

webMethods Product Suite 9.9

Release Notes

webMethods 9.9 represents significant enhancements to Software AG's Digital Business Platform. This release enables the development of integration centric, event centric, decision centric, and process/task centric applications that are API-enabled and deployed across a hybrid cloud environment.

Release Highlights

Integration

This release of the webMethods suite includes many integration enhancements, such as advanced support for XML Namespaces, enhancements for Inbound Kerberos authentication for web services, and REST services, and OData enhancements.

The key features include:

- In addition to IData, Integration Server now includes a new data type to represent XML. This data type allows for enhanced support for XML.
- Software AG Designer now lets you compare packages and elements in Integration Server. Developers can use the compare capability to:
 - Compare packages and elements on the same server or on different servers.
 - Track changes to a package or element during the development process.
- Customers who want to use the API-Portal standalone or integrated with third-party environments can now leverage a simple email-based workflow to send access token requests to configured groups of users.
- Framework enhancements in CloudStreams enable support for REST metadata lookup and custom operation definition. This release also adds new connectors for MS Dynamics and Sage CRM.
- webMethods OneData's next generation user interface provides enterprise-class full-text search functionality in the new user interface.

API Management

This release of webMethods API Management platform contains significant enhancements to CentraSite, Mediator and API-Portal.

The key highlights are:

- APIs defined in Swagger or RESTful API modeling language (RAML) formats can be directly imported and managed in API-Portal.
- API-Portal provides the ability to share APIs through social networks or email and to follow APIs for updates.
- API-Portal has enhanced Self Service customization and auditing.

- CentraSite and Mediator provide full support for versioning of SOAP and REST APIs.
- The CentraSite Business user interface helps you easily navigate and visualize dependencies and relationships between assets for various use cases.

webMethods Business Process Management Suite

The webMethods Business Process Management (BPM) Suite adds more capabilities to the Business Console, the Business Rules, the Rules Management console, and the Mobile suite, to provide businesses with the visibility and performance needed to improve decision making.

The key features are:

- webMethods Business Console now supports visualization of possible paths for process estimated time of arrival (ETA).
- Enhanced process list management and task list management in webMethods Business Console.
- webMethods Business Console has the ability to escalate all pending tasks within a process through a priority event.
- Process Engine and Task Engine have adopted the Enterprise Routing Framework for emitting EDA events.
- Mobile Designer now provides integration with Service Development to browse and automatically add Integration Server services from Integration Server to the application model.
- The Rules Management Console (RMC) has been added as an endpoint for webMethods Deployer. This endpoint also supports “merge” and “hot deploy.”
- Import/export between Software AG Designer and the Rules Management Console is improved to allow locking and auditing for any Rules Content Repository API for Java (JCR) access.
- The existing “Public API” has been extended by a new RESTful API for the Rules Management Console that allows a user to import, export and deploy rule projects.

Operational Intelligence

The key enhancements for operational intelligence are:

- This release enhances the Optimize integration in Process Performance Manager (PPM) functionality by allowing PPM users to create alerts in Optimize for the intrinsic measure that is being analyzed.
- For users who are running both Optimize and PPM, the dashboard provides a “View in PPM” function to do an in-context jump to PPM. This feature allows users to explore longer-term historical data in the same process using extensive analytic capabilities.
- Optimize now offers expanded monitoring and visibility with full Apama monitoring, discovery, and KPIs. In addition, enhanced Integration Server and Presto monitoring is also introduced.

Suite Enhancements

The webMethods Suite provides several enhancements across various products. The highlights in this release include:

- Command Central has an enhanced fix installation user interface, which you can use to install fixes remotely, and also have the fix installation date displayed.
- Command Central can now be used to manage the Lightweight Directory Access Protocol (LDAP) configuration of Integration Server, Command Central itself, and other products. It also includes many enhancements to template-based provisioning.
- A smooth migration path is available from Broker to Universal Messaging.
- Enhanced support for Kerberos authentication with Representational State Transfer (REST) service inbound authentication and inbound web service authentication in Integration Server. This authentication support also extends to inbound and outbound web service authentication in Mediator, and single sign-on (SSO) using Kerberos in My webMethods Server and CentraSite.
- webMethods Deployer now supports connections to Universal Messaging servers that are configured to authenticate clients using username/password.
- Through the use of simple annotations, the Application Platform services are discoverable and callable from Composite Application Platform (CAF) and OpenCAF user interfaces, making it easy for developers to add business logic to their CAF and OpenCAF applications without the need to resort to third-party application servers or complex Java deployments

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For important updates and a list of enhancements and issues that have been addressed since the previous release of each product, see the webMethods product readme files. You can access these documents, as well as all product documentation, from the webMethods area on the [Software AG Documentation website](#).

CentraSite

Graphical Asset Navigator

The Asset Navigator provides a graphical representation of relationships between assets. The graphical asset navigator in CentraSite Business user interface helps users to easily navigate and visualize dependencies between assets for various use cases. Several use cases for navigation are provided out of the box to allow for analysis of the runtime deployment landscape, organization structure or dependencies to/from particular assets. The asset navigator can be extended through saved searches.

API Versioning

CentraSite and Mediator now provide full support for versioning of SOAP and REST APIs. The CentraSite Business user interface allows versioning of virtual services and publishing of distinct versions to Mediator. Mediator is able to host multiple versions of the same service during runtime. Versioning indicators in the URL allow Mediator to perform an automatic routing of requests to the appropriate version.

Enhanced Consumer Registration

The consumer registration functionality is enhanced to support design-time and run-time scenarios. Administrators can configure which asset types can consume instances of other asset types. Configured runtime identification criteria are automatically presented as mandatory input for consumers. Normal approval policies can be leveraged to trigger approval workflows.

Run-Time Storage Optimization

CentraSite provides an optimized data storage management for handling large volume of run-time events. Customer logging large volumes of runtime metrics and events into CentraSite should enable the new data store for heavily improved log purging and data housekeeping purposes.

Automatic Generation of Swagger API Documentation

Rest APIs, defined from scratch or imported using either RAML or Swagger importers in CentraSite, can now be used to dynamically generate a Swagger 2.0-compliant documentation using the “Download Documents” action in the CentraSite Business user interface.

Database Master-Slave Replication

CentraSite database can now be configured for master-slave replication across multiple nodes.

REST API Synchronization

Changes on the native REST API can now be re-synchronized with existing virtual REST APIs. In the improved Virtualization wizard, users are informed of the existing delta between the native REST API and virtual REST API and then allowed to skip, clone, or overwrite resources to suit their requirements.

Usability Enhancements

The handling of virtualized services has been improved. Users can now navigate back and forth between the native service and its related virtualized services using the Basic Information profile. Users can also directly update virtualization settings in the details page of the virtualized service.

Report Scheduling

CentraSite allows for scheduled execution of reports. Users can select reports and configure the reporting schedule. Reports are sent to users through email. All users can manage their scheduled reports through their User Preferences in the CentraSite Business user interface.

OData Support

CentraSite Business user interface provides support for importing OData services, which are based on Open Data Protocol (OData) version 4.0, using the Create Asset wizard. The inherent support for visualization and virtualization of the OData services will be provided in upcoming releases.

My webMethods Server

Single Sign-On Using Kerberos Authentication

My webMethods Server can now be configured to authenticate users directly based on their Windows logon. User sessions are established using Kerberos authentication, thereby removing the need for them to log in to My webMethods Server explicitly.

Single Sign-On Using SAML Identity Provider

My webMethods Server can now be configured to authenticate users through an external SAML 2.0-based identity provider. Users can log in using a central identity portal and be redirected straight into My webMethods without having to log in again.

See [Composite Application Framework](#) and *Task Engine* for details of new capabilities in the respective components.

Software AG Command Central

Fix Installation User Interface

It is now possible to install fixes remotely from the Command Central web user interface. Building on the command-line tool and API capabilities (introduced previously) and installing fixes is now easier than ever. On any installation of version 9.7 and later, users can browse, install, and revert fixes managed by Command Central directly from the Command Central web user interface.

Support Patches, provided by Software AG Global Support, while working on a support incident, can also be installed using this mechanism.

Fix Installation Date Display

The date a fix installed is now shown in Command Central. It is also returned by the fix inventory command-line tool command and API calls.

LDAP Configuration

Command Central can now be used to manage the LDAP configuration of Integration Server, Command Central itself and other products. This includes the web user interface, command-line tool, API, and support in templates.

Mirror Repositories

When installing products or fixes using Command Central, users can choose from a master repository (hosted by Software AG) or a local image repository (an image file downloaded using Installer or Update Manager). In addition, users can now create a network accessible Mirror repository within the network. This hosts a copy of installable items to provide a streamlined method of installation. It is no longer necessary to provide internet access to managed installations or move very large image files around. Mirror repositories ensure that only the modules necessary are transferred across the internal network. In this release, Mirror repositories can be used when installing products. Mirror repository support for fixes will be included in a future release.

License Management Scheduled Report

Command Central provides aggregated monthly reports of the Command Central-managed landscape, showing installed instances on an hourly/daily basis. This enables more effective management of dynamically scaling landscapes and virtualized environments.

Java System Properties Configuration

Users can now use Command Central to configure the Java system properties of various products, such as My webMethods Server (including Task Engine), Integration Server, and Command Central. These settings can be used for certain product-specific configurations that need to be set using Java virtual machine (JVM) properties.

Template-Based Provisioning Enhancements

Template-based provisioning includes these improvements:

- Composite templates now can re-use external snapshot templates in the list of templates to apply for a given layer. The improvement allows users to combine easy-to-use snapshot templates with the power of complex, multi-host composite templates. This also works for 9.7 and 9.8 installations.
- New implicit variables, `$(node.host)` and `$(node.alias)`, can now be used inside inline templates to create dynamic content that is host/alias specific. This simplifies the configuration of more advanced multi-node and clustered templates.
- Java system properties can now be referenced within the `template.yaml` definition for further customization. This allows default settings to be shared across multiple templates hosted by Command Central.
- Composite templates now perform update operation on the existing product instances when the template is reapplied. This allows additional components like Integration Server adapters to be provisioned to existing installations just by updating and reapplying the same template.
- When applying a template using the Command Central command-line tool users can now combine the use of input properties file with additional parameters on the command line. This allows better re-use of environment parameter files and simplifies template development and application.
- Composite templates can now have configuration sections without product and fix sections and do not require product and fix repositories to be defined.
- Command Central supports bootstrapping (remote Platform Manager installation) on Windows hosts running the OpenSSH service.
- The installation directory can be specified in UNIX format and work across both UNIX and Windows hosts.
- Template application is done layer by layer. This ensures that upper layers are provisioned only after lower layers (on which they may depend) are ready.
- Composite template application now displays a more accurate WARNING status instead of DONE when some phases of the template application complete with non-critical errors.

Consistent Status Reporting

Previously, the status of a component (Online, Stopped, Unresponsive, etc.) was not shown consistently throughout the Command Central web user interface, especially when a lifecycle operation (Start, Stop, etc.) had just been initiated. Now, the status reported by Command Central

is always what is reported by the component itself and is consistent between the summary and detail screens.

Command Central Bootstrap Installer

Command Central bootstrap installer is a fast, simple, and **an** easy way to get Command Central server up and running in a few minutes using a single downloadable and executable installer package. **The** Command Central bootstrap **installer is** for Windows, Linux, and OS X operating systems.

Software AG Designer

Software AG Designer now includes these enhancements:

- Software AG Designer and all its plug-ins now use the Eclipse 4.4.2 version.
 - When uninstalling Software AG Designer, the installer now removes all directories from the file system. Previously, uninstallation did not remove all Software AG Designer-related files and directories.
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Software AG Installer

Products Installable from Software AG Installer

Users can now install Apama and Integration Agent from the Software AG Installer.

Software AG Designer Uninstallation Removes All Related Directories

While uninstalling Software AG Designer, the installer removes all related directories from the file system. Previously, uninstallation did not remove all Software AG Designer-related files and directories.

Integration Server Instance Created during Installation can be Named by User

Users can now name the Integration Server instance that is created during installation. Previously, the instance was always named "default," and this name could not be changed.

Optimize Shut Down Automatically

Previously, the installer automatically shut down most products that already existed in a target installation directory before installing additional products. However, some products, including Optimize Analytic Engine, had to be must shut down manually. The installer now shuts down Optimize Analytic Engine automatically.

Software AG Presto

Freeform Dashboard Enhancements

The Freeform dashboard includes these enhancements:

- New chart types (pie/donut, gauge, and column).
- New controls for filtering (drop-down list, input field).
- New controls for placing images and text labels.
- Ability to turn on/off borders.
- Dashboard styling via CSS themes (customizing logo, color schemes, fonts, etc.).
- New XML Data source for consuming RESTful URLs including mashups.
- Parameterized XML and RAQL data sources for passing context into data sources.
- Support for Import/Export of dashboards through the administration tool.

Real-Time Analytics Query Language (RAQL) Enhancements

The RAQL enhancements for Presto include:

- Flexible data grouping with “rollup” and “cube”
- Native support for Apama data

Google Map View Enhancements

The Google Map view now allows users the ability to:

- Customize marker icons.
- Configure zoom level.

Docker Support

Presto Packaging Kit for Docker helps users "dockerize" Presto web application.

Presto Repository Databases

Presto repository databases now include support for Microsoft SQL Server 2014.

Software AG Runtime

New Software AG Infrastructure Administrator's Guide

For details, see [New Software AG Infrastructure Administrator's Guide](#).

New Software AG Infrastructure Readme

The readmes for Software AG Common Platform, Software AG Runtime, Software AG Security Infrastructure, and Software AG Web Services Stack have been combined into a single Software AG Infrastructure readme. In addition, the combined readme has been expanded to contain cumulative information for these products back to the 9.5 release.

webMethods AgileApps

New Data Centers, New Brand

New data centers are opening in the United States and Europe. Others are planned around the globe. The new data centers will be hosted on Amazon ECS, with an HTTP address that employs the new brand name, "AgileApps Cloud". For example, <http://{yourDomain}.agileappscloud.eu>.

Enhanced Case Merge

Users who merge two records can select which custom tasks and which field values to retain from the current record, while attachments, activity history, and hours-logged are automatically merged.

Session Managements

Session limits can be specified, to limit the number of concurrent sessions a user is allowed to have.

Task Assignment Notifications Controlled by Rules

When a task is created or re-assigned to someone else, an email notification is sent to the new task owner, by default. In new customer accounts, the behavior in each situation is now under the control of an Event Rule defined on the Tasks object, allowing notifications to be turned off or conditionalized, so they are sent out only for specified circumstances.

Packaging Enhancements

The packaging enhancements include:

- Application reports that are visible to everyone and those that are visible to application roles are automatically added to a package as part of an application.
- When the "Overwrite Previous Package" option is enabled:
 - Email Templates, Quick Text definitions, and Web Forms defined on an object are now overwritten when the package is installed.
 - Processes deleted from the publisher's system are deleted from the installer's system.
 - Translation Workbench entries deleted from the publisher's system are deleted from the installer's system.

Standard Installation Process

An on-premise installation of the AgileApps platform is accomplished using the standard Software AG installation procedures.

Certificate-based Platform Access

When the on-premise installation architecture is configured with a certificate-validation server, the platform can be accessed by browsers or by REST APIs without a login step, by supplying an identifying certificate.

webMethods API-Portal

Direct API Import

Users can now import and manage APIs defined in Swagger or RAML formats directly in API-Portal. This enables a standalone operation of API-Portal without the need to publish APIs from CentraSite. Parsers for additional formats can be plugged in through an extension point.

Email-Based Access Token Workflow

Customers who want to operate API-Portal as a standalone or integrated with third-party environments can leverage a simple email-based workflow to send access token requests to a configured group of users. A new REST service provides the ability to provision custom access tokens back into API-Portal.

Advanced Collaboration

API-Portal provides the ability to share APIs through social networks or email and to follow APIs for updates.

Auditing Enhancements

System events like login attempts, API deployments, and access token requests are now audited. Integrated dashboards allow visualization and filtering of audit data for diagnostic purposes.

Usability Enhancements

The menu of API-Portal for logged-in users has now been redesigned to better suit mobile device rendering. The administration section provides simpler navigation between various administration areas.

Enhanced Self Service Customization

Self Service Customization provides a simpler selection of available templates for customization. Users can customize individual templates through new in-page editors that support syntax highlighting, code completion, and reformatting.

Support for SOAP APIs Exposed as REST APIs

SOAP APIs which are enabled for automatic SOAP-to-REST transformation and exposed through webMethods Mediator are now displayed as pure REST APIs in API-Portal with the option for web service definition language (WSDL) download.

webMethods Application Platform

webMethods Application Platform Services in My webMethods Server

Users can now deploy webMethods Application Platform services into a My webMethods Server container. Through the use of simple annotations, the Application Platform services are discoverable and callable from Composite Application Framework (CAF) and OpenCAF user interfaces. This capability makes it easy for developers to add business logic to their CAF and OpenCAF applications without the need to resort to third-party application servers or complex Java deployments.

webMethods ApplinX

Comparing ApplinX Applications

Typically, users can compare two versions of the same application. The results of the comparison can then be used to perform impact analysis before deploying a new ApplinX application version.

Invoking a Procedure Using REST

In addition to SOAP, users can invoke ApplinX web services using REST from the Procedure Group Entity Editor.

Upgrade to Tomcat Server 8.0

The ApplinX internal Tomcat server is now version 8.0.

Improved Performance for Large Send Sections

Performance improvement has been done for large send sections, for example, Natural Data Transfer upload or the AS/400 save state feature.

Enter Key Recognition

ApplinX can now differentiate between the two Enter keys (on the main keyboard and the numeric keypad).

Note: This applies only to the following browsers: Mozilla Firefox 29 and above, Chrome, Internet Explorer 11.

webMethods BPMS

[Monitor, Process Engine, Task Engine (including Mobile Task Integration), and Business Console]

Task Engine Enhancements

Task Engine includes the following enhancements:

- Performance improvement of My webMethods Server scheduler service by replacing and re-implementing it. The current event algorithm no longer queries Task Engine, but keeps a persistent sorted data structure that tracks calculated “Event Times” and Task IDs.
- Scalability and high performing task search capability by implementing Reference architecture. This flexible approach enables users to:
 - Create a custom database (such as elastic search and Hadoop) to which to write task data.
 - Use the created database to:
 - Create custom indices.
 - Archive the data.
- Ability to name or rename description for tasks.
- Enterprise Routing Framework for emitting EDA events for Task Engine.

Business Console Enhancements

Business Console includes the following enhancements:

- Ability to create mandatory and non-mandatory tasks in a to-do list (group task).
- Improved process list management and task list management. Now users can:
 - View the task instances associated with a process.
 - View process diagram and process duration in the process details page.
 - Search for process instances.
 - Customize labels of tabs in task details and process details pages.

Process Engine/Monitor

Process Engine/Monitor includes the following enhancements:

- Process ETA (estimated time of arrival) visualization for each possible path.
- Ability to escalate all pending tasks within a process through a priority event.

Enterprise Routing Framework for emitting EDA events for Process Engine.

webMethods Broker

webMethods Broker 9.6 is tested and supported with webMethods 9.9.

webMethods Business Rules

Support of Data Types List, Table, and Document

Decision table results, event rule results, and service actions now support the data types list, table and document. Additionally, the Rules Development feature can perform list operations (createList, appendToList, insertIntoList, removeFromList).

webMethods Deployer Integration

The Rules Management Console (RMC) is added as an endpoint for webMethods Deployer. This endpoint also supports “merge” and “hot deploy”.

Rules Import/Export

Import/export between Software AG Designer and the Rules Management Console has been improved allowing locking and auditing for any Rules JCR access. The Rules Management Console now automatically recognizes new or modified rule projects, and enables removal of the “Welcome” page. Furthermore, a rule project users can import "from archive" without the need for the rule project to exist beforehand.

Event Routing Framework

Business Rules has adopted the new webMethods Event Routing Framework.

Extension of “Public API”

The existing “Public API” is extended by a new RESTful API for the Rules Management Console that allows users to import, export and, deploy rule projects.

Customization of the Rules Management Console

The Rules Management Console has been separated into several independent portlets. In addition, users can now customize it using CSS stylesheets.

webMethods CloudStreams

CloudStreams Framework Enhancements

CloudStreams framework has been enhanced to support two additional capabilities:

- Dynamic metadata lookup for SaaS providers exposing REST resources. This lookup provides information about available resources, their methods, and fields.
- Transformation capability for customizing requests and responses in the signature of SOAP connector services.

Additional Connectors

New connectors are available for the following SaaS applications:

- Microsoft Dynamics CRM
- Amazon SNS
- Amazon Data Pipeline
- Amazon Kinesis
- Amazon RDS
- Amazon Redshift

- Facebook
- Google Calendar
- Google Contacts
- LinkedIn
- Melissa Data Search
- Melissa Data Verifier
- Twitter

Migration Enhancements

Now, CloudStreams supports migration of cloud connector services from an existing version to a newer version of the SaaS provider.

webMethods Composite Application Framework

webMethods Application Platform Services in My webMethods Server

Users can now deploy webMethods Application Platform services into a My webMethods Server container. Through the use of simple annotations, the Application Platform services are discoverable and callable from Composite Application Platform (CAF) and OpenCAF user interfaces, making it easy for developers to add business logic to their CAF and OpenCAF applications without the need to resort to third-party application servers or complex Java deployments.

webMethods Deployer

Support Deployment of Rules Assets to Rules Management Console

Asset Build Environment and Deployer now enable users to build webMethods Business Rules assets and deploy them to:

- Rules Management Console in My webMethods Server.
- Primary Rules engine in Integration Server.

Support of Authenticated Connections for Deployment of Assets to Universal Messaging

webMethods Deployer now supports deployment of assets to Universal Messaging servers that are configured to enforce authentication using either basic authentication or certificate-based authentication.

webMethods Enterprise Gateway

Support for Custom Filters

webMethods Enterprise Gateway allows the definition and use of custom filters with Enterprise Gateway Rules. Users can define the processing that a service must perform, and then create a custom filter that invokes the service. For example, a service might perform authentication and authorization of clients or processing of payloads within the gateway. When developing the flow service that performs the custom processing, users have full access to the capabilities of the webMethods flow language and the built-in public services.

webMethods EntireX

Multiple Possible Outputs for COBOL

For COBOL integration scenarios, the concept of multiple possible outputs (MPOs) is now supported. This means that you can define a set of possible layouts for the reply structure. At runtime, one concrete layout is returned based on a selector value.

Monitoring and Administration

- A new logging exit for the monitoring scripts on Windows is available. This enables users, for example, to call their own routines and/or write to CSV files.
- A new Java Custom Callback interface is available for EntireX Application Monitoring, allowing users to implement their own actions for each KPI or error record received. Users can trigger their own actions, such as pushing KPIs to another data store and handling KPI-specific actions.
- Users can now use Command Central to administer EntireX Brokers of version 9.9 running on Linux, UNIX or Windows. A graphical user interface is available to perform tasks as starting and stopping Brokers, monitoring basic KPIs, setting ports, static trace level, and editing attribute files.

In addition, users now have the facility to create and delete the EntireX Brokers Command Central command line.

Security Enhancements

- EntireX Encryption is now deprecated, and in its place, SSL/TLS is the method of choice for Transport Layer Security.
- T-TLS is fully verified on z/OS.
- ATLS is verified on z/VSE with EntireX Fix 11.
- EntireX Adapter for Integration Server allows users to change enabled TLS protocols and cipher suites.
- OpenSSL version 1.0.1 is supported.

Enhancements in EntireX Adapter for Integration Server

- Listener statistics are provided.
- License status message is more precise.

- The EntireX Adapter documentation set has been combined with the EntireX documentation set. All references between EntireX and EntireX Adapter documentation are now clickable hyperlinks.

Improvements for Ease of Operation and Enhanced User Experience

- EntireX Mini Runtime is now installed using the Software AG Installer.
 - Multiple error messages have been reworked, in particular IDL parser messages.
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webMethods Integration Server

Enhanced Support for XML

Integration Server now includes a new data type to represent XML in addition to IData. The new data type, XML data, more faithfully represents XML content. Thereby, XML data enables support for XML Schema constructs, such as substitution groups, nested model groups, the any wildcard, and the anyAttribute wildcard. XML data also offers significant improvements in the handling of XML namespaces. XML data is surfaced in Integration Server and Designer through XML document types which are created from XML Schema definitions. Integration Server also includes public services for converting XML documents to XML data and vice-versa.

Enhancements to URL Alias

Integration Server now provides support for defining URL alias destinations based on specific incoming ports. This enables users to define a single URL alias that may resolve to different destinations based on the business partner submitting the request. In addition, users can now define the “empty path” as an alias allowing the definition of a default destination for any incoming port.

Support Inbound Kerberos Authentication for Web Services and REST Services

Integration Server now supports authentication of an inbound web services request containing a Web Services Security-based Kerberos token through incorporation of the WS-Security Kerberos policy. In addition, Integration Server can now authenticate an HTTP request that contains a Kerberos token. The authentication includes identifying ports that can accept a Kerberos token. The improved Kerberos support increases Integration Server interoperability with Microsoft .NET-based environments.

Ability to Name the Default Instance of Integration Server

During installation, administrators can now provide the name that Integration Server uses for the default instance.

Command Central Integration

Command Central can now be used to centrally administer and configure LDAP settings for a given Integration Server instance.

Enhanced OData Support

OData services hosted in Integration Server provide out-of-the-box support for handling \$expand and \$filter system query options. Users do not need to write custom code to handle these operators. The Use custom filter property of OData service allows users to choose whether or not to use custom filters instead of the built-in filters that Integration Server provides when using \$filter.

Send and Receive Events Using the Event Routing Framework

Integration Server can send events in a synchronous manner to the messaging provider using the Software AG Event Routing framework. Integration Server can also create subscriptions to or unsubscribe from event types using Software AG Event Routing.

Deprecation of WmVCS package

The WmVCS package, which provides the functionality for using the VCS Integration Feature, is deprecated.

Display Time Zone on Integration Server Administrator Scheduler Pages

The pages for working with scheduled tasks in Integration Server Administrator now display the time zone setting for the current server. This can be especially helpful for administrators when adding or modifying scheduled tasks.

webMethods Mediator

API Versioning

CentraSite and Mediator now provide full support for versioning of SOAP and REST APIs. The CentraSite Business user interface allows versioning of virtual services and publishing of distinct versions to Mediator. Mediator is able to host multiple versions of the same service during runtime. Versioning indicators in the URL allow Mediator to perform an automatic routing of requests to the appropriate version.

Enhanced Runtime Aliases

Mediator Runtime Aliases have been enhanced to allow Request/Response and Error Processing steps to be configured as Runtime Aliases.

Kerberos Authentication Support

Mediator provides inbound and outbound support for Kerberos authentication.

webMethods Mobile Suite

ARIS Mobile Services Enhancements

Mobile Designer now fully supports integration with ARIS API and creation of applications based on ARIS data. ARIS API REST services can be created automatically.

Integration Server Introspection

Mobile Designer now provides integration with Service Development to browse and automatically add services from Integration Server to the application model.

Data Modeling

The Entity Modeling Language has been introduced to define a project specific data model and its support within the application model.

Improved Data Binding Support

DataBindings can now also be added to the following elements: Entry, DateEntry, Entry, RadioButton and Checkbox.

Expanding of AML Editor

The AML Editor will now automatically expand its elements once it is opened to show the basic structure of the model.

Improved Push Notification Support for Mobile Applications

Applications can now access the full payload, receive a notification when the UID was created, and receive error messages.

ContentAdapter Support for Multiple Templates in a ListView/ListViewElement

Each ContentAdapter now supports multiple TemplateAssignment objects. A TemplateAssignment represents a template in combination with a filter expression. The ContentAdapter also supports multiple RowSelectionListener objects.

SideView Support

Mobile Designer now supports native SideViews that can be used as alternative to NavViews and can contain any control. Users can set two side views for a main window, one for the left side and one for the right side.

Performance Improvements for iOS and Windows platforms

Performance of Mobile Designer runtime has been improved significantly for iOS and Windows platforms.

Improved Project Structure in XCode

Now all Java packages are represented as folders in the project explorer of the cross-compiled XCode project instead of all files in one folder.

Improved Control for nUIDialogWindows

Users can now modify the default dimensions of a nUIDialogWindow. This allows applications to provide a more consistent style for their application.

Product Deprecation

Mobile Administrator is deprecated.

webMethods OneData

Additions to Data Steward User Interface

OneData now provides enterprise-class full text search functionality in the new user interface.

Service Layer Improvement

RESTful Application Program Interface (API) now supports explicit transactions. Developers can implement use cases in which multiple REST web service calls are wrapped within a single transaction.

Metadata Localization

Users can now localize metadata created in projects; for example, in objects or column names. OneData includes a new menu option, Metadata Localization, to define translations for metadata elements in the user's language of choice.

Archive and Purge Log Job

It is now possible to define schedules for jobs performing log archiving and purging. Administrators can also define how much log data to retain.

Security Enhancement

A number of Data Manager screens can now be protected against security vulnerability of Cross-Site Request Forgery (CSRF) using the `org.owasp.csrfguard.Enabled` and `referer-pattern` properties.

webMethods Optimize for Infrastructure

SNMP Upgrade

The SNMP version support has been upgraded to SNMP v3, enabling customers to take advantage of new capabilities in this later version.

Upgrade Improvements

webMethods has established Java Service Wrapper as a standard across the suite. In this release, migration for Java Service Wrapper customizations for Optimize has been automated so that users will no longer need to re-apply them when performing an upgrade.

Apama Monitoring

Users can now monitor Apama through Optimize for Infrastructure. In addition, users can also discover Apama instances and set KPIs set on a number of components:

- Correlator attributes
- Monitor
- Timer
- Container
- Listener
- Context
- Receiver
- Plug-in Receiver

Secure MWS Monitoring

Connections to MWS can now be established over HTTPS, enabling Optimize to monitor secured MWS installations.

Enhanced Integration Server Monitoring

Users can discover and monitor file polling ports in Integration Server.

Extended Presto Monitoring

Presto monitoring by Optimize for Infrastructure is enhanced to include the Tomee Tomcat Server.

webMethods Optimize for Process

BAM-Only Processes Show Failing Steps

Optimize for Process now supports “failing” steps for BAM-only processes. Just as with an orchestrated process, users see a red “X” on the live process model when an un-orchestrated process step fails. This visual cue enables easy recognition of issues and quicker resolution.

Enhancements to In-Context Jump to PPM

For users who run both Optimize and PPM, the dashboard provides a “View in PPM” function to enable an in-context jump to PPM. When in PPM, users can explore long-term historical data on the same process using extensive analysis capabilities.

In this release, from the KPI instance detail page, an “Investigate” button automatically opens a new browser tab and PPM is loaded with the appropriate context.

Updates for Closed Loop Analytics

Closed-Loop Analytics (CLA) includes enhancements for business users.

When a user initiates an email or a task from a CLA dashboard, the system remembers the stage selection on the return URL. This means that clicking the URL not only takes the user to the correct page, but also displays the proper stage that initiated the pre-selected action.

Additionally, there are several aesthetic improvements to the dashboards. For example, unnecessary borders have been removed in the Business Console.

Performance Improvements

Performance improvements in this release include:

- Reduced Analytic Engine start-up time
- Improved throughput of KPI readings
- Efficient means of determining the status of Stage Instances

These enhancements continue the trend of implementing performance improvements with every release to support large-scale implementations.

Ease of Operations

Optimize Analytic Engine and Web Service Data Collector shut down automatically when installing or uninstalling products. This simplifies maintenance efforts and reduces the likelihood of installation issues.

Suite Monitoring

Users can now perform basic monitoring of Analytic Engine using the Command Central user interface.

webMethods Process Performance Manager

Real-Time to Historic Visual Data Analytics

Process Performance Manager (PPM) presents and allows process analytics for the user who is directed to PPM from Optimize. When customers implement PPM templates for webMethods BPMS, PPM displays data for the original Optimize process to which the users had referred. This release enhances this functionality by allowing the PPM user to create an alert in Optimize for the currently being analyze intrinsic measure. This alert option is available from the context menu.

Data Analytics

Extraction process for data analytics now supports partial data extraction using either timestamp columns or sequence columns to determine the difference between the source and PPM data store. Users can configure which method of partial delta extractions can be use in CTK.

Process Extractors

JDBC Process Extractor was enhanced to recognize and allow the use of non-standard SQL table name and schema names. It will now be able to recognize case-sensitive names or ones using special characters.

webMethods Service Development

Support for Comparing Packages and Elements

Developers can now use the compare capability to compare packages and elements on the same server or on different servers, and thus track changes to a package or element during the development process. This support is available for the following:

- Packages
- Folders
- Flow Services
- IS Document Types

The compare editor provides a visual comparison of the items compared along with annotations that indicate the changes. Users can also use the compare capability to compare the current version of a flow service or an IS document type with their previous versions.

Support for Automatic Scrolling and Expanding of Variables during Mapping

Software AG Designer provides automatic scrolling and expanding capabilities while mapping complex data types in integration pipelines. When mapping large pipelines in Designer, developers no longer have to scroll to view the fields before being able to drag a map line from the source variable to the target variable. The pipeline editor is now able to scroll and expand automatically while the mouse is dragged from the source variables to the target, thus bringing the target variables into view. This increases the ease of use and helps reduce errors in complex mappings.

Java Compilation Enhancements

Software AG Designer automatically compiles the Java service when it is checked out of the version control system using the built-in check out facilities in Designer.

Adapter Notifications Support for Non-Default webMethods Messaging Aliases

Adapter notifications generate publishable document types which were previously bound to the default webMethods Messaging connection alias. Now, developers can select which specific messaging connection to use for each generated document type.

Testing capabilities support Universal Messaging

Developers can now use two testing features of Software AG Designer with Universal Messaging:

- Publishable document types can be sent from Software AG Designer to Universal Messaging using the Run As > Publishable Document option.
- webMethods Messaging Triggers subscribing from Universal Messaging can be tested using the Run As > webMethods Messaging Trigger option.

webMethods Trading Networks

Flexible Suspension of Document Deliveries to Partners

webMethods Trading Networks provides a flexible schedule-based ability to suspend document deliveries to partners. This enables administrators to proactively schedule document delivery suspensions based on planned outages informed by partners. Depending upon the nature of the outage, delivery suspension schedule can be setup to recur at a set interval (daily, weekly, monthly, and yearly) or can be triggered once. Administrators also have the ability to set the start time and end time of the scheduled interval in a partner's time zone, thereby avoiding errors that result from manual time zone conversions.

Support for Database Partitioning

webMethods Trading Networks provides out-of-the-box support for database partitioning for Oracle database. Database partitioning is especially useful when archiving data from production tables to archive tables and provides a significant performance improvement compared to a batch based archival process.

Customizable scripts enable:

- Partitioning of data based on time intervals.
- Deletion of data from a partitioned database.
- Archiving of runtime data to a partitioned database...
- Deletion of archived data from a partitioned database.

webMethods Universal Messaging

Automatic Creation of JNDI Entries During JMS Migration from webMethods Broker

Earlier, it was necessary to manually create JNDI destination entries for migrated queues and channels if webMethods Broker JMS connections were configured using Native webMethods API instead of JNDI Lookup. Now, the Broker-to-Universal Messaging JMS migration utility provides the option to auto-generate relevant JNDI destination entries for migrated queues and channels.

Realm Properties Configurable Using Command Central

Command Central now provides support for configuration of Universal Messaging realm properties using the Command Central web user interface, command line, or templates.

JMS Resource Adapter Pre-packaged

Universal Messaging now provides a pre-packaged JMS Resource Adapter for easy use in third-party application servers.

Enterprise Manager Enhancements

The following usability improvements are now available in Enterprise Manager:

- When creating or editing JNDI Connection Factories, users can now select, view, or change the Shared Durable flag for Connection Factory with greater ease. The Shared Durable flag for Connection Factory flag defines if multiple client connections are allowed to concurrently read from JMS Topic Durable Subscriptions.
- When viewing Named Objects (also called Durable Subscriptions) associated with a channel, Enterprise Manager now displays the number of messages pending retrieval by the subscriber.
- Removal of the login section at the top of the JNDI panel provides a more streamlined user interface for JNDI editing.

AMQP 1.0 Support

Universal Messaging now supports a significant part of the AMQP 1.0 standard wire protocol for messaging, specifically the parts that are exposed through the JMS API.

The following capabilities are supported:

- TCP and TLS (alternative NOT negotiated) transport.
- AMQP PLAIN and AMQP over Simple Authentication and Security Layer (SASL).
- Publishing to Topics and Queues (non-transactional).
- Temporary Queues.
- Keep Alives.
- Synchronous and Asynchronous consuming on topics and queues (non-transactional).
- Flow control.

- Durable subscribers.
- Interoperability with UM publishers and subscribers (using any of the available client APIs).
- Interoperability with existing AMQP JMS clients (SwiftMQ, Apache QPID and Apache Legacy QPID).
- Some interoperability with MQTT clients.

Note: AMQP support is only available with the fully-featured Universal Messaging license (NUMWF or NUMTF).

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Support of Authenticated Connections for Deployment of Assets to Universal Messaging

webMethods Deployer now supports deployment of assets to Universal Messaging servers that are configured to enforce authentication using either basic authentication or certificate-based authentication.

Documentation

Significant changes to product documentation sets or to individual documents are described in the readmes for each product.

Cross-Product Documentation

- **New Software AG Infrastructure Administrator's Guide**
The documentation for Software AG Common Platform, Software AG Runtime, Software AG Security Infrastructure, Software AG Web Services Stack, and the Tanuki Software, Ltd. Java Server Wrapper as it is used by Software AG products has been combined into a single guide named Software AG Infrastructure Administrator's Guide.
- **Complete Installation and Upgrade Information in One Compendium**
You can now find an HTML compendium on Empower containing all installation and upgrade information under a single navigation and search. The compendium is also available for download. This is in addition to the PDF library which is published as before.
- **Renamed Guides**

The following guides have been renamed:

- Old name: webMethods and Intelligent Business Operations System Requirements
New name: System Requirements for Software AG products
- Old name: Supported Upgrade Paths for webMethods and Intelligent Business Operations Products
New name: Supported Upgrade Paths for Software AG Products
- Old name: Installing webMethods and Intelligent Business Operations Products
New name: Installing Software AG products
- Old name: Upgrading webMethods and Intelligent Business Operations Products
New name: Upgrading Software AG Products

The product brands covered by these guides are listed in the respective documents.

- Readmes contain cumulative information back to webMethods 9.5 release, and are logically combined.

Readmes have been changed to contain cumulative information from webMethods 9.5 through 9.9. Supported upgrade paths for 9.9 are from 9.0 and later, so the 9.9 readmes now contain all necessary readme information for all upgrades to 9.9.

In addition, some readmes have been logically combined for ease of use. For example, the readmes for Rules Engine, Rules Development, and Rules Console Management have now been combined into a single Business Rules readme, and the readmes for Software AG Common Platform, Software AG Runtime, Software AG Security Infrastructure, and Software AG Web Services Stack have been combined into a single Software AG Infrastructure readme.

webMethods EntireX

Documentation for EntireX Adapter is now incorporated in the EntireX documentation for ease of use. All references between EntireX and EntireX Adapter documentation are now clickable hyperlinks. The EntireX Adapter documentation is also provided as a standalone PDF file under webMethods Product Line > Adapters and eStandards Modules > Adapters on the Software AG documentation website.

Software AG Event Routing

“Communicating between Software AG Products Using Event Routing” PDF publication has been included in this release. It contains information about administering, configuring, and using Software AG Event Routing.

Upgrade

Infrastructure Data Collector Migration Utility Migrates Java Server Wrapper Customizations

The Infrastructure Data Collector migration utility now migrates JAAS, JMX, SSH, security, Java Service Wrapper custom wrapper, log, platform debug, Web Services Stack, and watchdog configurations automatically. Previously, users had to perform their migration manually.

Integration Server Migration Utility Can Migrate WmFixMessages and WmFlatFile Packages

The Integration Server migration utility now offers the ability to migrate the WmFixMessages package (webMethods Fix Module) and the WmFlatFile package. Previously, you had to migrate these packages manually.

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