDecls parameters. However, when Integration Server uses this same behavior while creating a SOAP response, the SOAP response contains the xsi:type attribute and its value but does not contain the prefix declaration for the value. For example, if xsi:type = xs:string, the xs prefix declaration is missing from the SOAP response This behavior occurs when Integration Server creates a SOAP request as well.
  This issue is resolved. Integration Server provides a new server configuration parameter that indicates whether or not the SOAP request or response includes the xsi:type attribute and its value for an element of xsd:anyType. Set watt.server.SOAP.encodeXSITypeValue to "false" to omit the xsi:type attribute and its value for an element of xsd:anyType. Set the parameter to "true" to include the xsi:type attribute and its value for an element of xsd:anyType. The default is "true".
  Note: The server parameter watt.server.SOAP.encodeXSITypeValue affects SOAP requests and SOAP responses created by Integration Server only.

- PIE-28260
  While adding a SAML token issuer in Integration Server Administrator, Integration Server does not allow URIs to be entered in the Issuer Name field.
  After installing IS_8.2_SP2_Core_Fix7, Integration Server does not allow URIs to be entered in the Issuer Name field while adding a SAML token issuer in Integration Server Administrator. This

issue occurs because as part of the security fixes introduced in IS_8.2_SP2_Core_Fix7, characters such as ^!%*:$./\ \ `;, among others are not permitted in the input fields. As a result, Integration Server does not allow adding a SAML token issuer name that contains a URI.
This issue is resolved. Integration Server now allows URIs to be entered in the Issuer Name field by permitting the period (.), forward slash (/), and colon(:) characters in the input fields.

- PIE-28305
  In Integration Server 9.0 SP1, pipeline variable substitution does not work as expected if the value of the pipeline variable is empty.
  This issue is resolved. Integration Server now generates the pipeline variables correctly upon performing the pipeline variable substitution.

- PIE-28310
  Server statistic page does not show the graph properly when Japanese language pack is installed with Integration Server.
  This issue is now resolved.

- PIE-28332
  While querying the database for scheduled tasks, Integration Server fails to retrieve the scheduled tasks at times.
  While querying the database for scheduled tasks, Integration Server does not retrieve the scheduled tasks at times. This issue occurs because Integration Server takes the target hostname as case sensitive. As a result, Integration Server does not return the scheduled tasks if there is a change of case in the target host name returned while querying the database for scheduled task.
  This issue is resolved. Integration Server does not take the target hostname as case sensitive while querying the database for scheduled tasks.

- PIE-28386
  When the "Show running services on top" check box is checked on the Service Usage page, and Integration Server refreshes the page, the running services are no longer shown on top of the screen.
  When the "Show running services on top" check box is checked on the Service Usage page, the Integration Server Administrator displays the running services at the top of the screen. However, when Integration Server refreshes the Service Usage page automatically (as it does every 90 seconds by default), the Integration Server Administrator no longer displays the running services on top of the screen.
  This issue is now resolved.

- PIE-28420
  A provider web service descriptor created from a WSDL document containing an XML Schema with nillable="false" returns an invalid response.
  Integration Server returns an invalid response when executing a provider web service descriptor created from a WSDL document containing an XML Schema with nillable="false". The response contains xsi:nil attribute even though the element declaration in the XML Schema contains nillable="false".

This issue is now resolved.

- PIE-28429
  While refreshing the context for durable subscribers, Integration Server recreates durable subscribers with the incorrect shared state ordering, causing an error.
  Integration Server logs an ISS.0134.0058E error to the Integration Server log while refreshing the context for a topic that is associated with durable subscribers that have different shared state ordering (None/Publisher).
  This issue is now resolved.

- PIE-28441
  The JSON content handler does not parse HTTP requests by default.
  JSON content in HTTP requests is not automatically parsed. Instead, a jsonStream is placed in the pipeline and the application must use pub.json:jsonStreamToDocument to parse the JSON into pipeline variables. This prevents clients from using JSON to pass inputs to existing services without first wrapping them in top-level services that parse the incoming JSON.
  This issue is resolved. Integration Server introduces a new server configuration parameter that you can use to specify how Integration Server handles JSON content in HTTP requests. If watt.server.http.jsonFormat is set to "parsed" (the default), Integration Server parses JSON content into pipeline variables automatically. When watt.server.http.jsonFormat is set to "parsed", clients can use JSON to compose pipelines and execute existing services, without having to call pub.json:jsonStreamToDocument. The following example shows an HTTP request that uses JSON to pass inputs to an existing Integration Server service:

  ```
  GET /invoke/pub.cache/put HTTP/1.1
  Host: localhost:5555
  Content-type: application/json
  Content-length: 114
  {
    "cacheManagerName": "My_Cache_Manager",
    "cacheName": "My_Cache",
    "key": "testKey",
    "value": "testValue"
  }
  ```

  If watt.server.http.jsonFormat is set to "stream", Integration Server places a jsonStream variable in the pipeline whose value is an InputStream containing the JSON content. You can then use pub.json:jsonStreamToDocument to parse jsonStream into pipeline variables. This was the behavior prior to this fix.
  If watt.server.http.jsonFormat is set to "bytes", the incoming stream of JSON content is read into a byte array.
  You can override the behavior specified by watt.server.http.jsonFormat in individual requests by adding the jsonFormat query parameter to the request URI. For example, if watt.server.http.jsonFormat is set to "parsed", a client can override this setting and instead specify a value of "stream" for the request by entering a URI as follows:
  /invoke/myfolder/myservice?jsonFormat=stream
  This will result in the request being placed in a jsonStream variable in the pipeline as an

InputStream containing the JSON content.
Changes to watt.server.http.jsonFormat take effect immediately. A server restart is not required.
Note: This fix changes the default handling of incoming JSON content. Prior to this fix, Integration Server always placed a jsonStream variable in the pipeline. Now Integration Server parses the JSON content into pipeline variables by default. To restore the previous behavior, set the value of watt.server.http.jsonFormat to "stream".

- PIE-28462
  The pub.client.sftp:logout service does not end the current SFTP session.
  The pub.client.sftp:logout service logs off the user from the SFTP server, but does not end the current SFTP session. This results in a large number of open connections to the SFTP server.
  This issue is resolved. Upon executing, the pub.client.sftp:logout service now logs off the user and ends the current SFTP session.

- PIE-28531
  The service pub.flow:getTransportInfo does not return the client IP address.
  The service pub.flow:getTransportInfo does not return the client IP address of the requests that come through the Enterprise Gateway Server.
  This issue is resolved. When a request comes through the Enterprise Gateway Server, Integration Server now adds the “clientIp” and “clientPort” values to the output of pub.flow:getTransportInfo service.

- PIE-28526
  Designer does not display the pick list choices of String and String list variables in the derived document from a consumer web service descriptor that is created from an external WSDL file that has got some enumeration in its schema for simpleType variables.
  When a consumer web service descriptor is created from an external WSDL file that has got some enumeration in its schema for simpleType variables, Designer does not display the pick list choices of String and String list variables in the derived document. Designer displays the pick list choices only after the schema is manually refreshed or reloaded.
  This issue is now resolved. The derived schema and variables in the document show the pick list choices that are available in the source WSDL for simpleType variables without manually refreshing or reloading the schema. Designer displays the pick list choices for String and String list variables in their Properties view as well as in the Run Configurations dialog boxes.

- PIE-28558
  Creating a 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 did not declare a namespace prefix for the default namespace, Integration Server incorrectly considers the schema to be invalid. Creation of a web service descriptor fails with the following error:
  [ISC.0082.9802] fileName: not a valid schema definition document
  This issue is now resolved.

- PIE-28570

When the "quote TYPE" FTP command is executed without any arguments, Integration Server functioning as an FTP server throws a NullPointerException instead of issuing a meaningful error message.
This issue is resolved. Integration Server now issues a meaningful message when the "quote TYPE" FTP command is executed without any arguments.

- PIE-28615
  Multiple invocations of stateful IS service through web services provider makes Integration Server unresponsive.
  When stateful IS service is invoked multiple times through the web services provider, Integration Server does not handle the session correctly. This leads to a large number of sessions being created in Integration Server thereby making Integration Server unresponsive.
  This issue is now resolved.

- PIE-28692
  Option to determine how Integration Server decodes an xsd:anyType element with simple content in SOAP response.
  If a WSDL document contains an element declared to be of xsd:anyType, the corresponding element in the SOAP response may be of complex type or simple type.
  - If the element is of complex type, Integration Server always decodes the element into an IData with nested fields and an @xsi:type field to retain the xsi:type value.
  - If the element is of simple type, you can use the new configuration parameter watt.server.SOAP.useStringforAnyTypewithSimpleValue to determine how Integration Server decodes the element.
  When watt.server.SOAP.useStringforAnyTypewithSimpleValue is set to "false", Integration Server decodes the element into an IData with an @xsi:type field to retain the xsi:type value and a *body field to contain the element value. This is the default behavior. When watt.server.SOAP.useStringforAnyTypewithSimpleValue is set to "true", Integration Server decodes the element into a String type field that contains the element value. The element's xsi:type information will be gone.
  If you want to set the parameter to true, after installing the current fix open Integration Server Administrator. Navigate to the Settings > Extended page. Click on "Edit Extended Settings" and add the following line:
  watt.server.SOAP.useStringforAnyTypewithSimpleValue=true
  Save your changes. Integration Server does not require a restart for changes to take effect.
  Note: This fix is related to PIE-26101 in that it provides the option to revert Integration Server to the behavior provided prior to PIE-26101 in IS_8.2_SP2_Core_Fix8.

- PIE-28713
  When using the pub.xml:xmlNodeToDocument service to create a document, the generated document sometimes does not contain the xsi:type attribute field.
  This issue can occur after applying IS_8.2_SP2_Core_Fix8.
  This issue is now resolved.

- PIE-28737

When Integration Server is not connected to a Broker Server, the resource monitor service for triggers is not scheduled.
This issue is now resolved.

- PIE-28894
  When Integration Server is installed with the Japanese language pack, two users cannot be created at the same time.
  This issue is now resolved.

6.0 Documentation Changes

This section describes significant changes to the documentation, such as the addition, relocation, or removal of product guides, online help, chapters, or other major content. A release is listed in this section only if changes occurred in that release.

Release 9.8

- Software AG documentation is no longer available on the Software AG installer. You can access all Software AG documentation on the Documentation website.

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

A release is listed in this section only if changes occurred in that release.

Release 9.5

Old Term	New Term
webMethods Nirvana	webMethods Universal Messaging
Broker/Local Trigger	webMethods Messaging Trigger

8.0 Added, Removed, Deprecated, or Changed Items

This section lists functionality, controls, portlets, properties, or other items that have been added, removed, deprecated, or changed. A release is listed in this section only if changes occurred in that release.

Release 9.12

Added Item	Description
IS_DES_CONNECTION messaging connection alias	A predefined messaging connection alias used to establish a connection with a Universal Messaging server for purposes of sending and receiving events with Digital Event Services.
Kill All Sessions Except Your Session option in the Server > Statistics > Sessions screen	Use the Kill All Sessions Except Your Session option in the Current Sessions Screen to kill all the sessions except the session you are currently running.
is_container scripts to create Integration Server images for use in Docker containers	Use the is_container scripts, created by the Integration Server installation, to build Integration Server images for use in Docker containers. You can access the scripts from the following location: Integration Server_directory/docker.
Caches and cache managers can be edited while in quiesce mode	Public and system cache managers and caches can be edited when Integration Server runs in quiesce mode.
Public cache can be used for service results caching.	A local or distributed public cache can now be used for service results caching. Previously, Integration Server stored cached service results in the ServiceResults system cache which is part of the SoftwareAG.IS.Services system cache manager.

Changed Item	Description
FTPS ports that use the HTTPS protocol can now be configured using the “Use JSSE” option.	FTPS ports that support TLS 1.1 or TLS 1.2 protocol can now be configured using the “Use JSSE” option in the Edit FTPS Port Configuration screen of Integration Server Administrator. Previously, this option was not available.
Allowed cipher suites can be specified in a file.	To make it easier to specify a long list of cipher suites for use with inbound and outbound SSL connections, Integration Server now allows specifying a file as the value for the cipher suite server configuration properties watt.net.ssl.client.cipherSuiteList, watt.net.ssl.server.cipherSuiteList, watt.net.jsse.client.enabledCipherSuiteList, watt.net.jsse.server.enabledCipherSuiteList.

Changed Item	Description
Some screens in Integration Server Administrator are disabled if webMethods API Gateway is installed on Integration Server.	The following screens under Security screens are disabled: • Enterprise Gateway Rules • Enterprise Gateway Rules > Default Alert Options • Enterprise Gateway Rules > Default Alert Options > Edit • Enterprise Gateway Rules > Denial of Service Options • Enterprise Gateway Rules > Denial of Service Options > Configure Global Denial of Service • Enterprise Gateway Rules > Denial of Service Options > Configure Denial of Service by IP Address • Enterprise Gateway Rules > Mobile Application Protection Options • Enterprise Gateway Rules > Mobile Application Protection Options > Device Types > Edit • Enterprise Gateway Rules > Mobile Application Protection Options > Mobile Applications > Edit • Enterprise Gateway Rules > Rules > Create The following screens under Security > Ports > Add Port are disabled: • Edit Enterprise Gateway Server Configuration • Edit Internal Server Configuration

Release 9.10

Added Item	Description
Configure the allowed protocols for JSSE on a per port basis	Integration Server now provides the ability to specify the allowed protocols for JSSE on a per port basis.
Out of the box support for Content-Type application/xml.	Integration Server content handler named ContentHandler_XML now includes support for the content type application/xml.
Kerberos authentication for outbound service requests.	The pub.client:http service now includes Kerberos-related parameters that you can use to acquire a Kerberos ticket for inclusion in the outbound service request.
Java API Classes for working with XMLData in Java services	A set of classes in com.wm.data for manipulating XMLData in Java services. For a list of classes, see the Added APIs for the Release 9.10 in section 11.0 Added, Removed, Deprecated, or Changed APIs
Universal Messaging connection alias can now be configured to connect to an SSL-enabled port on a Universal Messaging realm server	When configuring a Universal Messaging connection alias, you can specify SSL as the client authentication and provide the truststore and keystore information needed for Integration Server to establish an SSL connection with the Universal Messaging realm server. Previously, to establish a secure connection to the Universal Messaging realm server, you needed to configure the javax.net.ssl properties in the JVM used by Integration Server.
A queue on Universal Messaging can be used as the audit logging queue	Integration Server provides the option of using a Universal Messaging queue instead of the internal queue as the audit logging queue on a per logger basis.
Follow the master for webMethods messaging connections to Universal Messaging server	Integration Server now uses the Universal Messaging client setting “follow the master” which indicates that the client session always connects to the master realm server. The follow the master behavior takes precedence over the behavior indicated through the use of a comma-separated or semicolon-separated list of realm servers in the Realm URL field for a Universal Messaging connection alias.

Removed Item	Replacement, if any
EventBus predefined JMS connection alias	The EventBus alias is no longer available as a predefined JMS connection alias. That is, new Integration Server installations will not include this predefined JMS connection alias. However, if you migrated to Integration Server version 9.10 or later from an earlier version, then you might still have the EventBus alias.
EventBusJndiProvider predefined JNDI provider alias	The EventBusJndiProvider alias is no longer available as a predefined JNDI provider alias. That is, new Integration Server installations will not include this predefined JNDI provider alias. However, if you migrated to Integration Server version 9.10 or later from an earlier version, then you might still have the EventBusJndiProvider alias.

Deprecated Item	Replacement, if any
WmTomcat Package	Existing web applications based on the WmTomcat package can be migrated to webMethods Application Platform.

Changed Item	Description
Client queue window size	The Universal Messaging window size for the client queue that corresponds to webMethods messaging trigger is now set to the sum of the Capacity and Max execution threads trigger properties. Previously, Universal Messaging determined the window size.

Changed Item	Description
Filters in a webMethods messaging trigger must be identical if the conditions subscribe to the same publishable document type.	If more than one condition in the webMethods messaging trigger specifies the same publishable document type and the trigger receives messages from Universal Messaging, the provider filters must be identical in each condition but the local filters can be different. Specifically, the contents of the Provider Filter (UM) column must be identical for each condition that subscribes to the publishable document type. The contents of the Filter column can be different. When using pub.trigger:createTrigger to create a trigger, the contents of *conditions/messageTypeFilterPairs/providerFilter* must be the same for each condition. The contents of *conditions/messageTypeFilterPairs/filter* can be different for each condition. The filter requirement is unchanged for a webMethods messaging trigger that receives messages from Broker. That is, if more than one condition in the webMethods messaging trigger specifies the same publishable document type and the trigger receives messages from the Broker, the filters in the conditions must be the same.
Integration Server Administrator	The HTML-based utility used to administer the webMethods Integration Server has a new look and feel. Menu and screen locations have not changed.
Internal Server ports that use the HTTPS protocol can now be configured using the “Use JSSE” option.	Internal Server ports that support TLS 1.1 or TLS 1.2 protocol can now be configured using the “Use JSSE” option in the Edit Internal Server Configuration screen of Integration Server Administrator. Previously, this option was not available.
OAuth Errors now returned in the content type specified in the client request	Previously, Integration Server always returned OAuth errors as HTML. Now, Integration Server returns OAuth errors in the content type specified in the client request.
Reply messages for webMethods messaging routed through Universal Messaging.	Integration Server now always encodes reply message as IData even when the encoding type of the reply document type is protocol buffers.

Release 9.9

Added Item	Description
Cluster synchronization for webMethods messaging triggers that receive documents from Universal Messaging.	If a webMethods messaging trigger receives documents from Universal Messaging resides on Integration Servers that is a member of a cluster, changes that you make for document retrieval, document processing, and for trigger properties can be propagated to other servers in the cluster automatically. Previously, cluster synchronization was available for webMethods messaging triggers that received documents from webMethods Broker only.
CDATA block support to outbound SOAP processing	Integration Server now provides CDATA block support for processing of outbound SOAP messages only when Integration Server hosts the web service provider. When a service used as an operation in a web service provider returns String values containing CDATA blocks, when encoding the IData into a SOAP message, Integration Server places the CDATA text in the outbound SOAP message in a CDATA section and does not url-encode special characters in the delimiters or text block. Previously, Integration Server ignored CDATA delimiters in String fields and treated text in a CDATA block as regular text.
Dedicated MessageConsumer for receiving synchronous replies per JMS connection alias	When a JMS connection alias has the Create Temporary Queue check box and the Enable Request-Reply Listener for Temporary Queue check box selected, Integration Server uses a dedicated consumer to retrieve replies to all requests sent using that JMS connection alias.
Default instance name can be defined by the user	The default instance of Integration Server can now be specified during the installation process. Previously, the default instance was always named “default”.
Fail-fast mode for a JDBC functional alias.	A JDBC functional alias can now be configured to enter fail-fast mode when a transient error caused by an unavailable database prevents the connection pool alias used by the JDBC functional alias from establishing a connection to the database.

Added Item	Description
Instances of Integration Server can be started and stopped from the Windows Start menu.	Any instance of Integration Server can be started or stopped from the Windows Start menu. The Integration Server Administrator can also be started from the Windows Start menu for any instance of Integration Server. Previously, you could start, stop, or launch Integration Server Administrator for the default instance only.
IS_LOCAL_CONNECTION messaging connection alias	A predefined messaging connection alias for use with publishable document types that will be published locally only.
New filter added to the Enterprise Gateway rule	Custom filter added to the list of filter that can be included in an Enterprise Gateway rule. You can use this filter to customize and invoke services in the Enterprise Gateway Server.
URL aliases can now have specific destinations per port and for the empty path	A URL alias can now identify a port-specific destination for the alias. Additionally, an alias can now be created for the empty path for a port.
XMLData and XML document types	XMLData is a new data type that more faithfully represents XML content. This enables Integration Server to support XML Schema constructs such a substitution groups, nested model groups, the any wildcard, and the anyAttribute wildcard. XMLData also provides improvements with regards to handling of XML namespaces. XMLData is surfaced in Integration Server and Designer through XML document types which are created from XML Schema definitions.

Removed Item	Replacement, if any
startup.bat/sh and shutdown.bat/sh scripts contained in the following directory: *Integration Server_directory*\bin	The startup.bat/sh and shutdown.bat/sh scripts contained in and *Integration Server_directory*\bin directory have been removed. These scripts are replaced by the startup.bat/sh and shutdown.bat/sh scripts respectively in the following directory: *Software AG_directory*\profiles\IS_*instance_name*\bin

Removed Item	Replacement, if any
server.bat/sh scripts contained in the following directory: *Integration Server_directory*\bin	The server.bat/sh scripts contained in the *Integration Server_directory*\bin directory have been removed. These scripts are replaced by the startup.bat/sh scripts in the following directory: *Software AG_directory*\profiles\IS_*instance_name*\bin

Deprecated Item	Replacement, if any
WmVCS and VCS Integration feature	Use the local service development feature (Local Version Control Integration) to check package elements and their supporting files into and out of a version control system (VCS) directly from Designer.

Changed Item	Description
Destination List parameter renamed to Destination Lookup Name List	On the Create JMS Connection Alias, Edit JMS Connection Alias, and JMS Connection Alias details screens available under Settings > Messaging in Integration Server Administrator, the Destination List parameter was renamed to Destination Lookup Name List to clarify that the destination lookup names must be provided.
Default messaging connection alias	Previously, you did not have to select a default messaging connection alias for use with webMethods messaging. You could select [LOCAL ONLY] which would indicated that publishable document types that specified the DEFAULT messaging connection alias could be published locally only. Now, you must select a messaging connection alias as the default. If you want the default to be local publishing, specify IS_LOCAL_CONNECTION as the default messaging connection alias in Integration Server Administrator.
WmTomcat package	The WmTomcat package is still installed by default, but is no longer enabled by default. The WmTomcat must be disabled if you want to use webMethods Application Platform with Integration Server.

Changed Item	Description
Client Principal and Client Principal Password fields renamed to Principal and Principal Password	On the Create, Edit, or View Web Services Consumer Endpoint Alias details screens available under Settings > Web Services > Create Web Service Endpoint Alias in Integration Server Administrator, under the Kerberos Properties section, the Client Principal and Client Principal Password fields were renamed to Principal and Principal Password.
Use Subject Credentials field renamed to Use Subject Credentials Only	On the Security > Kerberos and Security > Kerberos > Edit screens, the Use Subject Credentials field has been renamed to Use Subject Credentials Only.
Serial webMethods messaging triggers that receive documents from Universal Messaging now process documents from a publisher publication order.	Previously, a webMethods messaging trigger with serial processing corresponded to a shared named object on a channel on Universal Messaging server. Now, a serial webMethods messaging trigger corresponds to a priority named object. This provides processing in publishing order for a serial trigger in a cluster or a non-clustered group of Integration Server
Transient error handling during trigger preprocessing.	The following changes were made to improve transient error handling during trigger preprocessing: If the ISRuntimeException occurs during trigger preprocessing, Integration Server checks the values of the watt.server.trigger.preprocess.suspendAndRetryOnError parameter and the On Retry Failure trigger property. If watt.server.trigger.preprocess.suspendAndRetryOnError is set to true or On Retry Failure is set to “Suspend and retry later”, then Integration Server suspends the trigger. Previously, Integration Server checked the watt.server.trigger.preprocess.suspendAndRetryOnError server configuration property only for webMethods messaging triggers that received messages from webMethods Broker. Also previously, Integration Server checked the On retry failure property only for JMS triggers and webMethods messaging triggers that received

Changed Item	Description
	messages from Universal Messaging. The watt.server.trigger.preprocess.suspendAndRetryOnError parameter now applies to all trigger types and messaging providers. Previously, the behavior provided by this property applied only to webMethods messaging triggers that received messages from webMethods Broker. Now, this property also works with webMethods messaging triggers that receive messages from Universal Messaging as well as JMS triggers. Integration Server now includes a server configuration property, watt.server.trigger.preprocess.monitorDatabaseOnConnectionException, that determines how Integration Server handles a ConnectionException that causes a transient error. A ConnectionException occurs when the document history database is not enabled or is configured incorrectly. Typically, transient errors that occur during preprocessing occur during exactly-once processing.
Naming convention for port aliases for migrated ports	To ensure that each port alias is unique, Integration Server now includes the host name for the port in the port alias for migrated ports. The new naming convention is: protocolListener_portNumber_hostName_packageName
Port number used while generating XIDs	Previously, Integration Server used the default Integration Server primary port number while generating the unique XIDs that are used to persist the state of XA transactions. Now, Integration Server uses the configured primary port number while generating the XIDs.
URL Path field renamed to Default URL Path	On the Settings > URL Alias > Create and Settings > URL Alias page, the URL Path field had been renamed to Default URL Path.

Release 9.8

Added Item	Description
Basic client authentication performed when connecting Integration Server to a Universal Messaging realm server	When Universal Messaging is the webMethods messaging provider, connections between Integration Server and Universal Messaging servers can now be authenticated using user names and passwords. This authentication is specified in the Client Authentication Settings section on the Settings > Messaging > webMethods Messaging Settings > Universal Messaging Connection Alias > Create screen.
Use Secure Socket Layers to connect to a port on a Universal Messaging realm server	When Universal Messaging is the webMethods messaging provider, connections between Integration Server and Universal Messaging servers can now use one-way or two-way SSL once client-side parameters are configured on Integration Server.
Action on Startup Error option for clustering configuration	When configuring a cluster, you can now specify what action Integration Server takes when an error prevents the server from joining a cluster at startup. Previously, Integration Server would shut down if it could not connect to the cluster at start up. Now, you can start Integration Server as a standalone Integration Server, shut down Integration Server, or start the Integration Server in quiesce mode.
Security > Ports > Enterprise Gateway Registration Port Connections screen	The new Enterprise Gateway Registration Port Connections screen lists the connections from Internal Servers to the Enterprise Gateway registration port. To access this screen, go to the Ports Screen and click the port number of an Enterprise Gateway registration port. On the Security > Ports > View Enterprise Gateway Server Details screen, click Display Connections to Enterprise Gateway Registration Port.

Removed Item	Replacement, if any
WmPKI package	The WmPKI package which provides functionality for using PKI profiles in conjunction with Integration Server has been removed from the product. There is no replacement for the WmPKI package.

Changed Item	Description
JMS Trigger Management page	In Integration Server Administrator, the Settings > Messaging > JMS Trigger Management page now expands the Individual Standard JMS Trigger Controls and Individual SOAP JMS Trigger Controls tables by default. Previously, the tables were collapsed. Additionally, the page now includes links that you can use to jump from the top of one table to the other. This improves page navigation when there are a large number of JMS triggers.
Handling of undeclared namespaces in the resulting document (IData), when an endpoint service is invoked.	When an endpoint service is invoked, Integration Server now includes the undeclared namespace definitions in the resulting document (IData).
Realm URL parameter	The Realm URL parameter on the on Settings > Messaging > webMethods Messaging Settings > Universal Messaging Connection Alias > Create and Edit pages now accepts a semicolon-separated list of URLs to the servers in a Universal Messaging cluster. Previously, the field accepted a comma-separated list only. Use a comma-separated list for Integration Server to always attempt to connect to the first Universal Messaging server in the list, trying the second server and so forth only if the first server becomes unavailable. Use a semicolon-separated list for Integration Server to connect to a randomly chosen URL from the list. You can now specify realm URLs that use the protocol nsps or nhps.
Handling of HTTP requests with no authentication scheme specified in the Authorization header	Integration Server treats HTTP requests with no authentication scheme in the Authorization header as BASIC authentication requests and performs authentication for valid credentials. Previously, Integration Server did not force requests to have an

Changed Item	Description
	authentication scheme in the Authorization header.
User Names parameter	The User Names field on the Security > User Management > Add and Remove Users screen no longer allows specifying a *username ;password* combination per line. Passwords cannot be supplied in the User Names field.
JSON text with an array at the root	Integration Server now accepts JSON text containing an array at its root. If the supplied JSON text contains an array at its root and that array does not have a name, Integration Server uses a fixed name of "$rootArray" for the array value.

Release 9.7

Added Item	Description
Maximum Entries in Cache field	This field is added to the Settings > Caching > *cache_manager* > Add Cache and Settings > Caching > *cache_manager* > *cache_name* > 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.
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, if any
setenv.bat/sh	Integration Server no longer obtains settings from *Integration Server_directory*\instances\instance_name\bin\setenv.bat/sh. At startup, Integration Server obtains all configuration settings from wrapper.conf and custom_wrapper.conf.
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 *webMethods Integration Server Administrator's Guide*.

Deprecated Item	Replacement, if any
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.
startup.bat/sh and shutdown.bat/sh scripts contained in the following directories: *Integration Server_directory*\instances*instance_name*\bin and *Integration Server_directory*\bin	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. These scripts are replaced by the startup.bat/sh and shutdown.bat/sh scripts respectively in the following directory: *Software AG_directory*\profiles\IS_*instance_name*\bin
installSvc.bat script located in the following directory: *Integration Server_directory*\instances*instance_name*\support\win32	The installSvc.bat script located in the *Integration Server_directory*\instances*instance_name*\support\win32directory is deprecated. This is replaced by the service.bat file located in the following directory: Software AG_directory\profiles\IS_*instance_name*\bin

Deprecated Item	Replacement, if any
server.bat/sh scripts contained in the following directories: *Integration Server_directory*\instances*instance_name*\bin and *Integration Server_directory*\bin	The server.bat/sh scripts contained in the *Integration Server_directory*\instances*instance_name*\bin and *Integration Server_directory*\bin directories are deprecated. These scripts are replaced by the startup.bat/sh scripts in the following directory: *Software AG_directory*\profiles\IS_*instance_name*\bin

Changed Item	Description
Use JSSE default setting	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.
Maximum Elements on Disk field	The Maximum Elements on Disk field on the Settings > Caching > *cache_manager* > Add Cache and Settings > Caching > *cache_manager* > *cache_name* > 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 transferred to Maximum Entries Local Disk.
Default logging mode	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.

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

A release is listed in this section only if changes occurred in that release.

Release 9.12

Added Service	Description
pub.cache.serviceResults:addCacheEntry	Adds cached entry into service results for the service without executing the actual service. This service can be useful to perform bulk load of service results at Integration Server startup.
pub.cache.serviceResults:listServiceCache	Returns a list of the cached service results for a particular service.
pub.cache.serviceResults:resetServerCache	Resets the cache for all services in the service results cache, resulting in the removal of all cached service results for all services from the service results cache.
pub.cache.serviceResults:resetServiceCache	Resets the cache for specific service, resulting in the removal of cached service results for the service.

Changed Service	Description
pub.client:http	The default value of the *useJSSE* parameter is now null, which allows the watt.net.ssl.client.useJSSE server configuration property to determine the default behavior for outbound HTTPS connections. Added input parameter *delegation* to allow a user to execute a service on behalf of other user. Added input parameter *requestDelegatableToken* to specify if you want to request for a forwardable ticket granting ticket to send to the intermediary. The intermediary can use this forwardable ticket granting ticket for Kerberos delegation.Integration Server, which the server can use for delegation
pub.client.ldap:search	Added input parameter *pageSize* to set the number of entries to return in a page. Added input and output parameter *ldapCookie* which contains the index of the page count for the search.
pub.client.ftp:login	Added input parameter *useJSSE* to allow use of JSSE for creating outbound FTPS connections.
pub.client:soapClient	Added input parameter *useJSSE* to allow use of JSSE for outbound web service invocation.

Changed Service	Description
pub.date*	Previously, if a value was not specified for the locale input parameter, Integration Server used the locale from the session used by the client that invoked the service. Now, Integration Server uses the value of the watt.server.session.locale.ignore server configuration parameter to determine whether the locale is obtained from the session used by the client that invoked the service or if the locale is the locale of Integration Server.
pub.flow:setResponse2	Added input variable responseStreamTransferEncoding to use chunked transfer encoding for the response and include the "Transfer-Encoding: chunked" response header.
pub.json:jsonStreamToDocument	Added input parameter decodeRealAsString to converts real numbers in the jsonStream to String.
pub.json:jsonStringToDocument	Added input parameter decodeRealAsString to converts real numbers in the jsonStream to String.
pub.security:userInfoSpec	The error input parameter is now named userInfoError.

Release 9.10

Added Service	Description
pub.date:compareDates	Compares two dates.
pub.date:incrementDate	Increments a date by a specified period.
pub.event.routing:eventAcknowledgement	Defines the input signature for a callback service that processes acknowledgments sent by the Event Routing framework.
pub.security:userInfoSpec	Specification for UserInfo service that performs custom processing based on the personally identifiable information in the OpenID Connect UserInfo token.
pub.string:compareStrings	Performs a case-sensitive comparison of two strings, and indicates whether the strings are identical.
pub.string:isAlphanumeric	Determines whether a string consists entirely of alphanumeric characters (in the ranges A–Z, a–z, or 0–9).

Added Service	Description
pub.string:isDate	Determines whether a string follows a specified date pattern.
pub.string:isNullOrBlank	Checks a string for a null or a blank value.
pub.string:isNumber	Determines whether the contents of a string can be converted to a float value.
pub.string:substitutePipelineVariables	Replaces a pipeline variable with its corresponding value.

Changed Service	Description
pub.client:http	The *method* input parameter now supports the patch method. The pub.client:http service now includes fields for supplying Kerberos information that Integration Server uses to acquire a Kerberos ticket to include in the outbound service request. Specifically, the *auth* input parameter now contains a *kerberos* document in which you can specify *jaasContext*, *clientPrincipal*, *clientPassword*, *servicePrincipal*, and *servicePrincipalForm*. If the remote server redirected pub.client:http to a different location, *encodedURL* contain the URL that pub.client:http submitted to the server to which it was redirected.
pub.event.routing:send	New input parameters *isAsync*, *service Name*, and *runAsUser*.
pub.jms:send	Added the *JMSMessage/header/replyTo* input parameter which can be used to specify a destination for replies without actually needing to wait for replies.
pub.security.keystore.pkcs7:sign	New input parameters *dataAsStream* and *signatureAsStream*.
pub.security.pkcs7:verify	New input parameters *signatureAsStream* and *dataAsStream*. New output parameter *contentAsStream*.
pub.security.util:createMessageDigest	New input parameter *inputAsStream*. New output parameter *outputAsStream*

Release 9.9

Added Service	Description
pub.assets:getChecksums	Retrieves the checksums for assets, specifically namespace elements, on Integration Server.
pub.event.routing:send	Sends events to the messaging provider using Software AG Event Routing.
pub.event.routing:subscribe	Creates a subscription to a particular type of event using Software AG Event Routing.
pub.event.routing:unsubscribe	Removes a subscription to an event type previously subscribed to using the pub.event.routing:subscribe service.
pub.security.enterpriseGateway:customFilterSpec	Specification for services that can be invoked by the custom filter in Enterprise Gateway rules.
pub.xmldata:domNodeToXMLData	Converts a DOM node to a document (XMLData object).
pub.xmldata:getAttributes	Retrieves the attribute values from an XMLData object.
pub.xmldata:getInstanceTag	Retrieves the instance (xsi) tag values from an XMLData object.
pub.xmldata:getNamespaceTag	Retrieves the namespace tags values from an XMLData object.
pub.xmldata:setAttribute	Sets the value of an attribute in an XMLData object.
pub.xmldata:setInstanceTag	Sets an instance tag value in an XMLData object.
pub.xmldata.setNamespaceTag	Sets a namespace tag value in an XMLData object.
pub.xmldata:xmlDataToXMLString	Converts a document (XMLData object) to an XML String.

Deprecated Service	Replacement, if any
pub.event.nerv:eventToDocument	No replacement service because the pub.event.routing:subscribe service, which replaces the deprecated pub.event.nerv:subscribe service, handles the conversion of the incoming JMS message into an IS document (IData) now.
pub.event.nerv:send	pub.event.routing:send
pub.event.nerv:subscribe	pub.event.routing:subscribe
pub.event.nerv:unsubscribe	pub.event.routing:unsubscribe

Changed Service	Description
pub.client.ftp:getCompletedNotification	The publishable document type now specifies the IS_LOCAL_CONNECTION alias as the connection alias used to publish and retrieve instances of this document type.
pub.client.ftp:putCompletedNotification	The publishable document type now specifies the IS_LOCAL_CONNECTION alias as the connection alias used to publish and retrieve instances of this document type.
pub.schema:validate	The service can now validate XMLData against an XML document type.
pub.remote:invoke	Integration Server now ignores the value of the $close input parameter when a trigger service for a webMethods messaging trigger executes the pub.remote:invoke service, if the watt.server.trigger.reuseSession server configuration parameter is set to true.
pub.trigger:resumeProcessing	The *applyChangeAcrossCluster* input parameter now applies to webMethods messaging triggers that receive documents from Universal Messaging. Previously, the *applyChangeAcrossCluster* input parameter applied only to triggers that received documents from Broker.
pub.trigger:resumeRetrieval	The *applyChangeAcrossCluster* input parameter now applies to webMethods messaging triggers that receive documents from Universal Messaging. Previously, the *applyChangeAcrossCluster* input parameter applied only to triggers that received documents from Broker.
pub.trigger:suspendProcessing	The *applyChangeAcrossCluster* input parameter now applies to webMethods messaging triggers that receive documents from Universal Messaging. Previously, the *applyChangeAcrossCluster* input parameter applied only to triggers that received documents from Broker.

Changed Service	Description
pub.trigger:suspendRetrieval	The *applyChangeAcrossCluster* input parameter now applies to webMethods messaging triggers that receive documents from Universal Messaging. Previously, the *applyChangeAcrossCluster* input parameter applied only to triggers that received documents from Broker.

Release 9.8

Added Service	Description
pub.cache:getAll	Retrieves the values of the cached elements for the specified keys.
pub.cache:putAll	Populates a collection of elements in the cache with the specified key-value pairs.
pub.cache:removeAll	Removes the cached elements associated with a list of keys or, if no keys are specified, removes all elements from the cache.
pub.flow:getCallingService	Retrieves the service name and package name of the parent of the calling child service.
pub.event.nerv:subscribe	Subscribes to a particular type of event on the Network for Event Routing and Variation (NERV) and identifies the service that will act as the event handler.
pub.event.nerv:unsubscribe	Unsubscribes from an event type previously subscribed to using the pub.event.nerv:subscribe service.
pub.utils.messaging: migrateDocTypesTriggersToUM	Migrates the messaging provider for publishable document types and webMethods messaging triggers from webMethods Broker to webMethods Universal Messaging.
pub.utils:transcode	Transcodes data from one encoding to another.

Removed Service	Replacement, if any
pub.pki.pkcs7:sign	
pub.pki.pkcs7:verify	
pub.pki.smime:createSignedAndEncryptedData	

Removed Service	Replacement, if any
pub.pki.smime:createSignedData	
pub.pki:smime:processEncryptedData	
pub.pki.smime:processSignedData	

Changed Service	Description
pub.cache:remove	Added *useWriter* input parameter.
pub.flow:savePipelineToFile	Before writing the pipeline to a file, Integration Server verifies whether the provided path is specified in the allowedWritePaths parameter of the file access control configuration file (fileAccessControl.cnf). If it is not, Integration Server does not write the pipeline to a file.
pub.publish:deliver	Added the ability to deliver documents with webMethods Universal Messaging.
pub.publish:deliverAndWait	Added the ability to publish documents with webMethods Universal Messaging.
pub.publish:envelope	webMethods Universal Messaging now supports the read-only parameter *destID*.
pub.string:bytesToString	Added *ignoreBOMChars* input parameter.

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, if any
pub.event.eda:send	pub.event.nerv:send

Deprecated Service	Replacement, if any
pub.event.eda:eventToDocument	pub.event.nerv:eventToDocument
pub.publish:syncToBroker	pub.publish:syncToProvider

Deprecated Service	Replacement, if any
pub.pki.pkcs7:sign	
pub.pki.pkcs7:verify	
pub.pki.smime:createSignedAndEncryptedData	
pub.pki.smime:createSignedData	
pub.pki:smime:processEncryptedData	
pub.pki.smime:processSignedData	

Changed Service	Description
pub.event.nerv:send	Added new *encode* 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 *messaging* 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 *properties\executeUser* and *conditions\messageTypeFilterPairs\providerFilter*.

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

Added Service	Description
	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 *addSignatureAsLastElement* input parameter to indicate whether Integration Server should add the signature element as the last child of the root.
pub.soap.handler:getInitialSoapMessage	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, if any
pub.event.eda:send	pub.event.nerv:send

Deprecated Service	Replacement, if any
pub.flow:setResponse	pub.flow:setResponse2

Changed Service	Description
pub.client:http	Added new key *Digest* to the *auth\type* parameter. If a value for *connectTimeout* is not specified, Integration Server uses the value specified for the watt.net.timeout server configuration parameter. If no value is specified for watt.net.timeout, the server will wait for the timeout value defined by the operating system before terminating the connection request.
pub.client:soapClient	Added new key *Digest* to the *auth\transport\type* parameter.
pub.flow.setResponse	Added new parameters *responseString* and *responseBytes*. Deprecated parameters *response*, *string*, and *bytes*.

Changed Service	Description
pub.soap.wsrm:createSequence	Both the *auth* > *message* input parameter and *sequenceKey* output parameter were removed.

Release 9.5

Added Service	Description
pub.event:auditError	Specification for audit error event handlers.
pub.soap.wsrm:createSequence	Both the *auth* > *message* input parameter and *sequenceKey* output parameter were removed.

Changed Service	Description
pub.client.oauth.executeRequest	Removed Google, Facebook, and Twitter as options for the *provider* parameter. Possible options for the *provider* parameter are now IntegrationServer and Other.
pub.flow:transportInfo	Added new keys *clientIP* and *clientPort* to the *HTTP ipInfo* parameter.
pub.publish:publish	Added the ability to publish documents to webMethods Universal Messaging.
pub.security.xml:signXML	Added *signatureAlgorithm* and *digestAlgorithm* as new input parameters. Possible values for each field are SHA1 (the default), SHA256, SHA384, and SHA512.

10.0 Added, Removed, Deprecated, or Changed Parameters

A release is listed in this section only if changes occurred in that release.

Release 9.12

Added Parameter	Description
watt.core.validation.skipAbsentStarBody	Specifies whether to skip a validation that Integration Server performs when decoding mixed content elements that have an enumeration restriction.

Added Parameter	Description
watt.server.apiportal.url	Specifies the URL for establishing a connection to API Portal and publishing a REST API descriptor. This parameter derives the API Portal URL from the following: • Host name and port number for the API Portal connection. • Tenant for which the REST API descriptor is to be published. • Specifications of the REST API descriptor.
watt.server.jca.connectionPool.threadInterrupt.waitTime	Specifies the maximum number of milliseconds that a thread can take while creating or closing a connection before the pool interrupter thread interrupts the thread. After the specified time elapses, the pool interrupter thread considers the thread to be blocked and interrupts it.
watt.server.jca.connectionPool.threadInterrupter.sleepTime	Specifies the number of milliseconds the pool interrupter thread sleeps between sweeps for server threads that became blocked while creating or closing a connection.
watt.server.json.decodeRealAsString	Converts a real number that Integration Server retrieves from JSON content to String.
watt.server.log.maxEntries	Specifies the default number of log entries to be displayed in the log viewing utility.
watt.server.mediator.directives	Specifies a comma-separated list of Mediator directives.
watt.server.messaging.debugTrace	Enables an extra level of verbose logging for webMethods messaging triggers that receive messages from Universal Messaging or through Digital Event Services. You can configure the additional logging globally or at the individual webMethods messaging trigger level.

Added Parameter	Description
watt.server.ns.decodeJavaService	Enables Integration Server to display non-ASCII Unicode characters in the body of a Java service.
watt.server.ns.logDuplicateDocTypeRegistrationAsError	Indicates whether to suppress or continue logging of error messages related to registration of duplicate universal names for a document type. Set the value of the parameter to false to suppress the logging of the error messages and true to resume the logging. The default value of this parameter is true. Note: Setting the parameter value to false suppresses the error messages about duplicate universal names only. It does not resolve the duplicate names.
watt.server.returnCurrentDateTimeString	Returns the current date and time for an Object field that is not of type java.util.Date and has the format "yyyy-MM-dd'T'HH:mm:ss.SSS'Z'".
watt.server.serverlogFilesToKeep	Specifies the number of server log files that Integration Server keeps on the file system, including the current server log file.
watt.server.session.locale.ignore	Specifies whether the default locale for the pub.date* services is the server locale or the locale from the session used by the client that invoked the service.
watt.server.SOAP.pre82WSD.ignoreVersionMismatch	For a web service provider that was created in an Integration Server release earlier than 8.2.2 and for which the Pre-8.2 compatibility mode property is set to true, specifies whether to emulate pre-8.2 behavior for process SOAP requests.

Added Parameter	Description
watt.server.sftp.dateStampFmt	Specifies the format of date to be used in the SFTP client public services, specifically the pub.client.sftp* services in the WmPublic package. To specify the date format to use, you can use any format that is supported by the Java class java.text.SimpleDateFormat . For example, to display the date with the format 08-12-02 14:44:33:1235, specify dd-MM-yy HH:mm:ss:SSSS. If the watt.server.sftp.dateStampFmt property is not set, Integration Server uses the default format, which is yyyy-MM-dd HH:mm:ss z.
watt.server.transaction.xastore.maxTxnPerFile	Specifies the maximum number of unique XA transactions in an XA recovery log file. When the XA recovery log file reaches the maximum number of transactions, Integration Server creates a new file.
watt.server.transaction.xastore.performXALogging	Specifies whether or not Integration Server writes transaction information to the XA recovery store. Set to true to instruct Integration Server to log information about the state and progress of each XA transaction. Set to false to instruct Integration Server to skip logging XA transaction information. The default is true.
watt.server.um.producer.transaction.commitRetryCount	Specifies the number of attempts made by Integration Server in publishing a guaranteed document to a Universal Messaging server, after the initial attempt at publishing fails because of a transaction failure.
watt.um.clientLog.level	Determines the information that is written to the Universal Messaging client log file, called umClient.log. Each level outputs log entries with that level or higher. Valid values are trace, debug, info, warn, error, fatal, and off. The default is error.

Added Parameter	Description
watt.um.clientLog.size	Maximum size, in MB, of the Universal Messaging client log file. When this size is reached, Integration Server rolls the file over to a backup called umClient (number).log and creates a new file.
watt.um.clientLog.fileDepth	Number of backup log files to keep on disk when using log rolling for the Universal Messaging client log file.

Changed Parameter	Description
watt.net.ftpDataConn	Now, when this parameter is set to true, Integration Server allows parallel downloads from multiple FTP sessions. When this parameter is set to false, Integration Server does not allow parallel downloads and reuses the same FTP session. The default is false.
watt.net.jsse.client.enabledCipherSuiteList	To make it easier to specify a long list of allowed cipher suites, Integration Server now allows specifying a file as the value for this parameter.
watt.net.jsse.server.enabledCipherSuiteList	To make it easier to specify a long list of allowed cipher suites, Integration Server now allows specifying a file as the value for this parameter.
watt.net.ssl.client.cipherSuiteList	To make it easier to specify a long list of allowed cipher suites, Integration Server now allows specifying a file as the value for this parameter.
watt.net.ssl.server.cipherSuiteList	To make it easier to specify a long list of allowed cipher suites, Integration Server now allows specifying a file as the value for this parameter.
watt.server.cors.allowedOrigins	Now supports the use of regular expressions in the comma-separated list of allowed origin servers. Integration Server treats any value in the comma-separated list that begins with "r:" as a regular expression.

Removed Parameter	Description
watt.ssh.jsch.kex	

Release 9.10

Added Parameter	Description
watt.net.http401.throwException	Specifies whether the pub.client:http service throws a NetException when receiving a 401 error response or, instead, places the HTTP response header and body in the pipeline.
watt.net.http501-599.throwException	Specifies whether the pub.client:http service throws a ServiceException or returns response headers and response body when receiving a 501 to 599 level response from a remote HTTP server.
watt.security.openid.logExceptions	Specifies whether Integration Server writes OpenID errors to the error log.
watt.security.session.forceReauthOnExpiration	Specifies whether Integration Server accepts or rejects a request that includes an expired or invalid session.
watt.server.audit.um.sessionPool.max	Specifies the maximum number of sessions in the Universal Messaging session pool for each Universal Messaging connection alias used by an audit logger.
watt.server.audit.um.sessionPool.min	Specifies the minimum number of sessions in the Universal Messaging session pool for each Universal Messaging connection alias used by an audit logger.
watt.server.audit.um.sessionPool.retryInterval	Specifies the number of seconds Integration Server waits between attempts to re-establish a session on the Universal Messaging server after an audit logger enters queue fail-fast mode.
watt.server.jca.connectionPool. createConnection.interrupt.waitTime	Specifies the wait time, measured in milliseconds, that elapses before Integration Server interrupts a connection creation thread that is in a wait state

Added Parameter	Description
watt.server.package.pre82WSD.loadExternalResources	Specifies whether, at package load time, Integration Server loads external resources for a consumer web service descriptor or a WSDL first web descriptor created on a version of Integration Server prior to version 8.2 and for which the Pre-8.2 compatibility mode property is set to true.

Changed Parameter	Description
watt.server.oauth.custom.responseHeader	Specifies whether the OpenID redirection endpoint for Integration Server include a brief description of the error in the response header when an OpenID error or Integration Server exception occurs during authentication. Previously, this parameter applied to OAuth authorization server only.
watt.server.stats.pollTime	Restrictions for the value for the parameter. For a stand-alone Integration Server, the watt.server.stats.pollTime must be an integer greater than or equal to 0 (zero). For an Integration Server in a cluster, the watt.server.stats.pollTime must be an integer greater than 0 (zero) but less than or equal to 60.

Release 9.9

Added Parameter	Description
watt.core.validation. skipNoNamespaceReference	Indicates whether or not Integration Server skips validation of references to elements that are not namespace qualified made from within a namespace qualified element during XML validation against a schema.
watt.net.jsse.client.enabled CipherSuiteList	Specifies, using a comma-separated list, the cipher suites used on JSSE sockets that are used while making outbound HTTPS requests.
watt.net.ssl.client.useJSSE	Controls the use of JSSE for all of the outbound HTTPS connections from Integration Server.

Added Parameter	Description
watt.net.jsse.server.enabled CipherSuiteList	Specifies, using a comma-separated list, the cipher suites used on Integration Server ports that use JSSE and handle inbound requests.
watt.server.audit.failFastLoggers	Specifies a comma-separated list of the loggers that can enter into fail-fast mode. If this parameter is empty and fail-fast is enabled in the ISCoreAudit functional alias, all synchronous audit loggers with a database destination will have fail-fast capability.
watt.server.serverlogRotateSize	Specifies the file size at which Integration Server rolls over the server.log file.
watt.server.SOAP.ignoreMissing ResponseHeader	Determines whether missing required headers in a SOAP response results in an error.
watt.server.SOAP.treatNilAsNull	Indicates whether or not Integration Server generates an @xsi:nil field for an element for which the xsi:nil attribute is set to true.
watt.server.trigger.preprocess. monitorDatabaseOnConnectionException	Indicates whether Integration Server schedules a system task to monitor the document history database when a ConnectionException causes a transient error occurs during trigger preprocessing.

Changed Parameter	Description
watt.net.jsse.server.enabledProtocols	Modified to include “SSLv2Hello” as a default value.
watt.server.soap.decodeElementWithPrefix	Extended to work with the decoding of SOAP response messages received by a web service connector and with the pub.xml:xmlNodeToDocument service Previously, this parameter affected the decoding of SOAP request message received by a web service provider only.
watt.server.trigger.preprocess. suspendAndRetryOnError	This server configuration parameter now applies to all trigger types and messaging providers. Previously, the behavior provided by this property applied only to webMethods messaging triggers that received messages from webMethods Broker. Now, this property also works with webMethods messaging triggers that receive messages from Universal Messaging as well as JMS triggers.

Release 9.8

Added Parameter	Description
watt.cachedirective.exclude.packages	Specifies a comma-separated list of packages whose Dynamic Server Pages you want the browser to cache.
watt.debug.warnOnClasspathError	Specifies whether or not a warning message about a missing classpath entry will be written to standard out.
watt.net.jsse.client.enabledProtocols	Specifies the SSL protocol versions that Integration Server supports when acting as a client making outbound requests.
watt.net.jsse.server.enabledProtocols	Specifies the SSL protocol versions that Integration Server supports when acting as a server handling inbound requests.
watt.net.ssl.randomAlgorithm	Identifies the random algorithm name used by Integration Server on HP-UX.
watt.net.ssl.server.handshake.maxVersion	Specifies the maximum version of the SSL protocol that Integration Server supports when acting as the server handling inbound requests.
watt.net.ssl.server.handshake.minVersion	Specifies the minimum version of the SSL protocol that Integration Server supports when acting as the server handling inbound requests.
watt.server.cluster.action.errorOnStartup	Specifies how Integration Server responds when an error at start up prevents Integration Server from joining the cluster.
watt.server.auth.oauth.accessToken.useHeaderFields	Specifies whether Integration Server performs OAuth authentication when an inbound HTTP/S request includes an access_token in the header fields.
watt.server.auth.oauth.accessToken.useQueryParameters	Specifies whether Integration Server performs OAuth authentication when an inbound HTTP/S request includes an access_token in the query parameter
watt.server.enableHotDeployment	This is an internal property.
watt.server.event.nerv.subscribeService.user	Specifies the default user who will invoke the service specified in the pub.event.nerv:subscribe built-in service when an event is received for a subscribed event type.
watt.server.hotDeploymentTimeout	This is an internal property.
watt.server.hotDeployment AutoRecover	This is an internal property.

Added Parameter	Description
watt.server.json.allowUnquoted FieldNames	Specifies whether or not unquoted field names are allowed in JSON text sent to the pub.json:jsonStringToDocument and pub.json:jsonStreamToDocument services. This parameter also determines whether document types created from JSON text contains fields that correspond to unquoted fields as well as quoted fields
watt.server.json.quoteFieldNames	Specifies whether or not the pub.json:documentToJSONString service encloses all generated JSON field names in double quotes.
watt.server.SOAP.generate RequiredTags	Specifies whether or not a SOAP message generated by Integration Server includes empty element tags for required parameters for which a value was not supplied at run time.
watt.server.SOAP.hideEPRHost InFault	Hides the endpoint reference host name and IP address details in the SOAP fault.
watt.server.xml.encoding	Specifies the encoding that Integration Server must use when processing incoming XML files.
watt.server.xml.xmlNodeToDocument. makeArrayforWS	Specifies how Integration Server decodes duplicate elements contained in an anyType element.

Removed Parameter	Replacement, if any
watt.security.pki.jnditimeout	
watt.security.pki.performSync	

Release 9.7

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

Added Parameter	Description
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, if any
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

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 *filter* 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 *responseString* or *responseBytes* 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 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:downloadSpec	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.specs:uploadSpec	Specification for the flow service used to send data to webMethods Mobile Support in a mobile data synchronization solution.

Added Parameter	Description
wm.mobile.datasync:synchronize	Synchronizes data received from mobile devices and backend applications in a webMethods Mobile Support data synchronization solution.

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

Release 9.5

Added Parameter	Description
watt.server.http.jsonFormat	Specifies how Integration Server handles JSON content in HTTP client requests.
watt.server.json.optimizeForUniqueKeys	Controls how Integration Server parses JSON documents based on whether the document has unique keys or duplicate keys.
watt.server.SOAP.encodeXSITypeValue	Indicates whether Integration Server should include the xsi:type attribute and its value for an element of xsd:anyType in SOAP requests and responses.
watt.server.SOAP. useStringforAnyTypewithSimpleValue	Specifies how Integration Server decodes an xsd:anyType element with simple content in SOAP responses.
watt.server.threadKill. interruptThread.enabled	Specifies whether Integration Server should interrupt a service for which a timeout is triggered.
watt.server.thread.aging.limit	Specifies the length of time, in minutes, a thread can remain in the thread pool. Note that the value for watt.server.thread.usage.limit must also be reached before the thread is removed from the pool.
watt.server.thread.usage.limit	Specifies the maximum number of times a pooled thread can be used. Note that the value for watt.server.thread.aging.limit must also be reached before the thread is removed from the pool.

11.0 Added, Removed, Deprecated, or Changed APIs

A release is listed in this section only if changes occurred in that release.

Release 9.12

Added API	Description
com.wm.data.obsolete.XmlData	Contains the 9.10 version of the com.wm.data.XMLData class. The com.wm.data.XMLData has been revised and simplified in 9.12.
com.wm.data.obsolete.XmlDataCursor	Contains the 9.10 version of the com.wm.data.XMLDataCursor class. The com.wm.data.XMLDataCursor has been revised and simplified in 9.12.

Changed API	Description
com.wm.data.XMLData	Revised to present a more consistent programming interface in which there are clearer distinctions between the underlying IData implementation of XmlData and the logical XmlData model as viewed by a typical application. Additionally, the API formalizes aspects of the IData implementation of XMLData to reduce the knowledge of the underlying XMLData implementation that is required to use the methods in the class. For a detailed list of changes to this class, see the webMethods Integration Server Java API Reference. Note: If you have any existing Java classes that use this class, you must modify your Java classes to either use new APIs introduced in com.wm.data.XMLData or change the Java imports in to reference the 9.10 version of the class which is now contained in com.wm.data.obsolete.XmlData.

Changed API	Description
com.wm.data.XMLDataCursor	Revised to present a more consistent programming interface in which there are clearer distinctions between the underlying IData implementation of XmlData and the logical XmlData model as viewed by a typical application. Additionally, the API formalizes aspects of the IData implementation of XMLData to reduce the knowledge of the underlying XMLData implementation that is required to use the methods in the class. For a detailed list of changes to this class, see the webMethods Integration Server Java API Reference. Note: If you have any existing Java classes that use this class, you must modify your Java classes to either use new APIs introduced in com.wm.data.XMLDataCursor or change the Java imports in to reference the 9.10 version of the class which is now contained in com.wm.data.obsolete.XmlDataCursor.

Release 9.10

Added API	Description
com.wm.data.XMLData	Class for creating, getting, and setting XMLData content.
com.wm.data.XMLDataAnyTag	Class for creating keys that are used as XmlData *any element wildcards.
com.wm.data.XMLDataAttributeTag	Class for creating XmlDataTags for use as attribute names.
com.wm.data.XMLDataContentTag	Class that is a common superclass for the XmlDataTags that may appear in content models.
com.wm.data.XMLDataCursor	Class for navigating and manipulating the XMLData element content.
com.wm.data.XMLDataElementTag	Class for creating keys that are used as XmlData element names
com.wm.data.XMLDataException	Class that serves as the base class for all exceptions thrown by the XMLData feature.

Added API	Description
com.wm.data.XMLDataGroupTag	Class for constructing an XmlData key for group models.
com.wm.data.XMLDataSubstitutionTag	Class for creating specialized element tags that are the heads of substitution groups.

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.
com.softwareag.mobile.data.client.Context	Added new *getDeviceType* 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 invoke and invokeThreaded methods that accept JSON text.

Changed API	Description
com.softwareag.mobile.data.sync. DataSynchronization	Added new *filter* parameter to the download() method to filter the data that Mobile Support returns to the Mobile Support Client.
com.softwareag.mobile.data.client. Context	Added new *conProtocolType* parameter to the setInitializeConf() 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.

Added API	Description
com.softwareag.mobile.data.sync.ResponseSet	Encapsulates a response to a mobile data synchronization request.
com.softwareag.mobile.data.sync.RowStructure	Defines the structure of the data to be synchronized in a mobile data synchronization solution.

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