

# webMethods Product Suite 9.5 SP1

## Release Notes

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Release 9.5 SP1 of the webMethods product suite is another significant step in combining cloud, mobile, and social technologies with automated business processes and the agility needed to fully power your digital enterprise.

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## Release Highlights

### Application Integration

- **Elastic ESB.** For the first time, customers can dynamically scale their implementations into private and public clouds. This provides the ability to handle peak demands and quickly add new capacity without down time or manual intervention.
- **Robust API platform.** Business capabilities or unique data can be exposed securely via APIs for innovative cloud, web, and mobile applications.

### Business Process Management

- **Social BPM.** The webMethods BPMS solution now provides guidance tools to help users manage, delegate, and complete tasks more effectively and efficiently. With Social BPM, tasks can be tagged so that expert resources can be identified and work can be routed to the best expert available.
- **Mobile BPM.** In-progress processes can be monitored remotely using a pre-built mobile business process monitoring application. Aggregated views of process instances give instant insight into stalled or failed processes, providing the ability to graphically visualize the failure step to identify and respond to problems in real time.

In addition, webMethods product suite 9.5 SP1 provides many enhancements across the suite, including the following:

- Updates to the model-to-execute functionality and methodology help automate the alignment of business process analysis with automated system- and task-based business processes.
- Stage and milestone support enhancements provide the ability to obtain high-level visibility into an organization's process status and separate the signal from the noise. With this visibility, business executives and process owners can quickly understand whether SLAs have been reached or breached across the key milestones that constitute their business process.
- Upgrade enhancements improve the user experience and the overall effort involved in migrating from prior webMethods product releases.

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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](#).

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## CentraSite ActiveSOA

### API Key Management and Enforcement

CentraSite now provides the ability to generate API keys for caller identification. Service providers can choose whether to enable API key checks for a given API and whether to require approvals.

CentraSite also provides automatic consumer onboarding. If a guest user accesses an API key-enabled service, that user is asked to provide account details. If the user is not yet registered, an approval workflow is triggered and the user is onboarded.

### Graphical Charts for Service and API Run-time Data

Run-time data retrieved from webMethods Mediator or other policy enforcement points can now be visualized in the Business user interface by way of the following functions:

- **Events profile.** The new events profile shows run-time policy events in a graphical and detailed view.
- **Performance profile.** The new performance profile shows run-time performance metrics in a graphical and detailed view.

### Asset Type Management Enhancements

Enhancements have been made in the way asset types are modified. Required attributes can now be added to type definitions even if instances already exist. A default value must be provided for these new attributes.

### Business User Interface Extensions

- **Asset permissions action.** A new user interface action was introduced to improve the way in which asset permissions are managed. This action enables users to assign and view asset permissions in a manner that is similar to the permissions profile in the CentraSite Control user interface.
- **Report activity.** In addition to providing reports on asset instances, CentraSite now provides the ability to generate asset-independent reports through a new activity in the Business user interface.

### Organization, User, and Group Management in the Business User Interface

The Business user interface now offers the ability to create and manage organizations, groups, and users.

### Service and API Virtualization in the Business User Interface

The Business user interface now offers the ability to virtualize services, configure per-service run-time policies, and publish and unpublish to or from run-time targets.

The virtualization capability is provided as a preview feature in this release.

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## **My webMethods Server**

### **Full-Page Refresh Performance Enhancement**

Enhancements have been made to the default refresh behavior for My webMethods pages. These enhancements improve the load time for pages in My webMethods.

### **User Calendar Support for Microsoft Exchange 2010**

User calendars can now connect to Microsoft Exchange 2010.

### **Jetty Upgrade to Version 8**

My webMethods Server now uses Jetty 8.

### **Standards Updates**

My webMethods Server now supports JSF 2.1 and Servlet 3.0. These changes were implemented for future enhancements to Composite Application Framework (CAF) and do not affect any present CAF development.

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## **Software AG Designer**

### **Eclipse Version Upgrade**

Software AG Designer is now based on Eclipse version 4.3. The plug-ins that Software AG provides are developed and tested for that Eclipse version.

### **Installation Performance Enhancement**

Significant performance improvements were made to the installation of Designer and its plug-ins using the Software AG Installer.

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## **Software AG Installer**

### **Improved Marking on Product Selection Tree for Products with Issues**

If the Software AG Installer is stopped, or if the installer exits during the product configuration stage, any product that has not been completely configured now appears with the words "Incomplete Configuration" in red in the product selection tree of the installer and the uninstaller. In addition, red text in the description box informs users to uninstall and reinstall such products.

Products that have other issues (for example, products that cannot be installed because requirements are not met, or cannot be overinstalled) are marked in red in the product selection tree in the installer. Red text in the description box provides a more detailed explanation.

## **New Shading for Nodes in Product Selection Tree**

Previously, users had to expand the product selection tree to determine whether a component was already installed in the target directory. Indicators such as grey arrows or grey shading on the top level nodes now indicate that components listed under those nodes are installed.

## **Improved Filtering for Product Releases**

The release selection panel now includes an additional filter for product line, to narrow the release choices.

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# **webMethods ActiveTransfer Server**

## **Asset Deployment Support**

webMethods ActiveTransfer Server provides APIs to support the export and import of assets between test, development, and production environments. The assets that can be exported and imported include ActiveTransfer ports, server preferences, user templates, user configuration, virtual file system definitions and configuration settings, partner mapping, post-processing and scheduled events, and ActiveTransfer Gateway instances.

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# **webMethods ApplinX**

## **Extended Browser Support**

webMethods ApplinX now supports the following browsers:

- Internet Explorer 10.x
- Firefox version 21 and later
- Google Chrome version 29

## **Extended Application Server Support**

webMethods ApplinX now supports the Tomcat version 7 application server.

## **Internet Information Services Support**

ApplinX applications can now be deployed and run under IIS version 7.5 or 8.

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## **webMethods BPMS**

### **Mobile Enablement**

webMethods Monitor now offers a mobile app that enables you to access real-time information about the status of executed business processes on your mobile device. The mobile app also provides access to information about process models uploaded to webMethods Integration Server and webMethods Process Engine. This app, called webMethods Mobile Monitor, is available for download in the Apple App Store and Google Play.

### **Usability Improvements**

Enhanced views are now available in Monitor for improved monitoring and administration of process models and instances in Process Engine.

### **JMS Support**

- An e-form can now trigger a process with a JMS message.
- webMethods Universal Messaging is now the default JMS provider for Process Engine.
- Process debugging for processes can now be started by either JMS messages or event-driven architecture events.

### **Stages and Milestones**

Process models and instances now support internal milestones and stages that can be defined at design time. Milestones and stages can be tracked with respect to their completion or non-completion in a running process instance.

### **Event-Driven Architecture Enhancement**

Emission of process and process step EDA events is enhanced, with many new predefined EDA event types.

### **Archiving Enhancements**

- Database partitioning can be used on Oracle databases as an alternative to using stored procedures to archive and delete process audit data. Database partitioning is an option that greatly decreases the time required to archive and delete data.
- Processes can now be archived by process model name (one or multiple process model names can be specified).

### **User Calendar Support for Microsoft Exchange 2010**

User calendars can now connect to Microsoft Exchange 2010.

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## webMethods Broker

### Storage Relocation

webMethods Broker now supports the relocation of storage files from an old data directory to a new data directory, as well as the relocation of storage files that are outside the data directory within the same operating system. Broker provides this support by way of the “server\_config relocate” command-line utility. For details about this utility, see *Administering webMethods Broker*.

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## webMethods Business Rules

### Sequential Processing

webMethods Business Rules supports sequential rule processing, where the order of rules in a decision table determines the order of execution. Sequential processing is suited for applications in which users want to control the order of rule execution and for applications where a large volume of data has to be evaluated in a limited amount of time.

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## webMethods CloudStreams

### Eclipse Plug-in to Create Custom REST Connectors

webMethods CloudStreams supports the development of custom REST connectors using an out-of-the-box Eclipse plug-in. By way of a click-and-configure interface, the plug-in enables developers to define custom REST connectors that can be used with CloudStreams.

### Improved Usability of Salesforce Connector

The following usability enhancements have been made to the Salesforce SOAP connector:

- **Prefilled input variables for cloud connector services.** Many input variables are automatically filled by the cloud connector framework based on the selection of a business object and fields created by the developer. In this release, the Designer Service Development plug-in has been updated to clearly identify the fields that have prefilled values. The plug-in also provides a way for developers to see the prefilled value.
- **Display of mandatory and optional fields while creating cloud connector services.** The cloud connector wizard now shows the mandatory and optional fields for the selected operation.
- **Display of fields that can be created, updated, or queried while creating cloud connector services.** In Salesforce, only certain fields are available when performing certain operations. For example, some fields cannot be updated in Salesforce when calling an update function. The cloud connector wizard now displays the correct set of fields that are applicable for each Salesforce operation.

## Free, Community-Based Connectors

A dedicated CloudStreams developer community area is now available on the Software AG developer community website. This new developer community enables CloudStreams customers, partners, and Software AG field personnel to share connectors and other artifacts with other members of the community. The following connectors are now available to the community:

- Amazon SQS
  - Amazon S3
  - Amazon EC2
  - Strikelron
- 

## webMethods Command Central

### Template-Based Provisioning

webMethods Command Central templates provide the ability to clone or copy parts of an Integration Server installation. A template, which contains information about products, fixes, and configuration for a selected Integration Server, can be fully or partially applied to another server to replicate parts of the source Integration Server. For example:

- A template can be applied to an “empty” server (with only Platform Manager running) to install the same products and fixes and apply the same configuration as on the instance from which the template was saved.
- A template that contains only fix information can be used to easily and remotely install the same set of fixes to a set of target Integration Servers.

Template-based provisioning is accessible using an easily-scriptable command line interface (CLI).

### Enhanced Configuration Support

Command Central now includes the following additional configuration categories, which can be managed through the Command Central CLI and API:

- Database pools
- Database functional aliases
- JNDI aliases
- JMS aliases
- Email server
- Extended server settings

These items are also included in templates as part of template-based provisioning. In addition, they can be compared across run-time instances.



## License Reporting

Command Central provides the ability to generate an easy-to-read report showing the use of Software AG license keys across the webMethods landscape. The report lists the servers on which each license key is used. This list provides a simple way to monitor an organization's use of webMethods software to ensure that an organization is not exceeding its licensed allowance.

Reports are in PDF format and can be triggered at any time using the easily-scriptable CLI.

## Universal Messaging Support

Command Central now supports the management and configuration of webMethods Universal Messaging. The following operations can be performed from Command Central:

- Monitor the run-time status (running, stopped, unresponsive, failed) of Universal Messaging realms.
- Monitor basic KPIs of Universal Messaging realms, including memory usage, fanout backlog, and task backlog.
- Start, stop, and restart Universal Messaging realms.
- Configure ports (interfaces) and license keys of Universal Messaging realms.

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# webMethods Deployer

## Deployment of Universal Messaging Assets

webMethods Deployer now supports the repository-based deployment of webMethods Universal Messaging assets. The following asset types are supported:

- Realm ACLs
- Security groups
- Realm schedules
- Realm configuration
- Channels
- Channel joins
- Queues
- Interfaces (ports)
- Data groups
- Clusters

## Wildcards in Project Automator Deployment Set Definitions

When defining a deployment set using Project Automator, it is now possible to use wildcards in various fields in the Composite and Component definitions in order to include multiple items that match a given name pattern. Examples include the following:

```
<Composite displayName="DeployTestAssets" name="Deploy*" srcAlias="RepoSource" type="MWS"/>
```

```
<Component compositeName="*" componentType="*" displayName="" name="DocumentType:APITest2:.*" srcAlias="RepoSource" type="Broker"/>
```

This technique can also be used to add all composites in a repository to the deployment set with a single line.

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## webMethods EntireX

The main purpose of this release is compatibility with the webMethods product suite 9.5 SP1. In addition to those compatibility enhancements, webMethods EntireX includes a number of other changes and enhancements.

### EntireX Adapter Enhancements

The EntireX Adapter includes the following enhancements:

- CICS ECI connections can now set a mirror transaction dynamically.
- IMS Connect connections can now change the maximum segment length.
- Adapter connections without metadata can now be created and enabled from the adapter web interface. This enables these connections to be used dynamically.
- Listeners now detect and inhibit some illegal parameter combinations for reliable RPC and conversational RPC messages.
- Null value suppression has been added to adapter listeners.

For more details about these enhancements, see *webMethods EntireX Adapter 9.5 SP1 Release Notes*.

### Eclipse 4.3 Support in EntireX Designer

The EntireX Designer (also known as the EntireX Workbench) now supports Eclipse 4.3.

### Internationalization Enhancements

The ICU conversion has been simplified, and enhancements have been made to further improve performance. Moreover, an on-error-trace is now available to speed up diagnosis in case the conversion result does not match the expected behavior.

## Increased Platform Support

EntireX is now supported on the following additional platforms:

- z/OS 2.1
- AIX Power 6.1 (64-bit)

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## webMethods Integration Server

### Support for Transport Layer Security Versions 1.1 and 1.2

webMethods Integration Server now supports TLS versions 1.1 and 1.2. With this release, Integration Server administrators can set up an HTTPS port using TLS version 1.0, TLS version 1.1, or TLS version 1.2. TLS version 1.2 support requires the use of Java 1.7 libraries.

### WS-RM Persistent Storage Module Support

Integration Server uses the Apache Sandesha2 module for providing support for WS-RM. The Sandesha2 module provides an out-of-the-box, in-memory storage for messages delivered using WS-RM. Messages in the in-memory store cannot survive Integration Server restarts; in this release, Integration Server now supports a persistent storage module that stores messages that can survive Integration Server restarts.

### Digest Authentication Using WS-Security Policy for Provider and Consumer WSDs

Integration Server supports the ability to authenticate service consumers that access an Integration Server–hosted web service using digest authentication credentials passed in web service headers. Integration Server can also send digest authentication credentials while calling third-party web services.

### Continuous and Reliable Operations following Database Outages

Integration Server can now automatically refresh database connection pools following database outages. This enables Integration Server to provide continuous and reliable operations even if the database goes down and then comes back up again.

### OAuth Enhancements

Integration Server provides the following enhancements to the OAuth infrastructure:

- Support for auditing of OAuth authentication and authorization
- Support for defining an OAuth scope that involves services that are not hosted by Integration Server

## **Enhanced Support for Administering and Managing Integration Server Using Command Central**

Administrators can now use the Command Central command line interface, Command Central templates, and the Compare Configurations page to centrally configure and manage the following additional Integration Server configuration types:

- Port configuration
  - JMS configuration
  - Extended server settings
  - Database configuration
  - JNDI configuration
- 

## **webMethods MashZone**

### **Rebranding of MashZone from ARIS to webMethods**

MashZone has been rebranded from ARIS to webMethods as follows:

- Logos and product names have been changed in splash screens and title bars, and in the title pages of the documentation.
- The Start menu entry has been moved from “ARIS” to the “Software AG” structure.

### **Full MashZone Installation Using Software AG Installer**

In order to provide a better installation experience for Business Analytics customers, webMethods MashZone is now fully integrated into the Software AG Installer.

There are two items in the installer tree:

- MashZone
- Infrastructure / PPM and MashZone Infrastructure (automatically selected when needed)

### **NERV Adoption**

MashZone now uses NERV instead of the EDA Orchestrator.

### **Load Balancing Support**

The following enhancements were made to MashZone to support load balancing:

- Preferred routing for clients
- Common file access from the master instance

### **Increased Line Limit to 100,000 Rows**

For calculation purposes on the server side, the MashZone line limit has increased from 10,000 rows to 100,000 rows.

On the visualization side, the 10,000-line limit remains for displaying data. Exceeding this limit will lead to a warning.

Additional restrictions apply to file sizes of import files.

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## **webMethods Mediator**

### **Custom Content Type Support**

In addition to standard content types, such as application/xml or application/json, webMethods Mediator now supports the definition and mapping of custom content types for REST services.

### **OAuth 2.0 Support**

Virtual services deployed to Mediator can now be configured to use OAuth 2.0 for authentication purposes. Mediator supports the following modes:

- Propagation of an OAuth 2.0 token contained in the incoming request to the backend service
- Use of a specified OAuth 2.0 token when communicating with the backend service

### **Improved JavaScript Object Notation Support**

In previous releases, JSON messages were converted to XML, which introduced certain restrictions. Mediator now leaves the JSON messages unchanged.

### **API Key Enforcement**

Mediator can now leverage API keys to identify consumers of virtual services.

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## **webMethods Mobile Designer**

### **iOS 7 Support**

webMethods Mobile Designer supports the new version of Xcode for iOS 7. Additionally, the Mobile Designer native user interface (NativeUI) library now includes support for the iOS 7 look-and-feel. Support for the iOS 6 look-and-feel is still available when a project is built using an iOS SDK version earlier than iOS 7.

### **New iOS 7 Phoney Skin**

Mobile Designer now includes a platform-specific Phoney skin that simulates the iOS 7 look-and-feel.

### **Support for JSR 75: FileConnection and Personal Information Management**

Mobile Designer supports managing contacts using the JSR 75: FileConnection and Personal Information Management (FC-PIM) API for Phoney and for the Android, BlackBerry, iOS, Windows Phone 8, and Windows 32-bit target platforms.

## **Additional Enhancements since 9.0 SP1**

Additional enhancements have been made to Mobile Designer since 9.0 SP1. For details, see *webMethods Mobile Designer 9.0 SP2 Release Notes*.

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## **webMethods OneData**

### **Limitations Removed for SQL Server Support to OneData Repository**

In 9.0 SP1, limited support was introduced for SQL Server to be used as a webMethods OneData repository. In 9.5 SP1, the following limitations are removed:

- Discussion forums
- Change requests
- Interactive hooks, with the exception of Process Flow hooks
- Advanced functions in Data Manager (Save Filter, Child Filter, and Advanced Filter)
- Advanced object types (remote object and complex views)
- Job types (published reports job)
- Workflow email notifications
- Metadata Transfer and Compare Metadata functions

The following limitations remain in this release:

- MDR and metamaps
- Advanced functions in Data Manager (Summary Report, Deep Link Filter, Rules Engine, Linkages, Show Data Hierarchy, Show Model, Workflow Rule Model, HM, and SR/NR)
- Advanced data types (BLOB/CLOB, Optional Database Sequence, and Contiguous Sequence)
- Advanced object types (remote snapshot, system object extensions, time-bound objects, and archive snapshots)
- Job types (purge log job, data notification job, and conceptual object export job in deployment)
- Data object definition (Usage tab and Check Constraint)
- Data email notifications
- Workflow Dashboard
- System reports
- Application level search
- Project creation
- Personalization
- DML log
- Customer MDM template (data model)

- Process Flow hooks
- Workflow Hook mapping

### **Internationalization Enhancements**

Parts of the OneData user interface are now localizable, and OneData provides the ability to choose a preferred locale on the Preferences screen. Localization is possible for the following functions:

- Login, Change Password, and Forgot Password screens
- Home Page and Main Menu options
- All menu options in the Personalize menu, including Favorites and Preferences
- Data Manager, except for the following:
  - Submenu options of the Delivery option
  - Import
  - Submenu options of the View option
  - Data Hierarchy view
  - Hook commands available as a submenu within an object
  - The following actions in Self-recursive and Network-recursive conceptual objects: all Data Manager actions on the secondary axis, the Search and Replace operation, the Definition tab, the Advanced definition tab, and the Add Entry operation in reference popups shown in the SR/NR filter and on the Add Relationship screen
  - Workflow (Nova mode only), except for the Summary report, the Workflow Rule Model view, and Workflow API messages

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## **webMethods Optimize for B2B**

### **Event Enablement**

webMethods Optimize for B2B can emit events for collected statistics and for measurement results. These events can be consumed by anyone listening on the event bus.

### **Added Attributes in Event Maps**

Optimize for B2B supports the addition of new attributes for Event maps. This feature does not affect historical data.

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## **webMethods Optimize for Infrastructure**

### **Additional KPIs**

webMethods Optimize for Infrastructure provides the following new KPIs to monitor the health of assets:

- Universal Messaging
- JMS trigger
- Broker throughput

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## **webMethods Optimize for Process**

### **Event Enablement**

webMethods Optimize for Process can emit events for collected statistics and for measurement results. These events can be consumed by anyone listening on the event bus.

### **Added Attributes in Event Maps**

Optimize for Process supports the addition of new attributes for Event maps. This feature does not affect historical data.

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## **webMethods Process Performance Manager**

### **Rebranding from ARIS to webMethods**

Process Performance Manager has been rebranded from ARIS to webMethods as follows:

- Logos and product names have been changed in splash screens and title bars, and in the title pages of the documentation.
- The Start menu entry has been moved from “ARIS” to the “Software AG” structure.

### **Full Installation Using Software AG Installer**

In order to provide a better installation experience for Business Analytics customers, webMethods Process Performance Manager is now fully integrated into the Software AG Installer.

There are three items in the installer tree:

- Process Performance Manager
- Process Performance Manager Analysis GUI
- Infrastructure / PPM and MashZone Infrastructure (automatically selected when needed)



## **Installer for Analysis User Interface**

The Process Performance Manager analysis user interface is typically operated as an applet, which is downloaded from the server, and no client-side installation is required. An installer was also available in Process Performance Manager version 5.1 to install the analysis user interface as a standalone application. This installer was not present in version 9 but has been restored in this release. When the analysis user interface is installed and started as a standalone version, the standalone version checks the server for updates and automatically installs the updates.

Installation of the standalone application is an alternative for organizations that prohibit the use of applets or are not yet using Java 7 plug-ins in their browsers.

## **Improved Handling of Large Process Instances during Import**

Process Performance Manager is sometimes configured to merge process instances. This configuration will, over time, produce very large EPCs consisting of thousands or tens of thousands of objects. During each import, these process instances are touched again, leading to long processing times for a particular instance. Increased processing times result in a “virtual” system outage, where the system freezes for multiple hours while processing this data.

In most cases, the merging of process instances was not intentional. To avoid accidental merging of large process instances, a limit for the number of EPCs can be specified in a settings file. If this number is exceeded, the import task will stop with a warning so that large process instances can be deleted. In addition, the number of EPCs in a process can be shown as a measure in Process Performance Manager.

## **Transformation of EDA Data Types into Process Performance Manager Data Types**

Event-driven architecture events contain dates and durations in specific formats (SAGDateTime and MillisecondDurationType). Process Performance Manager now understands events that use these formats.

## **Merges of Attributes at the Step Level**

When re-creating a process instance from multiple events, Process Performance Manager formerly replaced attributes when consolidating steps. Process Performance Manager can now optionally merge attributes instead of replacing them.

## **Master/Sub-server Scenario Support**

In version 5.1, Process Performance Manager supported a scenario with one master and multiple sub-server machines as a scaling mechanism for process analytics. Due to the cloud infrastructure and changes with the ARIS provisioning, this scenario was not supported in version 9.0. This functionality has been restored in 9.5 SP1.

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# **webMethods Service Development**

## **Double Scrolling**

The webMethods Designer Service Development plug-in supports double scrolling, which allows developers to see different parts of the input and output documents. This feature improves usability during complex mapping scenarios that involve large input and output parameters.

## Single Service Results Panel

The Service Development plug-in now includes a single service results panel. This panel displays service execution results for all services that have executed in the current Designer session.

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## webMethods Trading Networks

### Overlapping Partner Certificates

webMethods Trading Networks provides support for up to two active certificate sets each (referred to as the primary and secondary certificate sets) for sign/verify, encrypt/decrypt, and SSL certificate types. Trading Networks can automatically switch between primary and secondary certificates, for example when the primary certificate expires, without interrupting the processing of documents.

### Integration Server Keystore Support

Trading Networks supports storing private keys and public certificates associated with Enterprise profiles in keystore files on Integration Server. This support enables Trading Networks customers to use the same certificate format used in other webMethods products.

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## webMethods Universal Messaging (formerly Nirvana)

### Command Central Support

webMethods Universal Messaging can now be managed and monitored using webMethods Command Central. Users can perform actions such as starting or stopping Universal Messaging realms, monitoring status and KPIs, and configuring ports and license keys of Universal Messaging realms. For details, see the *webMethods Command Central* section in these release notes.

### Deployer Support

Universal Messaging assets can now be deployed using webMethods Deployer. Universal Messaging assets can be exported using Enterprise Manager and checked into a version control system. From there, users can create builds and deploy assets selectively using Deployer. Supported asset types are as follows:

- Realm ACLs
- Security groups
- Realm schedules
- Realm configuration
- Channels
- Channel joins
- Queues

- Interfaces (ports)
- Data groups
- Clusters

### **Optimize for Infrastructure Support**

Universal Messaging can now be monitored using webMethods Optimize for Infrastructure. Fifty-two KPIs are available that span realms, queues, channels, and data groups—all of which can be tracked over time for trending and alerting using advanced analytic capabilities in Optimize.

### **Single Message Acknowledgement and Redelivery Count**

Universal Messaging now supports acknowledgement of individual messages and redelivery counts both on shared durable topics and on queues. This support improves performance of multi-threaded processing and duplicate detection, as is typically used with webMethods Integration Server triggers.

### **Multicast Channel Delivery**

Universal Messaging now supports multicast delivery on non-filtered channels. This support allows the high-performance fanout of messages to a large number of interested clients, which is accomplished through the use of broadcast network protocols rather than point-to-point delivery to individual subscribers.

### **Broader C++ Platform Support**

Universal Messaging C++ clients now support a wider range of platforms. These platforms include the following:

- Windows 32- and 64-bit
- Linux 32- and 64-bit
- Mac OS

### **Persistent Storage Performance Improvements**

The performance of Universal Messaging persistent document stores has been improved for mixed and reliable channels.

### **Shared Memory Performance Improvements**

The shared-memory transport capability of Universal Messaging—for low-latency messaging within a single machine—has been improved, further reducing end-to-end latency.

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## Documentation

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

### **webMethods Broker**

*webMethods Messaging Programmer's Guide* is renamed as *webMethods Broker Messaging Programmer's Guide*.

### **webMethods Command Central**

*Command Central Help* is a new help set that you access from the Command Central web user interface.

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# webMethods Product Suite 9.6

## Release Notes

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Release 9.6 of the webMethods product suite is another significant step in combining cloud, mobile, and social technologies with automated business processes and the agility needed to fully power your digital enterprise.

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## Release Highlights

### Application Integration

The webMethods suite provides many application integration enhancements in cloud integration, template-based provisioning, B2B and file transfer capabilities, mobile support for enterprise applications, and advanced API management. Some highlights are as follows:

- Multiple instances of webMethods Integration Server can now be configured within the same installation, eliminating the need to install Integration Server multiple times.
- webMethods Command Central configuration and large-scale installation tasks are made easier through the use of templates that can be created from existing installations and applied to other installations.
- The Command Central Cloud Factory provides a unified way of launching and managing a mixture of public cloud and private cloud instances.
- The processing of transactions in webMethods Trading Networks has become faster through the use of asset caching.
- Most of an organization's JNDI assets and JMS assets, such as JMS queues and topics, can now seamlessly be moved from webMethods Broker to webMethods Universal Messaging using a new command line migration utility.
- A new feature of webMethods Enterprise Gateway, called webMethods Mobile Support, provides a mobile data synchronization framework for developers to create offline mobile applications that can access distributed data managed by backend ERP applications. Mobile Support provides built-in support for synchronization logic, thereby allowing developers to focus on developing the business logic.
- webMethods OneData includes several enhancements to improve the quality of data, including new engines that can be used in Cleanser and Matcher projects. In addition, OneData integrates webMethods Locate to provide an address verification and geocoding solution in Cleanser and Matcher projects.
- API key management functionalities in CentraSite ActiveSOA have been extended to provide consumers with direct and convenient access to API keys they own, from their user preferences in the CentraSite Business user interface.

## **Business Process Management**

The Business Process Management portfolio has been enhanced to improve productivity and cost savings. These enhancements provide better visibility of processes and tasks, enhanced escalation management via push notifications for violations of critical tasks, easy creation of BPM mobile applications, and full integration with backend systems. Mobilizing BPM processes provides the ability to generate higher business value and improves customer experience.

BPM highlights in this release include the following:

- Stage and milestone dashboards available in webMethods Optimize for Process will allow users to set goals and milestones for a process and track these via email alerts for SLA violations and process and stage exceptions.
- With the introduction of webMethods Mobile Task Integration, developers can quickly create applications based on existing business processes and tasks, with minimal code, and build most of their mobile task projects out of the box. Developers can then distribute and monitor their Mobile Task Inbox applications using the webMethods Mobile Administrator push notification API.
- Significant performance improvements have been made in webMethods Monitor query results through the use of caching techniques and retrieval of data for task charts.
- Several enhancements have been made to webMethods Business Rules that improve the development and management of rules. For example, Business Rules now provide the ability to manipulate rules with a set of predefined functions that perform simple or complex functionality for a decision table condition, a decision table assignment result, or an event rule assignment result with minimal effort.

## **Mobile Suite**

In this release, Software AG is pleased to introduce webMethods Mobile Development, a new mobile suite component. Mobile Development is a new Software AG Designer plug-in that provides tools and features that developers can use to develop mobile applications more quickly and reliably. Mobile Development also easily integrates with webMethods Mobile Administrator so that the corresponding Mobile Administrator instance can be used to build, test, and deploy projects.

## **Cross-Suite Enhancements**

webMethods product suite 9.6 provides several enhancements across the suite. Some highlights include the following:

- Enhancements were made to the upgrade process that improve the user experience and the overall effort involved in migrating from prior webMethods product releases. Almost all of the products in the suite have adopted this migration framework.
- The Software AG Installer now supports Windows 8.x operating systems.
- webMethods products now support Oracle Database 12c for webMethods database schemas.
- webMethods product suite 9.6 products are supported on Windows Server 2012 R2 and Windows 8.1.

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For more details about the key additions and enhancements for this release, see the product descriptions.

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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](#).

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## CentraSite ActiveSOA

### Role Management in the Business User Interface

The ability to manage roles has been added to the organization management screen in the Business user interface. Administrators can now create custom roles, add permissions to these roles, and assign the roles to users and groups.

### Reclaiming Disk Space in the CentraSite Database

A new command, “inoadmin reorganize,” is provided to defragment and reorganize the database files, thereby reducing the size of the database files when data is purged.

### Advanced API Key Management

API key management functionality has been extended. Consumers can now manage their API keys through their user preferences, as well as renew and revoke API keys. API providers can revoke API keys from the profiles of the API asset.

In addition, notifications can be configured to inform consumers about upcoming expirations of their API keys. Using the access token section in the user preferences, consumers can now simply renew an API key that has expired or is about to expire soon, without having to request an entirely new API key. This allows existing applications that rely on these keys to remain unchanged.

### API Virtualization in the Business User Interface

By way of the new Virtualize action, the Business user interface now offers the ability to virtualize APIs. This functionality contains all aspects of proxy API configuration and runtime policy action configuration that were previously available only in CentraSite Control. Virtualization rules configured in this release will be scoped to the proxy API on which the virtualization has been performed.

### OAuth2 Policy Enforcement

CentraSite now provides a configurable approval workflow for APIs that are to be protected by OAuth2. The API provider can configure whether approvals are required and which notification templates are to be used. Users consuming APIs that are protected by OAuth2 can manage their OAuth2 client credential information through their user preferences in the Business user interface.



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## Software AG Designer

### Mac OS Support

Software AG Designer's common plug-in and the webMethods Mobile Development plug-in are now supported on Mac OS.

### Improvements in Startup and Installation Time

Reduction of bundle conflicts and improved consistency in Eclipse 4.3 bundle usage have improved Designer's overall startup and installation time.

---

## Software AG Installer

### Logging Levels Stored in Scripts

When a product is installed from a script, the logging level selected when the script was created is used by default.

### Support for Windows 8.x

The Software AG Installer now supports Windows 8.x operating systems.

### Support for Relative Paths in Installation Scripts

The Installer now uses a different self-extractor mode when launching, so relative paths can now be used in installation scripts for Windows when using the exe file.

### Java 7 Requirement

The Software AG Installer and Uninstaller are now compiled with Java 7.

- On Windows, the Oracle Java 7 JRE is bundled inside the exe file used to start the installer.
- On Mac OS X, the Oracle Java 7 JRE is bundled inside the DMG file.
- On UNIX, a Java 7 JRE or JDK must be installed to use the installer.

For more information, see *Using the Software AG Installer*.

### Software AG Software Download Center (SDC) Outage Notification

When the SDC is down for maintenance, the Software AG Installer now displays a message that indicates the outage when the installer tries to connect to the SDC.

## **Prevention of Unsupported Overinstalls**

The Installer now prevents users from installing older releases of Software AG products over newer releases. The installer also prevents users from overinstalling products that do not support overinstallation.

---

## **Software AG MashZone**

### **Integration with the ARIS Product Line**

Integration with the ARIS product line was removed in the previous release of Software AG MashZone. In release 9.6, a new data source called "ARIS table" has been added to MashZone to facilitate consuming data from ARIS Business Server.

### **Continued Map Support in MashZone**

In previous versions of MashZone, there was a dependency on Google Maps to provide mapping capabilities. In response to reports that Google will be retiring this capability in 2014, a new mapping capability based on OpenStreetMap and Bing Maps has been added to MashZone. All customers using maps in their dashboards are advised to upgrade to this release to ensure ongoing availability of their maps.

### **Mobile Support**

iOS 7 is now supported for mobile use of MashZone.

### **Portuguese Language Support**

MashZone is now available in Portuguese.

---

## **Software AG Process Performance Manager**

### **Improved Handling of Percentiles**

Percentiles can now be calculated at the instance level.

### **Improved Handling of Event Data**

Each type of Event data can now be configured individually in Software AG Process Performance Manager. In addition, the overall configuration process has been simplified.

---

## **webMethods ActiveTransfer Gateway**

### **High Availability Support**

webMethods ActiveTransfer supports high availability of ActiveTransfer Servers serving as gateways and internal servers, both in the DMZ and behind the firewall. When an internal ActiveTransfer Server becomes unavailable, client requests are automatically redirected to another ActiveTransfer Server that is connected to the same ActiveTransfer Gateway, without interrupting the file transfer between the client and the ActiveTransfer Server.

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## **webMethods ActiveTransfer Server**

### **High Availability Support**

webMethods ActiveTransfer supports high availability of ActiveTransfer Server. When an ActiveTransfer Server becomes unavailable, client requests are automatically redirected to another ActiveTransfer Server that is connected to the same ActiveTransfer Gateway, without interrupting the file transfer between the client and the ActiveTransfer Server.

### **Improved Logging**

The ActiveTransfer Server log page has been enhanced for easy access to the log entries, thereby improving an administrator's experience when searching for information in the server logs. By default, the server log screen now presents a scrolling update (last 1,000 lines) of the server log, with options to edit the number of lines displayed. The log can also be enabled to scroll up when new information is appended to it. In addition, a flexible search option is provided to quickly get to a particular section within a log. The filter option can be used to display or hide the log entries that meet the filter criteria.

### **Conditional Execution of Post-processing and Scheduled Actions**

ActiveTransfer Server provides a new action called "Jump" to switch from a sequential execution of actions to a conditional execution. The Jump action enables post-processing and scheduled events to skip one or more actions and execute a designated action in the event. A Jump action can be executed conditionally based on a variety of file and transfer parameters, including file name, file size, transfer speed, and transfer time window. A Jump action can also be unconditional and can be applied on all files participating in the event.

### **Excluding Files from Certain Actions**

ActiveTransfer Server provides a new action called "Exclude" that, when configured prior to another action or set of actions, excludes files from those subsequent actions based on a source filter.

## Additional Transfer Settings for Outbound FTP(S) Transfers

ActiveTransfer Server, when acting as a client for outbound transfers, provides several settings to connect to external servers through FTP, FTPS, and FTPES protocols. The new configuration settings include ASCII/Binary mode, Active/Passive mode, Simple mode (used primarily for connections to AS/400 systems), and the Convert Line Endings option to change the line endings in the file for file transfer in ASCII mode.

## Usability Enhancements

ActiveTransfer Server includes the following enhancements to improve usability related to setup of virtual folders and configuration of events:

- Administrators can test connections with target remote servers and fine-tune any changes necessary in virtual folder definitions before the folders are made available for file transfers.
- Administrators can browse all virtual folders when using any of those folders in File operation tasks in post-processing and scheduled events. This avoids the need to toggle back and forth between the Virtual Folder Management and Event Management screens.

---

# webMethods ApplinX

## Blocking Access to URLs in an ApplinX Web Application

A new security feature provides the ability to block access to each URL in an ApplinX web application. This is achieved with a property file that contains the URLs of the web application pages and the access permissions for each URL. The following access roles are available:

- **Unauthenticated.** This role identifies users who did not pass the authentication process and who have the minimal access permission.
- **User.** This role identifies users who have regular permissions.
- **Admin.** This role identifies users who have the highest permissions.

For more information, see *Blocking Access to URLs in an ApplinX Web Application* in *Appendix B: Security in ApplinX* in the *ApplinX User Guide*.

## Improved Natural Data Transfer (NDT) Functionality

The following improvements have been made to the Natural Data Transfer functionality:

- The old Visual Basic implementation has been replaced by a modern .NET implementation.
- Product usability has been enhanced by supporting more customer use cases in the context of NDT.

---

## webMethods BPMS

### Process Architecture Improvements

Improvements were made to the webMethods Process Engine architecture, including process archiving, database partitioning, EDA enablement, and JMS adoption.

### Monitor Process Diagram and Query Enhancements

Process diagrams for version 9.6 are displayed with Google Web Toolkit (GWT). Process models from earlier versions are still displayed with Adobe Flash; these models can be upgraded to version 9.6, after which they are displayed with GWT.

In addition, the performance of webMethods Monitor query results has been improved through the use of caching techniques.

### Task Engine

Performance improvements were made in the retrieval of data for task charts.

### Mobile Task Integration

The following enhancements were made with respect to handling mobile tasks:

- **Mobile task integration.** webMethods Task Engine and Task Development now enable mobile task applications to be created from existing task applications that have been published to My webMethods Server/Task Engine. Users can access the task inboxes for these mobile task applications from their iOS or Android mobile device, and can view and interact with tasks assigned to them, search for tasks, and accept and complete tasks. Note that webMethods Mobile Task Integration is an add-on to the BPMS bundle and is licensed separately.
- **New Mobile Task Project Wizard.** The New Mobile Task Project Wizard provides the ability to create a Mobile Designer project from existing task types.
- **Support for multiple task types in one project.** This feature enables the creation of a separate mobile task application project for each task type or a single mobile task application project that can handle multiple task types.
- **Support for operation while disconnected.** If mobile device connectivity is interrupted by poor or intermittent signal strength after a user logs on, the user can still work on tasks while disconnected. When connectivity is restored, the tasks are synchronized with the server.

---

## webMethods Broker

### Migration Utility

webMethods Broker offers a new command line utility to migrate JNDI assets and JMS assets, such as JMS queues and topics, from Broker to webMethods Universal Messaging. This migration utility provides the ability to move most of an organization's assets automatically.

## **Improvements for Default Settings**

The default values for settings such as cache, storage file size, parallel channels, and file settings have been adjusted to reflect customers' current common settings.

## **Monitor Authentication**

Broker Monitor now connects to Broker Server only after Broker Server authenticates the requesting Broker Monitor, thus providing additional security for Broker Server.

---

# **webMethods Business Rules**

## **Rules Management Console Improvements**

The following improvements were made with respect to rule management:

- The Rules Management Console now supports the use of the My webMethods Server principal picker. Decision tables now support My webMethods Server users and groups, enabling easier use of business rules for task assignment scenarios.
- The Decision Table Editor in the Rules Management Console provides a filter control to limit the displayed decision table rows. Rows can be filtered for My webMethods Server users, groups, and roles as well as any string value.
- The Rules Management Console now supports locking of individual decision tables and event rules. Users can lock or unlock decision entities to prevent their changes from being overwritten by other Rules Management Console users.

## **webMethods Rules Development Improvements**

webMethods Rules Development now provides a set of predefined string and numeric functions that provide the ability to perform simple or complex functions for a decision table condition, a decision table assignment result, or an event rule assignment result. A function can require input parameters that can be manually entered or mapped to existing parameter elements.

---

# **webMethods CloudStreams**

## **Usability Enhancements**

The following usability enhancements were added to this release of webMethods CloudStreams:

- The CloudStreams framework no longer displays prefilled input variables in cloud connector services by default. These variables can be viewed if desired by pressing a toggle switch.
- The CloudStreams framework now hides generated document type packages because users do not use these packages directly. Hiding these packages also helps reduce clutter in the Software AG Designer Service Development plug-in views.

- CloudStreams provides a new group view for listing connectors in the administration screens. This view groups all connectors for a particular provider in one place, even if the connectors were built by a different set of developers. For example, some connectors (for the same provider) could be provided by Software AG, whereas others could be custom-built by the end-user developer. This reduces clutter and enables the administrator to quickly find connectors.
- CloudStreams provides support for enhanced governance policies that can log messages to the local server log.
- The CloudStreams framework provides enhanced usability while accessing the query operation for a particular SaaS API (for example, a Salesforce partner SOAP API query operation). The framework automatically generates the query string based on the business object and fields that the user selects while defining the cloud connector service.

### **Out-of-the-Box Connectors**

CloudStreams now provides connectivity to ServiceNow and NetSuite.

### **Automatic OAuth Token Refresh Capability**

Expired OAuth access tokens in configured OAuth aliases can now be refreshed automatically. A refresh token and the refresh token URL, used in the automatic refresh process, can be specified as part of the OAuth alias configuration.

---

## **webMethods Command Central**

### **Template-Based Provisioning User Interface**

webMethods Command Central provides capabilities for creating templates from existing installations and then applying the templates to other installations. Such templates help ease the execution of large-scale installation or configuration tasks. Templates can now be saved and applied directly from the Installations pages in the Command Central web user interface, making template use even easier.

### **Repository Management**

Repository management in Command Central allows the definition of one or more repositories that act as a source for installation files when installing webMethods products or fixes. A Master repository provides a connection to the Software AG software and fix download locations, whereas Image repositories allow central storage of image files created using Installer or Update Manager.

These repositories can be used as part of template-based provisioning.

## **Integration Server Configuration**

Command Central now allows the configuration of additional Integration Server settings through the command line tools, REST API, and web user interface. The following configurations are available:

- Ports
- License keys
- JNDI aliases
- JMS aliases
- webMethods Messaging aliases
- Extended settings
- JDBC pools and functional aliases
- Keystores
- Truststores
- Resources
- Email settings
- Log settings
- Global variables

## **Log File Viewing**

Command Central now provides central remote access to log files for various products. Log files can be viewed directly in the web browser, with the assistance of filtering and highlighting to help find specific text strings. Additionally, single or multiple log files can be downloaded as plain text or compressed ZIP files for faster download of large files.

## **License Report User Interface**

Command Central now provides a user interface for easy generation of and access to license reports. These reports show, at a glance, which license keys are used on which servers throughout the defined landscape. This information is helpful in managing an organization's compliance with its license agreement.

## **Instance Creation**

Command Central now provides the ability to create additional instances of select webMethods products using command line tools and the REST API. Each new instance has its own configuration and can be separately started, stopped, or monitored while sharing a common set of product files and fixes.

## **Cloud Factory API**

Command Central now provides command line and REST API functions for managing cloud-based virtual machine instances. Account configuration allows central setup of multiple accounts on VMware and/or Amazon EC2. Using a single API with those accounts, instances can be launched, started, stopped, and deleted across both platforms.



---

## webMethods Composite Application Framework

### JavaServer Faces 2.2 Support

webMethods Composite Application Framework now contains introductory components for developing portlet and web applications in a JSF 2.x environment. Also included is a JSF 2.x tag library for CAF controls, with related documentation. For more information about working with the limited JSF 2.x functionality in this version of CAF, see *webMethods CAF Development Help* and the *CAF Tag Library Reference*.

### Hot Deployment of Jar Files to the Deploy Folder

To simplify development and deployment activities, My webMethods Server supports hot deployment of jar files directly to the *Software AG directory\MWS\server\instance\_name\deploy* folder. The jar files can also be installed using the My webMethods Server Install Administration portlet or deployed from Software AG Designer.

### Validation and Code Completion Assistance

XSD schemas are now provided for xmlImport files. The XML editor uses these schemas to provide validation and code completion assistance when developers are editing the files.

### JSR 303 Bean Validation

A developer can now annotate a Java model with validation constraints using standard JSR 303 JavaBean annotations instead of attaching validators to the controls that are bound to that model.

### Package Export Enhancements

When packages are exported from a WAR file or a Utility jar project, the generated Java package names are now made unique so they do not conflict with other components.

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## webMethods EDA Enablement

### EDA Enablement

MAPI events, historically used to push process data into webMethods Optimize, now also emit EDA events.

### Programmatic Creation of Event Types Outside of Software AG Designer

In previous releases, event types could only be created using functionality available in Software AG Designer. The Event Type Store API has been extended to allow clients such as webMethods Optimize and webMethods BPM to create event types on the fly and deploy those event types to their local Event Type Store.

## Guaranteed Delivery

Events are no longer lost following system failures.

---

## webMethods Enterprise Gateway

### Support for Mobile Data Synchronization Framework

webMethods Enterprise Gateway now provides support for a mobile data synchronization framework by way of the new webMethods Mobile Support feature. With this feature, developers can quickly author offline mobile applications that retrieve data from a backend database when the mobile network is online, store that data on the device database, and enable mobile device users to work with the stored application data even when the network is offline. Later, when the mobile network is back online, mobile device users can upload the data changes back to the backend database and retrieve any changes made in the backend database while the device was offline.

Mobile Support provides the following the capabilities:

- Bidirectional synchronization of data between multiple mobile devices and backend databases
- Automatic conflict detection and resolution based on configuration in Mobile Support mobile sync components
- Incremental download and upload of data

### Mobile Data Synchronization Client Library

By way of the Mobile Support feature, Enterprise Gateway provides a mobile data synchronization client library. When used in conjunction with webMethods Mobile Designer, the Mobile Support Client library allows users to quickly create offline mobile applications by leveraging the mobile data synchronization framework.

---

## webMethods EntireX

The main purpose of this release is to enhance webMethods EntireX support under z/VSE. This release also ensures compatibility with version 9.6 of the webMethods product suite and includes multiple fixes, changes, and enhancements. For more details about these enhancements, see *webMethods EntireX 9.6 Release Notes*.

### Enhanced z/VSE Support

EntireX support for z/VSE has been thoroughly reworked and is now at a level comparable to other EntireX platforms, such as z/OS. This also means that the Application Monitoring feature of webMethods Optimize for Infrastructure can now also be used with EntireX and Natural components running under z/VSE.

## **Improved Handling of Project Export/Import in EntireX Workbench**

Improvements have been made in the export and import of projects in the EntireX Workbench (also known as the EntireX Designer).

During the archival of an EntireX project, when either the export feature of Eclipse or the check-in feature of a revision control system such as Subversion or CVS are used, an external properties file can be used to store the properties of IDL files. These properties are restored from this external file when the project is imported or checked out.

## **CICS RPC Server with Enhanced Impersonation**

A value of YES is now supported for the IMPS configuration parameter. The CICS RPC Server then uses the RPC user ID and password supplied by the RPC client for authentication and impersonation of the client. This means that the RPC Server validates the password.

## **Improved Handling of Security Messages under z/OS**

The EntireX broker attribute PRODUCT provides the ability to specify the name of the installed security product (ACF2, RACF, or TOP-SECRET). This attribute is used to analyze security system-specific errors. This feature was available in earlier versions but was not documented.

---

# **webMethods Integration Server**

## **Multi-instance Integration Server**

webMethods Integration Server now provides the ability to configure multiple instances within the same installation, which means that multiple Integration Servers can be run without having to install the product multiple times. Each instance can have its own set of custom packages and can be separately started, stopped, and configured.

## **Support for Ehcache Search API**

Integration Server provides a public search service for searching custom caches configured on the server. The public search service offers the ability to issue complex search queries against caches with pre-built indexes.

## **Improved Support for Handling Daylight Saving Time Changes**

The Integration Server scheduler has been enhanced to provide improved support for handling daylight saving time changes. With the new enhancements, the Integration Server scheduler will continue to do seamless executions of scheduled jobs across these time changes.

## **Flexible Access Control Mechanism for Manipulation of Files**

Integration Server file manipulation services (pub.file:\*) allow manipulation of files on disk. The built-in access control mechanism allows administrators to control which files and directories can be accessed using these services. This mechanism now allows the use of wildcards, thus providing more flexibility when defining file and directory naming schemes.

## **Authentication with Third-Party HTTP Server using Digest Password**

Integration Server is able to authenticate with third-party HTTP servers using a digest password for HTTP authentication.

## **Multiple Conditions and Joins for webMethods Messaging Triggers**

Integration Server triggers now support multiple conditions and joins when these triggers are used with webMethods Universal Messaging.

## **Client-Side Queue Support when Publishing to Universal Messaging**

When messages are published to Universal Messaging using the `pub.publish:publish` service, client-side queueing (CSQ) can now be used to provide extra resilience during failures or temporary outages of the Universal Messaging server or network.

---

# **webMethods Mediator**

## **Transport-Level SSL Certificates for Consumer Identification**

webMethods Mediator now provides the ability to leverage pure transport-level certificates for identifying consumers.

## **Finer-Grained Analytics and EDA Enablement of Mediator**

Mediator has been enhanced to collect metrics and events with additional details, such as operations, resources, and endpoints. In addition, Mediator now leverages the EDA infrastructure to publish these events. A new log destination for EDA has been added to the run-time policies. A listener for events and metrics has been added to allow storage to a relational database configured in webMethods Integration Server.

## **OAuth2 Policy Enforcement**

Mediator can now enforce the use of OAuth2 for virtual services through run-time policies configured in CentraSite.

---

# **webMethods Mobile Administrator**

## **Windows Phone 8 and Windows RT Enhancements**

The following enhancements were made to webMethods Mobile Administrator for Windows 8 and Windows RT support:

- The Mobile Administrator Build Node now supports building Windows Phone 8 and Windows RT applications using either webMethods Mobile Designer app projects or native Windows Phone 8/Windows RT SDK app projects.

- Mobile Administrator now provides an App Store for Windows Phone 8 applications through the mobile web site and a native App Store client application for Windows Phone 8.
- Mobile Administrator now collects and analyzes crash logs from Windows Phone 8 applications and makes them available to the app developer.

### **Mac Build Node Upgrade**

The Mobile Administrator Build Node for Mac OS X now supports running on Mac OS X 10.9 (Mavericks).

### **Android MDM Support**

Android Mobile Device Management (MDM) now supports basic commands to lock a device, wipe/erase a device, install an application, and remove an application.

### **Start Build Jobs Using Commit Triggers**

Mobile Administrator can be configured to automatically launch new build jobs from a build configuration once changes in the underlying source code repository have been detected.

### **Automated Testing Support**

Mobile Administrator now supports automated testing of mobile applications. The tests can be developed using the native test frameworks of the iOS, Android, and Windows Phone 8 SDKs and are executed as part of a Mobile Administrator build job.

### **Terms of Service Support**

The native App Store clients for iOS, Android, and Windows Phone 8 now support displaying and accepting a site's Terms of Service.

### **App Comments and Ratings**

Mobile Administrator now lets users add comments and star ratings to applications through the web interface or native App Store clients. Mobile Administrator also displays comments and ratings from other users.

### **Customizable App Version Stages**

Mobile Administrator now enables site managers to define custom app version stages, for example "Beta" or "Stable," and assign each app version to a stage.

### **Improved Build Job Dispatching**

In previous releases, Mobile Administrator offered the ability to dispatch build jobs depending on build nodes. This capability is now more reliable. In addition, users can now determine why a build job has been dispatched, or not dispatched, to a certain build node.

## **Smart Category Support**

Mobile Administrator now supports smart application categories, providing the ability to define filter strings to match application attributes.

## **Build/Test Developer Notifications**

Mobile Administrator lets developers configure email notifications for successful or failed build jobs.

## **LDAP Integration**

Mobile Administrator now supports linking to an LDAP service for user authentication and user/group management.

## **Push Notification API**

Mobile Administrator now provides an API to send push notifications to mobile applications on iOS and Android through Apple Push Notification Service (APNS) or Google Cloud Messaging (GCM).

## **Import/Export of Applications**

Mobile Administrator now supports importing and exporting single applications or groups of applications for backup and transfer purposes.

## **Site Configuration Assistant**

A site configuration assistant is available to help administrators perform necessary additional setup steps after creating a new or an additional Mobile Administrator domain.

## **Direct Installer and Virtual Installer**

Mobile Administrator can be installed on an existing Linux host using the direct installer script. Virtual installer supports the creation from scratch of a virtual machine running Mobile Administrator on any host operating system.

## **Application Binary Re-signing**

Mobile Administrator now supports re-signing of mobile application binaries for iOS .ipa binaries, Android .apk binaries, and Windows Phone 8 .xap binaries.

## **Activity Stream to View Platform Changes**

The Mobile Administrator web user interface contains a stream of significant user activities to make the discovery of new content easier for all users.

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## webMethods Mobile Designer

### Gesture Support

webMethods Mobile Designer now provides basic left/right gesture support to transition from one view to another.

### Push Notifications

Mobile Designer now includes support for push notifications for BlackBerry and Windows Phone platforms by way of the MIDP `javax.microedition.io.PushRegistry` class.

### NativeUI Demo Created Using webMethods Mobile Development

Mobile Designer provides a second version of the NativeUI demo, named `_NativeUIDemoX_`. This version of the sample was created using webMethods Mobile Development and illustrates the capabilities of Mobile Development.

The `_NativeUIDemoX_` sample project includes the information for the model, as well as business logic in the user space. Before this sample project can be used, the project must first be imported into Software AG Designer. Then, the Mobile Development “Generate Source Code” command must be issued to generate logic for the model and API. For more information about generating sources, see *webMethods Mobile Development Help*.

### iOS 64-bit Device Support

Mobile Designer now includes support for 64-bit iOS devices and simulators.

---

## webMethods Mobile Development

webMethods Mobile Development is a new Software AG Designer plug-in. Mobile Development provides tools and features that developers can use to develop mobile applications. Mobile Development uses the principles of model view controller (MVC) architecture, which separates the user interface from the business logic and data.

### Mobile Development Perspective

Mobile Development provides a dedicated perspective for mobile application development. This perspective is integrated into the rest of Software AG Designer, providing a seamless IDE experience for a mobile developer.

### New Mobile Development Project Wizard

Mobile Development has a wizard that guides a developer through the process of creating a mobile project.

## Mobile Explorer View

The Mobile Development perspective includes the Mobile Explorer view, which contains a subset of the information in the Package Explorer. Mobile Explorer provides a more-focused display of the files and folders used in a mobile project.

## Outline Editor

The Outline Editor allows developers to visually develop their mobile applications. The editor displays a “tree” view (or outline) of the mobile application. The tree contains nodes for an application’s window, views, and dialogs. Child nodes of a view or dialog list the user interface elements, such as buttons or text entry fields, that a view or dialog contains. Using the Outline Editor, developers can do the following:

- Visually add user interface elements and drag and drop them to change their positioning on the tree.
- Set properties for user interface elements. For example, a font color property can be set for a button to indicate the color to use for the text on the button.
- Create multiple views for an application.
- Add event listener and event action nodes to the tree. For example, a listener can be added that “listens” for when a user presses a button, and an associated action can cause the application to transition to another view.

## XML to Java Code Generation

Mobile Development not only makes it easy for mobile developers to quickly and visually develop their mobile applications, but it also generates the Java code for the project from the visual model. This increases developer productivity by allowing the developer to focus on writing the core business logic that is required to power the application without having to write Java code for basic user interface controls.

## Mobile Administrator Integration

Mobile Development provides mechanisms to easily integrate with webMethods Mobile Administrator. The New Mobile Development Project Wizard provides panels that a developer uses to create a new mobile project and specify the corresponding Mobile Administrator instance to use to build, test, and deploy the project.

---

# webMethods OneData

## SQL Server Support

As of version 9.0 SP1, SQL Server can be used as a webMethods OneData repository, with limitations as indicated in the *webMethods Product Suite Release Notes* for versions 9.0 SP1 and 9.5. Some limitations in previous versions have been addressed in OneData 9.6, as follows:

- The Network Recursive Hierarchy now permits data browsing and core data management functionality. This capability is available from the top menu for both the primary and secondary axis.
- It is now possible to create new projects.



- Model Configurator and Data Manager both now support LOB data types.

### **Internationalization**

The Data Steward functionality in the OneData user interface has been localized as of OneData 9.5 SP1. Users can choose their preferred language through the Preferences menu on the Menu toolbar.

### **Data Quality Improvements**

The following improvements have been made with respect to data quality:

- **Scheduling batch cleansing and matching jobs.** It is now possible to use the Job Center to schedule batch cleansing and batch matching jobs. New functions are also available in APIs to trigger cleansing and matching jobs from external systems.
- **Integration with webMethods Locate.** OneData supports an additional data quality engine, webMethods Locate, which can be used in Cleanser projects.
- **Built-in matching engine.** OneData now includes an internal data matching engine, which can be used in Matcher projects.

---

## **webMethods Optimize for Infrastructure**

### **Universal Messaging Monitoring Enhancements**

webMethods Optimize for Infrastructure now monitors webMethods Universal Messaging clusters, threads, and connections.

### **Improved Optimize Upgrade Experience**

The Optimize for Infrastructure data migration framework has been automated in the following areas to simplify upgrade from versions 8.2.x, 9.0 SP1, and 9.5 SP1 to version 9.6:

- Support for Coherence clustering to reduce manual changes
- Support for SNMP agents to reduce manual changes

---

## **webMethods Optimize for Process**

### **Universal Messaging Clustering**

webMethods Optimize for Process now fully supports Universal Messaging clustering.

### **Ability to Monitor Milestones**

Process tracking functionality in Optimize for Process has been extended to support the analysis of process stages and milestones. Optimize for Process now provides the following information in the form of both EDA events and REST services:

- Stage started
- Stage completed
- Stage breached

### Improved Visualization Using Software AG Presto

webMethods Optimize for Process includes new features that improve the visualization of processes. These features require a Software AG Presto license. The new features are as follows:

- **Process Overview Dashboard.** This dashboard provides a high-level view of any process, including intrinsic metrics, historical views, and normality comparisons. This view provides the ability to quickly find potential issues, obtain information about alarms and stage activity, and use email actions to share findings with others.
- **Process Instances Dashboard.** This dashboard provides a view of process activity and performance across a specified time range. A chart at the top of the dashboard displays historical information about process volume activity and cycle time performance. A table at the bottom shows individual process instances and offers the ability to send email notifications for individual process instances.
- **Stage Instances Dashboard.** This dashboard provides a view of stage activity and performance for a process across a specified time range. The top of the dashboard shows metrics about each stage, including information about activity, cycle time, and alarms. Selecting one or more rows in this table reveals information about individual stage instances and offers the ability to send email notifications for individual stage instances.

---

## webMethods Service Development

### Local Service Development Certifications

Local service development has been certified to support the following Eclipse plug-ins:

- Subclipse 1.10.x
- Polarion Software Subversive SVN plug-in and connector 3.0.x
- Eclipse Git Team Provider 3.3.x

### Publishing Documents as JMS Messages

webMethods Service Development now includes support to create a launch configuration that publishes an instance of an IS document type to a JMS provider. By using a launch configuration to publish the JMS message, developers can test the document type in a JMS solution without needing to build a service that sends the document type as a JMS message.

---

## webMethods Trading Networks

### Event Enablement

webMethods Trading Networks is now event enabled and can publish all events related to Trading Networks transactions and tasks to the event store. The run-time events are categorized into five groups: Transaction Events, Transaction Complete Events, Delivery Task Events, Service Execution Task Events, and User Initialized Task Events. Events of a particular group can be published by setting the corresponding property to True.

### Asset Caching

Trading Networks can cache partner profiles, document types, document attributes, and trading partner agreements using Ehcache. Caching accelerates the processing of Trading Networks transactions by avoiding database lookups before fetching assets at run time.

---

## webMethods Universal Messaging

### Improved JNDI Usability

When JNDI connection factories are managed using webMethods Universal Messaging Enterprise Manager, the JMS URL can now be specified during connection factory creation. In addition, the URL of existing connection factories can now be viewed or changed.

### webMethods Suite Integration

Universal Messaging support in various webMethods products has been further extended. For details, see the release notes for the various products.

---

## Documentation

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

### Cross-Product Documentation

A new PDF publication, *Working with the webMethods Product Suite and the Java Service Wrapper*, describes how various webMethods suite products that run on the Software AG Common Platform use the Java Service Wrapper, an application developed by Tanuki Software, Ltd.

## Documentation Installation Changes

The documentation for webMethods is now combined with the documentation for Intelligent Business Operations. The installation node on the Software AG Installer is called “webMethods and Intelligent Business Operations Documentation.” The default installation directory is now *SoftwareAG\_directory\documentation\webMethods\_and\_Intelligent\_Business\_Operations*.

### webMethods Command Central

The following documentation changes were made in this release for webMethods Command Central:

- *webMethods Command Central Help* now includes information about how to configure, manage, and administer Command Central and Platform Manager using the Command Central web user interface, command line tool, and REST API.
- *Getting Started with the Command Central REST API* is a new PDF publication that describes Command Central REST API services and resources.

### webMethods Composite Application Framework

A new HTML-based publication, the *CAF Tag Library Reference*, is available with version 9.6. This VDL documentation package provides information and attributes about all of the available CAF controls in the tag library.

### webMethods EntireX

Navigation within the *Common Integration Scenarios* section of the webMethods EntireX documentation has been significantly enhanced. High-level, illustrated scenario descriptions lead to more detailed sections below. New scenarios that cover integration with webMethods Integration Server have been added.

### webMethods Mobile Administrator

A new PDF publication, *webMethods Mobile Administrator Installation Supplement*, has been added to provide preparation, installation, and uninstallation instructions for webMethods Mobile Administrator.

### webMethods Mobile Support

The following new documents describe how to use webMethods Mobile Support and the Mobile Support Client to synchronize data between mobile devices and a backend database:

- *Developing Data Synchronization Solutions with webMethods Mobile Support* describes the Mobile Support components that make up the Mobile Support feature and explains how to configure Mobile Support. This PDF publication also explains how to develop mobile data synchronization solutions using Mobile Support’s services and APIs.
- *webMethods Mobile Support Client Java API Reference* contains details about the Mobile Support Client API library.

## webMethods Task Engine

webMethods Task Engine version 9.6 provides support for Mobile Task Integration (MTI), which enables a user to interact with MTI-enabled tasks running in the Task Engine from an iOS or Android mobile device. A separate PDF publication, *Software AG Designer Mobile Task Integration Supplemental Documentation*, is available from the documentation web site and with the documentation installation. This publication describes the procedures required to create a mobile task application in Software AG Designer, how to publish the application to Mobile Administrator, and how to connect to and interact with the mobile task application from a mobile device.

## webMethods Universal Messaging

The following PDF publications were added for webMethods Universal Messaging:

- *Migrating from webMethods Broker to webMethods Universal Messaging* describes how to migrate the JNDI and JMS assets from webMethods Broker to Universal Messaging, and to configure Universal Messaging instead of Broker for webMethods messaging.
- *webMethods Universal Messaging Clustering Guide* describes how to configure Universal Messaging in a high-availability clustered environment.

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# Upgrade

## Simplification of Side-by-Side Upgrades

Side-by-side upgrade has been greatly simplified by the replacement of many manual steps with automation via migration utilities. The migration utilities migrate configuration data and assets from the 8.2, 9.0, and 9.5 product releases to 9.6. Most migration utilities offer a migration that uses default settings, but a customized migration can be created and reused for multiple product installations. The migration utilities write detailed information to the command window and to a log file. The use of automated migration increases both the speed and accuracy of an upgrade.

## Products that Offer Migration Utilities

In an earlier release, Integration Server offered a migration utility. In the 9.5 and 9.6 releases, other products have created migration utilities using the same migration framework. As of the 9.6 release, products that offer migration utilities are as follows:

- Integration Server
- Products hosted by Integration Server: ActiveTransfer, Business Rules, Communicate, Deployer, Mediator, Monitor, Trading Networks, adapters, and eStandards Modules
- Command Central and Platform Manager
- Event Driven Architecture
- Infrastructure Data Collector
- My webMethods Server
- OneData
- Universal Messaging

## Products that Have Simplified Upgrade Using Other Methods

webMethods Broker and CentraSite have greatly simplified their upgrades. CentraSite provides export and import utilities that automatically migrate configuration data.

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WEBM-RN-96-20140415b

# webMethods Product Suite 9.7

## Release Notes

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Release 9.7 of the webMethods product suite introduces a launch of webMethods Integration Cloud, Software AG's cloud-based integration platform as a service (iPaaS) product. This release also enhances the capabilities of webMethods BPMS with the launch of webMethods Business Console and analytics tightly integrated with process actions. In addition, the launch of webMethods API-Portal enables organizations to take their API management initiatives externally to developers and partners. With these additions, Software AG will continue to provide the agility needed to fully power your digital enterprise.

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## Release Highlights

### Integration

webMethods Integration Cloud is Software AG's public, cloud-based integration platform as a service (iPaaS). This offering provides hybrid integration capabilities as a service, including use cases that involve the integration of both SaaS-to-SaaS and SaaS-to-on-premises applications. Based on the highly acclaimed and mature webMethods Integration Server runtime, the Integration Cloud platform leverages webMethods AgileApps Cloud as well as additional product suite components, including webMethods CloudStreams, Software AG Command Central, and webMethods Universal Messaging, to provide distinct capabilities for the cloud service.

Architecturally, the cloud platform has been transformed into a multi-tenant environment that enables tenants to share a common development platform while providing tenant isolation, security, and privacy within their own separate execution instances. The hybrid architecture permits the on-premises Integration Server to securely connect to Integration Cloud for the purpose of synchronizing metadata to allow on-premises services to be called from the cloud.

The highlight of this offering is a device-friendly user interface that is built on the responsive web design framework. This interface features a guided development environment that walks users through the lifecycle stages required to graphically map, transform, and enrich their integrations.

Finally, the cloud service features built-in source code control and a unique deployment architecture for seamlessly moving integrations through the different lifecycle stages.

### Business Process Management

webMethods BPMS has a new face with the release of webMethods Business Console. Built on the responsive web design framework, Business Console's device-friendly user interface provides role-based administration, monitoring, and social guidance for managing business processes and tasks. Business Console provides the following features:

- An inbox enables task workers to view and act on all tasks assigned to them. Inbox worklists can be customized to suit each individual's needs. The inbox can be personalized so that task workers can display a certain number of tasks, specify sort order, and search and filter inboxes using default or custom saved searches.
- Tight integration with a collaboration platform enables task workers to easily collaborate with process participants.

- A recommendation engine assists experts in guiding task workers to complete their tasks faster and more effectively.

webMethods BPMS is also introducing Closed Loop Analytics, which provides the ability to initiate process actions based on analytical insights. Users can set process milestones, goals, and associated Service Level Agreement (SLA) rule violations and then define KPIs that are based on goal, policy, or business issues. These SLA violations and KPIs can be tracked in webMethods Optimize and used to analyze trends that are above or below normal ranges. Out-of-the-box process dashboards (available through Business Console) monitor process and stage business process intrinsics and initiate escalation actions to address violations or breaches. The escalations are created using a pluggable action framework that is built using rules and provides the ability to plug in custom process, service, or workflow escalation actions.

## **API Management**

With the release of webMethods API-Portal, organizations can now expose their own internal APIs to third-party developers and partners.

API-Portal is a fully customizable, self-service portal for exposing APIs. Built on the responsive web design framework, API-Portal's device-friendly user interface provides easy access to end-to-end usage analytics, built-in API testing, metadata-driven API documentation, and integrated collaboration.

API-Portal provides tight integration with CentraSite and webMethods Mediator, greatly simplifying the provisioning and the run-time policy enforcement of these APIs. The integrated, end-to-end API toolchain provided by the webMethods product suite allows APIs to be created and integrated with webMethods Integration Server, lifecycle-managed by CentraSite, protected and virtualized by Mediator and webMethods Enterprise Gateway, and monitored by Insight. As part of the Software AG API Management platform, API-Portal enables developers and partners to engage with, and contribute to, the new channels made available to them.

## **Cross-Suite Enhancements**

The following webMethods products, which use Terracotta for caching, are now compatible with Terracotta version 4.1:

- CentraSite
- Software AG Command Central
- webMethods CloudStreams
- webMethods Enterprise Gateway
- webMethods eStandards Modules
- webMethods Integration Server
- webMethods Mediator
- webMethods OneData
- webMethods Optimize
- webMethods Process Engine
- webMethods Trading Networks



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For more details about the key additions and enhancements for this release, see the product descriptions.

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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](#).

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## CentraSite

### Improved Profile Configuration for Virtual Types

CentraSite now provides the ability to clone profile definitions from the base type when configuring virtual types. This functionality is available when the inheritance of profiles on the virtual type is disabled in the Control user interface.

### Improved Handling of Virtual Types in Searching and Browsing

Search functionality can now be configured to ignore inheritance between the base type and the virtual types, which provides more flexibility and consistency in the way in which virtual types are handled during search and browse actions. This functionality is available when performing advanced configuration of asset types in the Control user interface.

### Support for Updating to Deployed Virtual Services

CentraSite supports updating virtual services that are in a deployed state using a command line utility. This utility contains a mechanism to update the service WSDL and redeploy the service to all targets in a single operation.

### 64-Bit Support on Windows Platforms

The CentraSite registry and repository now run in a native 64-bit operation on Windows operating systems.

### New Global Run-Time Policies

CentraSite now provides global run-time policies that apply to virtual services through a dynamic scope definition in the Business UI. Prior to version 9.7, CentraSite provided service-specific run-time policies. A new activity, Manage Governance Rules, provides this capability in the Business UI.

### REST API Enhancements

The data model for REST APIs has been extended to allow the capture of additional metadata. APIs can now be described with multiple resources, HTTP access methods, parameters, usage examples, and error codes.

## **Integration with webMethods API-Portal**

CentraSite is tightly integrated with webMethods API-Portal. This integration enables API providers to publish SOAP-based and REST-based API metadata from CentraSite to API-Portal and securely expose APIs to external developers, partners, and other consumers.

---

## **My webMethods Server**

### **Enhanced Configuration through Software AG Command Central**

Command Central can now be used to manage the configuration of My webMethods Server clustering, environment variables, memory, proxies, and users.

### **Increased Scalability of My webMethods Server Clusters**

My webMethods Server now provides the ability to use Universal Messaging to handle state synchronization between cluster nodes. This allows much greater horizontal scalability than was achieved with the previous database-based mechanism.

---

## **Software AG Command Central**

### **Additional Product Configuration**

Software AG Command Central now supports the following additional configuration for webMethods products:

#### *webMethods Business Rules*

- License key

#### *webMethods Integration Server*

- Clustering
- Memory
- Proxy
- Users
- Web service endpoints
- wmPublic pub.file service permissions

#### *webMethods Monitor*

- My webMethods Server endpoint

### *My webMethods Server*

- Clustering
- Environment variables
- Memory
- Proxy
- Users

### *webMethods Universal Messaging*

- Clustering
- Memory
- Users

### **Universal Messaging Log File Access**

Command Central now provides access to Universal Messaging log files. These log files can be viewed, searched, and downloaded centrally from the Command Central web user interface or by using command line tools.

### **Job Viewer**

Command Central uses background jobs to perform various actions. The Command Central web user interface now provides the ability to view active and recently completed jobs.

### **Platform Manager Bootstrap**

Installing products using Command Central requires the target machine to have Platform Manager installed. Platform Manager can now be remotely installed from Command Central as part of the process of adding a new installation to the landscape. If the target machine has SSH enabled, Command Central can perform the installation remotely. Otherwise, Command Central provides easy commands that can be copied to a command line on the target machine to perform the installation locally.

### **Fix Installation (Command Line Interface Only)**

Command Central now provides the ability to install fixes on any installation managed by Command Central. This can be done using simple command line tools for browsing fixes, accessing readme files, and installing or uninstalling fixes.

### **Out-of-the-Box Templates for Typical Installations**

Command Central offers several out-of-the-box templates when template-based provisioning is used to set up new installations. These templates assist with typical installations of Integration Server, Universal Messaging, My webMethods Server, webMethods Broker, and Terracotta.

## Custom Attributes for Components

Custom key/value pairs can now be associated with components (instances) in Command Central. These key/value pairs can be used to tag instances with useful metadata, such as geographic locations and project names.

Attributes can be used with the command line tools to perform actions such as start/stop on multiple instances at once.

*Note: Although attribute values can be viewed and edited in the Command Central web user interface, using them to perform operations is currently only possible from the command line tools.*

---

## Software AG Designer

### Enhanced About Page

The About Software AG Designer page has been enhanced to display clear information about the installed products, organized in tabs according to the provider.

The Software AG tab displays all installed Software AG products by name, including version and fix number if a fix has been applied. In addition, the button tooltips display the Eclipse feature(s) related to a particular product.

### Support for Mac OS X

Software AG Designer and specific plug-ins, including the Service Development and Mobile Development plug-ins, are now supported on Mac OS X versions 10.8 and 10.9.

---

## Software AG Installer

### Ability to Create Images for Multiple Operating Systems from a Single Script

A special type of script can now be created that provides the ability to generate images for multiple operating systems. The script differs from regular scripts in that, each time the script is run to generate an image, the installer connects to Empower and downloads the latest releases of the product at that point in time into the image.

### Save Preferences

After the installer is run, any proxy settings and the last installation directory specified are now saved for the next run of the installer.

---

## Software AG MashZone

### **New License Model**

Previous versions of Software AG MashZone primarily used a named user model. MashZone now includes support for both a named user model and the concurrent licensing model.

### **SSO Plug-in Support**

Additional support for SSO has been added in MashZone. For details about how to implement plug-ins to various SSO systems, see the ARIS documentation.

### **Additional Database Support**

MashZone now supports Oracle 12c and Microsoft SQL Server 2012.

---

## Software AG Presto

### **New Licensing Process**

Software AG Presto customers will now need to install both a Presto and a Universal Messaging license when downloading and installing Presto. The product has a default 30-day license if the necessary license keys have not been obtained at the time of installation.

### **New Connectors for Apama and Terracotta**

Apama events can now be directly consumed in Presto. After the Apama server is registered in the Presto admin console, messages will show as mashables in Presto. Additionally, the endpoint of a Terracotta Server Array can be registered to dynamically discover caches in BigMemory.

### **Shared Sign-On with My webMethods**

Presto dashboards can be embedded in My webMethods, preventing the need to sign on twice. This feature can be seen in action when the full BPM suite is used.

### **Performance Enhancements**

Query time for some queries in Presto has been reduced by more than 90 percent. In addition, the Enterprise Saxon parsing libraries have been added to Presto, which eliminates several bugs in EMMML and boosts performance.

### **Localization Support**

A new box on the log-in page provides the ability to set a language preference. English is the only available language in this release.

## **Presto Analytics Updates**

Presto's RAQL analytics query language now supports cross data set functions. Note that some RAQL queries may not be backward compatible as a result of the syntax changes.

## **Dashboarding Enhancements**

A new Line Chart has been added to Mashboard to facilitate the easy configuration of event data received by the Presto server.

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# **Software AG Process Performance Manager**

## **Data Analytics**

It is now possible to use percentiles and standard deviation in data analytics realms. In addition, data analytics realms can now be persisted in the backend database.

## **Process Analytics**

Software AG Process Performance Manager now provides a scheduling capability for automating import jobs. This functionality can be accessed in the Customizing Toolkit. Process Performance Manager now also offers a mechanism allowing for simple transfer of import customizations between PPM instances, for example from DEV to TEST environments.

---

# **Software AG Runtime**

Several new security services and capabilities were added to the Security Infrastructure (SIN) of the Software AG Common Platform in this release. Products that run on the Common Platform can take advantage of the following enhancements:

- The way in which group names are resolved during LDAP authentication is more flexible. Incomplete user or group names (for example, a DN without a group, or a group without a user) are now permitted, and recursive searches can now be conducted upward as well as downward.
- Queries can be submitted to LDAP without the use of a password if the queries are submitted by a technical user. However, user and group information is fetched on behalf of the end user, not the technical user, and any permission restrictions imposed on the end user are respected when the request is made.
- The CentraSite and Command Central internal user stores can now be managed through Command Central.

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## webMethods ActiveTransfer Server

### Asset Creation Using Services

webMethods ActiveTransfer now provides services to programmatically create all assets, including virtual folders, ports, post-processing events, scheduled events, and users.

### Extensions to the Execute Event Service for Easier Programmatic Execution of Events

ActiveTransfer now provides options to pass a variety of parameters, including source file name, source location, target file name, and target location, directly when invoking the *executeEvent* service. This avoids the need to create multiple events, especially when transferring files between a large number of source and target file systems.

### Filter Files Using Regular Expressions in Actions

ActiveTransfer now provides the ability to filter files using regular expressions based on filename, folder name, and protocol used for file transfers.

### Flexible Processing of Actions in Post-Processing and Scheduled Events

ActiveTransfer provides additional flexibility during the processing of actions defined in post-processing and scheduled events. The output from an Integration Server service action can be used as input to actions that follow.

### Improved Auditing of Event Actions and File Transfers

ActiveTransfer now provides a complete audit trail of all event actions executed as part of post-processing or scheduled events. The audit trail details are tracked as activities and can be searched in the Event Log screen to diagnose any problem areas. All file transfers (internal and external) initiated directly through post-processing and scheduled events can also be directly tracked using the File Transactions monitoring screen.

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## webMethods API-Portal

webMethods API-Portal is a web-based, self-service portal that enables an organization to securely expose APIs to external developers, partners, and other consumers for use in building their own apps on their desired platforms.

API-Portal is a new offering from Software AG and is designed to integrate with, and complement, your CentraSite, webMethods Mediator, and webMethods Enterprise Gateway components. Adding API-Portal to an organization's webMethods stack helps the organization support its "Open API" initiatives while leveraging its current investments.



## **Self-Service Portal**

API-Portal provides a consumer-centric UI for the discovery of REST and SOAP APIs. Consumers can quickly find the APIs they need using a simple keyword search. Alternatively, the API Gallery provides a list of all APIs that are currently available, grouped according to the published information.

Discovery of APIs is generally allowed anonymously (guest access). Consumers who are interested in using an API are then onboarded.

## **Highly Customizable User Interface**

API-Portal provides a highly configurable user interface that enables providers to customize and brand the portal in accordance with their company's corporate identity. Providers can implement their own branding (logos, skins, corporate colors and fonts, and more); change layouts for the portal landing page, API gallery, and API details pages; and even customize the privacy and usage terms of their branded portal.

API-Portal includes a demo tenant, SAGTours, which illustrates how API-Portal can be rebranded and customized.

## **Portal Usage Analytics**

For API providers, using the statistics that API-Portal collects helps organizations understand where their visitors are coming from, what pages gather the most interest, which APIs are popular, and which ones aren't. This information can be used to derive actions to improve the portal web experience and increase API adoption by developers. Two included dashboards (Global and User) provide usage information such as page views (by registered users versus anonymous) for a period of time, geographic distribution of users, and bounce rate (that is, hitting the landing page but not going deeper in the site).

## **Integrated REST API Testing**

Using the provided code samples with their expected error/return codes and descriptions, developers can easily try out APIs they are interested in directly from within API-Portal and see first-hand how the API behaves. For example, developers can try test invocations with different input parameters and see the results.

When testing an API, developers can evaluate parameter types (Path, Query, and Header) and authentication methods (basic authentication, API key, OAuth2 credentials, or no authentication).

To see what an input message will look like, developers can test the input of request bodies to be sent to an API. If the REST definition contains sample messages in CentraSite, the first sample will be shown to give the consumer an idea of what an input message should look like.

## **Community Forum**

A collaborative community environment in API-Portal allows API consumers to rate APIs and contribute to open discussions with other developers.

- API consumers can comment on and rate certain APIs and can read the comments and ratings of other users for that API.
- API consumers can receive administration messages about events.
- API providers can provide information about a certain API.

- Administrators can announce administration events.
- Administrators can moderate API streams.
- Coordinators (defined during group creation) can moderate the global administration group.

### **Provision of Access Tokens for API Usage**

API-Portal integrates with capabilities in CentraSite and Mediator for access token provisioning (API keys and OAuth2 tokens) to allow consumers to request access tokens for consuming APIs in API-Portal.

API providers can decide, based on how they configure the APIs in CentraSite, whether approval is required before a consumer is given access to the API.

Approval workflows in CentraSite allow the provider to individually approve access token requests that developers submit from API-Portal. Access tokens are automatically provisioned to the webMethods gateway infrastructure.

### **Integration with CentraSite**

API-Portal is tightly integrated with CentraSite, allowing publication of rich metadata about SOAP and REST APIs from CentraSite to API-Portal.

## **webMethods BPMS**

### **Business Console**

webMethods Business Console provides dashboard functionality for business processes and tasks. Launched using My webMethods and built on the responsive web design framework, the Business Console user interface provides an optimal viewing experience on tablets.

Business Console provides the ability to do the following:

- Monitor and manage business processes and tasks in real time using a web browser.
- Manage task assignment and execution.
- Collaborate task execution and improve business processes.
- Identify user skills and endorse users for their skills.
- Network with task experts.
- View or perform context-based recommendations from task experts.
- View trending information related to business processes on social media.
- Change the Integration Server and webMethods Task Engine instances to which Business Console connects.
- Program user skill management.
- Manage task lists and view task details using an improved user interface.

Features available in Business Console are controlled by the functional privileges assigned to the user.

## Process Engine

The following enhancements were made for Process Engine:

- **Process resubmission.** Process resubmission has been improved to make this task more intuitive and consistent. Process instance resubmission is now more useful as a means to correct unhandled failures, and execution semantics are more intuitive without the need to set various switches and options.
- **Independent process audit.** A new internal process auditing feature will handle all process auditing tasks, including situations in which Integration Server is experiencing a problem or the database is unavailable. In previous releases, auditing was handled by the Integration Server shared audit subsystem.

## Task Engine

The following enhancements were made for Task Engine:

- **JMS scaling.** JMS message handling has been improved to assist in Task Engine scalability, including replacement of the RDBMS implementation of JMS with Universal Messaging. Advantages of this feature are that it 1) eliminates the top three RDBMS calls made by My webMethods Server to Task Engine, 2) replaces the previous Software AG proprietary JMS implementation, 3) eliminates “Task Out of Date” messages from Task Engine, and 4) adopts Terracotta as part of the standard webMethods clustering solution.
- **Reference architecture and implementation for scalable and high-performance task searches.** Task Engine can now search external data sources, enabling rapid, optimized searches over large amounts of extracted task data.
- **Ability to emit EDA events.** Task Engine can now act as an event source to enable consumers, such as business rules, CEP, and MashZone dashboards, to consume and act on task events. Task Engine emits all intrinsic (generic) events, such as start, update, and assign, which consumers can decide how to subscribe to and use.

## Closed Loop Analytics

The following enhancements are introduced with Closed Loop Analytics:

- **Goals, milestones, and stage creation and analysis.** BPMS provides capabilities to create goals, stages, and milestones for processes. These can be created and edited from both Software AG Designer and the webMethods Monitor web interface. On the process execution side, Monitor provides new visualization for viewing the stage and goal progression of the process.
- **Dashboards.** BPMS provides dashboards for processes and stages, displaying information such as cycle times and alarms for stage breaches. The dashboards are available in Business Console. The dashboards seamlessly navigate to instance-level information in Monitor. Administrators can then take escalation actions by executing an out-of-the-box escalation process.
- **Escalation action and action framework.** The Closed Loop Analytics feature of the webMethods product suite offers the ability to trigger an escalation process when an error or other supported event occurs. Within this escalation process, a task can be created and assigned to one or more My webMethods Server users, enabling those users to take action in response to the escalated event.

As an action framework, Closed Loop Analytics provides a predefined business rule that can be triggered by an escalation event to start an escalation process. The predefined rule can be used as is, or it can be replaced with a custom rule and action.

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## **webMethods Broker**

### **Migration Utility**

webMethods Broker offers a new command line utility to migrate JNDI assets and JMS assets, such as JMS queues and topics, from Broker to webMethods Universal Messaging. This migration utility provides the ability to move most of an organization's assets automatically.

### **Improvements for Default Settings**

The default values for settings such as cache, storage file size, parallel channels, and file settings have been adjusted to reflect customers' current common settings.

### **Monitor Authentication**

Broker Monitor now connects to Broker Server only after Broker Server authenticates the requesting Broker Monitor, thus providing additional security for Broker Server.

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## **webMethods Business Rules**

### **“In Effect” Dates and Times for Rules**

The Rules Management Console now offers the ability to specify the date and time that a rule or a decision table should be in effect.

### **Smart Cut, Copy, and Paste in Rules Designer**

When editing decision tables in Designer, users can now use the new cut, copy, and paste function to copy cells, columns, and lines and either paste them within the same decision table or into another decision table. When pasting the cells, Designer automatically identifies the compatibility of the action and adjusts the data types, if necessary.

### **Rule Verification Enhancements**

Rule verification now also includes redundancies and missing rules. A redundancy warning is reported if parts of one rule, rules of one decision table, or rules of several decision tables within one rule set are dispensable. A missing rule warning is reported if a probable combination of conditions is not explicitly tested in a decision entity or a rule set.

### **Filter for Decision Table Columns**

The Rules Management Console now offers the ability to filter columns in decision tables in order to better focus on the columns of interest.

## **Rule Reordering**

The Rules Management Console provides the ability to change the order of the rules in a (sequential) decision table.

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## **webMethods CloudStreams**

### **Complex Query Support in the Salesforce Partner SOAP API Connector**

The webMethods CloudStreams cloud connector service wizard has been enhanced to provide support for complex queries with relationships.

### **Community-Based Connectors**

CloudStreams connectors are available for download from the Software AG “TECHCommunity” website, located at:

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/cloudstreams/downloads/>

### **Support for Editing Connection Alias Parameter for a Cloud Connector Service**

CloudStreams supports the ability to change the connection alias parameter for a pre-built cloud connector service.

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## **webMethods EDA Enablement**

### **Extensions to NERV Functionality**

NERV has been extended to support event and event schema parsing, as well as resolution of component schemas in the Event Type Store. The EDA Orchestrator, where this functionality was previously available, has been removed.

### **Deployment of Custom Endpoint Binary Bundles and Endpoint Instances**

Custom endpoint binary bundles can now be deployed separately from endpoint instance bundles or the routes that use them. The respective endpoint instance bundles and routes can then be deployed later.

---

## **webMethods Enterprise Gateway**

### **Mobile Data Synchronization Enhancements**

The Mobile Data Synchronization framework allows developers to quickly author offline mobile applications using the capabilities of this framework. This framework has been enhanced to provide support for the following additional mobile data synchronization scenarios:

- webMethods Mobile Support now enables developers to author a simple mobile sync component for use cases where the mobile sync component has direct access to the backend data and does not need to store backend data in the sync store.
- Mobile Support now works with Integration Server clustering.
- Developers can now author a mobile sync component that can take input from the mobile application and run user-specific queries against the backend data.

### **Support for Running Mixed Enterprise Gateway and Integration Server Environments**

The dependency and tight coupling between webMethods Enterprise Gateway and webMethods Integration Server versions have been removed. Enterprise Gateway and Integration Server versions can now be mixed and matched, beginning with Enterprise Gateway 9.7. Enterprise Gateway 9.7 is certified to work with all Integration Server versions starting from version 9.5.1.

### **Support for Preventing SQL Injection Attacks**

SQL injection is one of the most common attacks carried out on APIs exposed over the Internet. Enterprise Gateway now supports the use of a SQL injection filter. With this filter, Enterprise Gateway can check incoming request parameters and payload against a list of known database-specific SQL injection rules or standard SQL injection rules. If the SQL injection filter identifies an offending request, Enterprise Gateway can be configured to reject such requests and alert the administrator.

### **Support for Integration with External Virus Scanning Tools**

Enterprise Gateway supports integration with external virus scanning tools using the ICAP protocol. The antivirus scan filter in Enterprise Gateway can perform a virus scan on incoming request payloads by integrating with a known virus scanning tool. If the request payload contains malicious content, Enterprise Gateway can be configured to reject the request and alert the administrator.

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## webMethods EntireX

### COBOL Enhancements

This release of webMethods EntireX includes the following enhancements for COBOL:

- **COBOL Mapping Editor.** The COBOL Mapping Editor has been redesigned with a workflow-oriented user interface and the look and feel of the Natural Mapping Editor. Extracting the COBOL interface and designing a single or multiple IDL interfaces is now accomplished on one screen, which means that both sides of the extraction (COBOL side and IDL side) can be controlled at any time. The new function COBOL > Modify Interface and COBOL > Extract further Interface, in the extended context menu of the IDL file, provides the ability to refine the extractions so that work can be paused and continued later. Many other improvements have been made, including the ability to switch COBOL programs, find text in COBOL source, set constants for level-88 fields, and specify IDL name prefix for FILLER.
- **Long numeric data types.** The maximum number of digits for IDL data types N, NU, P, and PU has been increased. The concrete length depends on the maximum supported by both endpoints.
- **Client-side server mapping.** Server mapping can now be deployed on the client side, whereas in previous releases server mapping was only permitted on the server side. In many cases, client-side server mapping is much more convenient.

### EntireX Adapter for IS Enhancements

This release includes the following enhancements for EntireX Adapter for IS:

- **Selective extraction from IDL.** The EntireX Workbench IDL Extractor for Integration Server previously extracted an IDL file for all services of an Integration Server package. A new built-in service now provides the ability to extract an IDL file only for specified Integration Server services. The new built-in service is available in the WmEntireX package.
- **Support for security exits.** Adapter services for RPC connections now support user-written security exits.

### Application Monitoring

Application Monitoring is an EntireX feature that provides the ability to monitor the response times in distributed applications and to monitor certain error situations. The EntireX Application Monitoring Data Collector collects the response time data of each involved software component of selected synchronous EntireX RPC services. The Application Monitoring Data Collector stores the KPI values in CSV (comma-separated values) files that can be processed by any tool that supports CSV files. A sample MashApp is also provided.

### Infrastructure Monitoring with Command-Line Scripts

EntireX has been enhanced with a set of Windows command-line scripts for common administration tasks that simplify everyday work. These scripts provide the ability to do the following:

- Show details of a specified or default broker and the active external services registered to it.

- Monitor, at a specified interval, the standard broker, registered services, and clients that call the broker. The output is written to a CSV file.
- Check whether all brokers and services of a defined application are active. Checks are performed to determine whether a specified service is registered with the broker, and an RPC ping command is used to verify that a specified server can be called.

### **EntireX Broker Support for 64-Bit Addressing Mode**

EntireX Broker under z/OS now runs in 64-bit addressing mode (AMODE). Earlier versions ran in 31-bit mode, which meant that up to 2 GB of storage locations could be addressed—a limit referred to as “the bar.” The 64-bit mode raises EntireX Broker above the bar so that up to 16 EB (exabytes) can be addressed. This increase in capacity provides the ability to send and receive an almost unlimited number of messages. The maximum size of a single message is still limited to 2 GB.

With the exception of the PSTORE-VERSION attribute, the attribute file can remain unchanged for the 64-bit Broker.

All user exits for conversion and translation run unchanged in 31-bit mode. However, if an organization has written custom security exits, these exits must be 64-bit-enabled.

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## **webMethods Integration Cloud**

webMethods Integration Cloud is a new offering from Software AG. A cloud application hosted and operated by Software AG, Integration Cloud allows subscribers to connect to and configure integrations between cloud applications (for example, Salesforce.com and ServiceNow) and on-premises applications (for example, SAP).

### **Multi-Tenant Hosted Cloud Service**

Integration Cloud is a multi-tenant cloud service. Multiple tenants develop integration flows using a shared, web-based user interface built on the responsive web design framework. The tenants also share the development execution instance with other tenants. Each tenant receives a separate production execution environment that provides complete separation between each tenant’s services and data. The tenant does not need to know the IP address of the execution instance because the intelligent routing layer in Integration Cloud routes the tenant’s request to the correct execution instance.

### **Tenant Registration and User Management**

Tenant registration and self-service (user and access profile management) is a key capability of Integration Cloud. Tenants can register with the Integration Cloud service using the public website. Once the tenant account is provisioned, the tenant administrator can log in to the Integration Cloud website and create additional users and access profiles. Administrators can use roles to restrict user access to Integration Cloud features. Integration Cloud permits new users to register for free and provides a one-month subscription to test drive the features of the service.



## **Application Management**

Integration Cloud provides out-of-the-box connectivity to various SaaS applications, such as Salesforce, ServiceNow, and Strikelron. These application connectors, along with prebuilt operations, are loaded into Integration Cloud and are available for tenant reuse. Tenants can create accounts and additional operations for each application. The application management area also displays on-premises applications, accounts, and operations.

## **Stage Management**

Newly registered tenants receive access to a single development environment, called a “stage” in Integration Cloud terminology. Tenants can create up to four stages (environments) depending on their license. Tenants can promote integration flows and accounts from one stage to another. Stages allow tenants to implement a rigorous software development lifecycle process in the cloud.

## **Responsive Browser-Based User Interface for Citizen Developers**

Integration Cloud features a user interface that is built on the responsive web design framework and created purposely for citizen developers. This interface can be accessed using any modern web browser and supports guided development using wizards for creating integration flows and both cloud and SaaS operations. Because the interface is built using standards-based HTML5, it is also accessible from an iPad and other mobile devices.

## **Support for Mapping, Transformation, and Enrichment**

Mapping, transformation, and enrichment are strengths of the on-premises webMethods integration platform. This functionality is now available to all Integration Cloud users. Integration Cloud provides out-of-the-box support for transformers, which includes drag-and-drop transformation and mapping capability. In addition, citizen developers can call cloud and SaaS operations for transformation and enrichment.

## **On-Premises Connectivity**

Integration Cloud customers can connect their on-premises Integration Server infrastructure with their Integration Cloud instance to support integration scenarios between cloud and on-premises applications. Administrators can define on-premises applications, operations, and accounts using the Integration Server Administrator interface. These definitions (metadata from on-premises services) can then be uploaded to Integration Cloud where they are used to build cloud to on-premises integration flows. Connectivity between on-premises Integration Server and Integration Cloud is made secure by the Universal Messaging layer, which initiates the connection from the on-premises Integration Server to the Integration Cloud, thereby removing the need to open firewall ports on premises.

## **Seamless Operations**

Integration Cloud is fully managed and operated by Software AG. Integration Cloud provides the ability to do the following:

- Search audit logs to get detailed information regarding the execution of various integration flows.
- Search for failures and identify potential causes so they can be corrected.

- Schedule the execution of various integration flows or execute integration flows on demand.
- 

## **webMethods Integration Server**

### **NTLM Token Support**

The NTLM (Windows NT LAN Manager) authentication support in webMethods Integration Server allows consumer services hosted in Integration Server to access services that support NTLM authentication. This is particularly useful for accessing .NET services hosted on the Windows platform.

### **Connectivity with webMethods Integration Cloud**

webMethods Integration Cloud is Software AG's new integration platform as a service (iPaaS) offering. Integration Cloud customers can connect their on-premises Integration Server infrastructure with their Integration Cloud instance. To achieve this, Integration Server now provides built-in functionality to connect and share on-premises metadata with the customer's instance running on Integration Cloud. With this feature, administrators can set up an account with Integration Cloud and then define applications by selecting on-premises services. These application definitions can be shared with the Integration Cloud instance.

### **Enhancements for Assigning User-Defined Prefixes during Creation of Web Service Descriptors**

When consumer or provider Web service descriptors are created from WSDL documents, Integration Server provides support for specifying user-defined namespace prefixes to be used instead of the prefixes in the XML Schema definitions associated with the WSDL document.

### **Additional Integration Server Configuration Using Software AG Command Central**

Administrators use Command Central to centrally manage and monitor their webMethods environment. With this release, administrators can centrally configure additional Integration Server features using Command Central. The exact configuration parameters supported in this release can be found in the Command Central release notes.

### **Display of Installed Security Providers on the Integration Server "About" Screen**

Integration Server displays the installed security providers on the Integration Server Administrator "About" screen.

### **Universal Messaging Support Added for Duplicate Detection for webMethods Messaging Triggers**

webMethods Messaging triggers subscribing to document types configured to use webMethods Universal Messaging as their messaging provider can now be configured for duplicate detection using redelivery count, document history database, and document resolver services.

## **Enhancements to Provider-Side Filtering when Using Universal Messaging as the Messaging Provider**

When Universal Messaging is the webMethods messaging provider, webMethods messaging triggers that receive documents from Universal Messaging can save a filter for the contents of the message body. Previously, filters saved on the provider were applied only to the message properties header. Now, Universal Messaging can filter the contents of the properties header and the body of the message. By creating provider filters for the body as well as the header of the document, triggers can be more selective about which documents they receive.

## **Universal Messaging Support for Request/Reply Services**

The following request/reply services in the WmPublic package can now be used when Universal Messaging is the messaging provider:

- pub.publish:publishAndWait
- pub.publish:reply
- pub.publish:waitForReply

## **WmPKI Package Deprecation**

The WmPKI package has been deprecated.

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# **webMethods Mediator**

## **Run-Time Aliases**

webMethods Mediator now supports the use of replacement tokens (aliases) for defining the properties of endpoints and routing targets that are automatically resolved during deployment. This simplifies deployment of virtualized services to multiple stages.

## **EDA Enablement**

Mediator can now fully leverage EDA/NERV for communication of run-time events and metrics to other webMethods suite products.

## **Support for REST API Enhancements**

Mediator supports the extended metadata model of virtual REST APIs to allow virtual REST services with multiple and nested resources.

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## **webMethods Mobile Administrator**

### **Detailed Push Notification Delivery Log**

webMethods Mobile Administrator displays a list of recently submitted push notifications for each application, with delivery and error details that facilitate the debugging of push notifications.

### **Log Files and Maintenance Tasks Available in the Web User Interface**

In the maintenance menu, a list of processes related to Mobile Administrator is available to verify that all parts are operating correctly. In addition, server logs can be viewed and downloaded from the web user interface and used to debug API requests and overall function of the server.

### **Mobile Administrator Included in Software AG Installer**

Mobile Administrator can now be found in the Mobile section of the Software AG Installer. The installer copies Mobile Administrator setup files to the specified target directory

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## **webMethods Mobile Designer**

### **Windows 8 Support**

The entire Mobile Suite, including webMethods Mobile Designer, now supports the development of applications that run on Windows 8 for x86-based tablets, in addition to the existing support for Windows RT for ARM-based tablets. As in Windows RT, only Metro or Windows Store applications are supported. Desktop applications are not supported.

### **Logging API**

Mobile Designer now supports local logging to the device console, depending on the target operating system. Mobile Designer provides a `java.util.logging` API that is based on the Java Logging API standard. The `java.util.logging` package that Mobile Designer provides contains classes and interfaces that are based on the Connected Limited Device Configuration (CLDC) 8 standard.

### **Support for the HTTP PUT and DELETE Methods**

Previous releases of Mobile Designer supported the use of the HTTP methods GET and POST. The `HttpConnectionHandler` class has been extended to allow for the use of the PUT and DELETE methods as well.

### **JSON/Base64 Library Included with Mobile Designer**

Base64 and JSON libraries have been added to Mobile Designer, making it unnecessary to directly include them in mobile application projects.

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## webMethods Mobile Development

### Palette for "Drag and Drop" Application Development

In Software AG Designer, the Mobile Development perspective now includes a palette in the Outline Editor (application model) that can be used to drag and drop controls, components, and predefined templates onto the application model. The palette, which currently has seven categories, can be collapsed and expanded.

Some palette entries display wizards when palette items are dropped onto the outline. The wizards provide the ability to easily create complex structures of controls or to customize controls. Sets of controls are typically created as a new subtree in the application outline.

### Data Sources, Bindings, and Transformations

Support was added for global data sources that are available across multiple views. Data sources are managed in the Application Controller implementation of the mobile application project. Additionally, data bindings and data transformations make the use of data sources much more powerful.

### OPL/Task Client Support

A new Task Client palette entry provides the ability to add Task Client services to an application. The created resources use webMethods Task Engine RESTful web services.

### SyncComponent (Offline Data Synchronization Integration of Mobile Support)

The Mobile Support SyncComponent was added to the palette to support offline work with data. SyncComponent can be configured by using the application model and provides a continuous connection to a specific Integration Server. SyncComponent synchronizes local and remote data after a configurable update interval and is implemented on top of the Mobile Support package. Local data is stored on the device through the use of a SQLite database.

### Web Service Support

The palette allows the addition of WSDL files to the application model. Mobile Development and Mobile Designer automatically generate Java code to access this web service (similar to wscompile).

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## webMethods OneData

### New User Interface Preview

This release of webMethods OneData provides a preview of the next-generation user interface for browsing data in the Advanced Parent-Child level hierarchy. The preview functionality provides the ability to view, sort, paginate, and filter the data.

## **Data Quality Functionality Enhancements**

OneData now includes a configuration screen that provides the ability to create data matching rules, set priorities for rule execution, and configure and maintain rule-project relations when using the internal matching engine. It is now possible to have multiple matching rules assigned to one consolidation object.

## **SQL Server Support**

As of version 9.0 SP1, SQL Server can be used as a OneData repository, with limitations as indicated in the webMethods Product Suite Release Notes for versions 9.0 SP1, 9.5, and 9.6. The following limitations from previous versions have been addressed in OneData 9.7:

- The Network Recursive Hierarchy now also permits auxiliary data management functionality, hooks execution, and use of the supertype–subtype construct.
- It is now possible to create and use Process Flow interactive hooks.
- A Conceptual Object export job is now available.
- Time-bound and Archive Snapshot objects are now supported.

## **Hooks Scheduling**

In addition to post-action or pre-action hooks and on-demand manual triggering of hooks, OneData now provides the ability to define schedules for hooks execution using the Job Center.

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# **webMethods Optimize for Infrastructure**

## **Terracotta Monitoring**

webMethods Optimize for Infrastructure can now monitor Terracotta installations by monitoring and exposing the Terracotta CMP API. This feature provides the ability to obtain a baseline of overall Terracotta performance and observe when behavior is abnormal or hits specific usage characteristics.

## **Integration Server Monitoring of JDBC Pools**

Optimize for Infrastructure has further enhanced its Integration Server monitoring capabilities by adding the ability to monitor JDBC pools.

## **Integration Server Delta KPIs**

New KPIs were added to calculate the change between the last and the current readings.

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## **webMethods Optimize for Process**

### **Enhanced Process Tracker Scalability**

Process Tracker load management has been enhanced to substantially improve throughput. As a result, Process Tracker can now process more than one million process control operations per hour.

### **New APIs for Gaining Access to Optimize Information**

APIs were added to webMethods Optimize for Process to allow programmatic access to Optimize information. These APIs include the following:

- Open Count for Time
- Open Process Count for Time Range
- Process Errors
- Process Metrics Data
- Process Model List
- Process Steps for Model
- Stage Cycle Time
- Stage Definitions
- Stage Errors
- Stage Instances
- Stage Instances For Process Instance
- Stage Volumes (stages are a grouping of process steps)
- Step Instances

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## **webMethods Service Development**

### **Mac OS X Support**

webMethods Service Development is now supported on Mac OS X versions 10.8 and 10.9.

### **Usability Improvements**

The following usability improvements were added:

- A new Comments tab provides the ability to enter instructions on the usage of an element, descriptive comments, or notes.

- New keyboard shortcuts provide the ability to navigate the Service Development perspective and perform actions such as locate and open elements, run services, and collapse or expand tree structures.
- A new option provides the ability to configure Designer to show or hide the “No input” dialog box when Designer runs a service that does not have input parameters.
- The Service Development perspective is redesigned so that views that are unrelated to service development, such as Bookmarks, Task, Outline, and Problems, are not displayed by default.
- A new Open Integration Server Element dialog box provides the ability to quickly search for an element on Integration Server.

### **Run/Debug Preferences**

A new run/debug preferences page contains a Flow Annotation Types preference that can be used to configure how a selected annotation appears in flow steps.

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## **webMethods Trading Networks**

### **B2B Analytics**

webMethods Trading Networks provides a variety of charts and dashboards for performing deep targeted analysis on Trading Networks partner transactions. These charts and dashboards provide an excellent snapshot of current transaction volume trends that indicate top-tier and bottom-tier partners based on business activity. The charts provide the ability to drill down to gain additional insight into the underlying data. The data in any of these charts and dashboards can be exported to CSV files.

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## **webMethods Universal Messaging**

### **C++ Client Improvements**

New features have been added to the existing C++ client for webMethods Universal Messaging to make the client more robust and improve its performance.

### **Brokerless API Renamed to umTransport API and Supported in C++**

The existing Brokerless API for lightweight client–client communication has been renamed to umTransport API.

This umTransport API is now available for C++ clients, in addition to the existing support for Java clients. The C++ does not presently support asynchronous communication between clients and only supports TCP sockets and TCP secure sockets as a communication transport.



## Performance Improvements

The following enhancements were made to improve performance:

- New Paged channel types provide the ability to use high-speed, off-heap memory that stores events in persisted memory mapped files. This new channel type increases performance over other persisted channel types.
- JavaScript drivers have benefited from various performance improvements.
- When joining channels, it is now possible to manage the interest within the channels for sending and receiving events as part of the join. This can reduce the amount of bandwidth used by only forwarding events from channels where there are subscribers to a channel of the same name on the remote realm or cluster.

## Protocol Buffers Administration API

A new Java API provides the ability to manage the Protocol Buffer (Protobuf) configuration on the server. Integration Server uses this API to synchronize document types and support server-side filtering.

## ninstancemanager Command Line Tool No Longer Installed within the Default Instance

The ninstancemanager tool is now installed separately from the default instance during installation. This provides more flexibility during installation and removes the dependency that the initial default instance must always be present.

## Additional Support for Universal Messaging in Command Central

The following Universal Messaging administration tasks can now be performed in Command Central:

- User management
- Cluster configuration
- Memory configuration settings
- Log file access

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## Documentation

### Cross-Component Documentation

The product readme sections for Fixes; Other Resolved Issues; Documentation and Terminology Changes; and Added, Removed, Deprecated, or Changed Items, BIS, Parameters, and APIs have been made cumulative to make upgrading easier. Specifically, these sections now include information for release 9.6 as well as 9.7. In future releases, the relevant information will continue to be added to these sections in the readmes to continue this ease-of-use improvement.

## ActiveTransfer

In the PDF publication *Managing File Transfers with webMethods ActiveTransfer*, the contents of Appendix A, Built-In Services, and Chapter 14, Using the Web Client, were moved to separate PDF publications. The new PDF publications are as follows:

- The *webMethods ActiveTransfer Built-In Services Reference* PDF publication covers the public APIs that were available in the 9.6 release, as well as the new asset management APIs and the document types referred to by these new APIs.
- The *webMethods ActiveTransfer Web Client User's Guide* PDF publication contains information to assist end users in using the ActiveTransfer web client.

## Business Console

A new PDF publication, *Working with webMethods Business Console*, describes how to use Business Console to administer and manage business processes. This guide is for administrators and other users of Business Console.

## Command Central

The following changes were made to the Command Central documentation in this release:

- The webMethods Command Central online help is renamed to *Software AG Command Central Help*.
- The *Software AG Command Central Help* PDF publication replaces *webMethods Command Central Help* and *webMethods Command Central and Platform Manager Command Reference*.

## Composite Application Framework

Documentation for the following items has been removed from the CAF Development Help and added to the HTML-based publication *CAF Tag Library Reference*:

- User Interface Controls Reference
- Converters Reference
- Validators Reference
- CAF UI Controls Details Properties Reference

The *CAF Tag Library Reference* now provides information and attributes about all of the available CAF controls for both JSF 1.x and 2.x applications.

## Integration Cloud

The new context-sensitive *webMethods Integration Cloud Help* describes how to use Integration Cloud and its features.

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## Upgrade

### **Platform Manager Upgrade from 9.6 Automated**

Platform Manager data can now be automatically migrated through the use of the new Platform Manager migration utility.

### **Part of Infrastructure Upgrade from 9.0 Automated**

Some Infrastructure data can now be automatically migrated through the use of the Infrastructure migration utility.

### **Integration Server Migration Utility Enhanced to Migrate from Specific Instances**

The Integration Server migration utility now supports multi-instance functionality by offering the ability to migrate from specific 9.6 instances to specific 9.7 instances.

### **OneData Migration Utility Supports Use of Zip File**

A zip file of the old OneData installation can now be used as the source instead of having to copy the installation to the 9.7 machine. In addition, the OneData migration utility now automatically recognizes the source release number so the release number does not have to be supplied.

### **Infrastructure Data Collector Migration Utility Migrates All Data and Supports Use of Zip File**

The Infrastructure Data Collector migration utility now automatically migrates all product data. In addition, a zip file of the old Infrastructure Data Collector installation can now be used as the source instead of having to copy the installation to the 9.7 machine.

### **Universal Messaging Migration Utility Bundled with Universal Messaging Product**

The Universal Messaging migration utility now comes with the Universal Messaging product. The selection of a separate node on the Software AG Installer product selection tree is no longer needed to obtain the migration utility. (Note: The migration utility for migrating from webMethods Broker to Universal Messaging remains separate from the Universal Messaging product.)

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WEBM-RN-97-20141015b

# webMethods Product Suite 9.8

## Release Notes

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Release 9.8 of the webMethods product suite represents a significant step towards the establishment of Software AG's Digital Business Platform. In addition to expanding the webMethods cloud offerings, this major release improves developer productivity, supports key emerging standards, and makes business users more productive while also helping them make better decisions through improved analytics. Our goal with this release is to provide you with the agility to fully power your digital enterprise.

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## Release Highlights

### Integration

This release of the webMethods suite includes many integration enhancements. It includes advances in cloud integration, declarative template-based provisioning, ODATA support, hot deployment capabilities, advanced API management, and much more.

The key features include:

- webMethods Integration Cloud now enables the development of simple multi-step orchestration flows between any SaaS or on-premises applications, providing support for more complex integration patterns.
- webMethods Integration Server now supports the Salesforce Lightning Connect standard, which is based on OData. This new standard enables applications hosted on Force.com to easily connect and access data from external sources using a simple point-and-click model.
- webMethods Integration Server offers native support for OData version 2.0. Native OData version 2.0 support enables a REST-based protocol for CRUD-style operations (Create, Read, Update and Delete) against resources exposed as data service.
- Software AG Command Central allows provisioning of complex multi-server environments using declarative templates. Users can define environment-specific server mappings and configurations with the simplest possible set of configuration files.
- Software AG Command Central encrypts passwords in templates using a secure shared-secret. This allows passwords to be stored and applied without the risk of being compromised by anyone who has file system access to the templates.
- webMethods Integration Server provides support for the hot deployment of packages, allowing Integration Server administrators to quickly update packages without stopping the server.
- webMethods Universal Messaging now enables the configuration of Zones. Realm servers in the same Zone inform each other about local subscribers to channels/topics, so that other members of the Zone can forward messages to subscribers as needed.
- webMethods OneData's next generation user interface (New UI Preview) now includes new data detail views and advanced filtering.

- webMethods Application Platform now gives users the ability to develop and integrate application logic written in Java into the webMethods platform without proprietary webMethods APIs. Users can utilize popular Java development models (such as POJOs or Spring Beans) as the application logic, and can then run them directly within a webMethods runtime container, removing the need for a third-party application server.
- webMethods Trading Networks provides a variety of charts and dashboards for performing targeted deep analysis on partner transactions. It also features enhanced usability in a variety of areas, including improved keyword search of Trading Partner Agreements (TPAs).
- Terracotta monitoring in webMethods Optimize for Infrastructure includes support for SSL encryption in the discovery of Terracotta Server Arrays (TSAs), detailed Cache Manager and Cache monitoring, and delta readings to cumulative key performance indicators (KPIs).

## **Business Process Management**

The webMethods Business Process Management (BPM) Suite adds more capabilities to the Business Console to improve usability and customization while also providing businesses with the visibility and performance they need to improve decision making.

The key features include:

- Business Console displays user-aggregated data dashboards that allow process and stage level activity, along with better process administration.
- Monitor provides process predictions by showing the percentage of completion, estimating when a process might complete, and calculating the average cycle time for running instances.
- Monitor also features enhanced monitoring of individual instances of a dynamically referenced process.
- Open CAF provides a new approach to user interface development in My webMethods Server (MWS). It gives developers maximum flexibility in creating rich, interactive user interfaces, without being constrained to the proprietary webMethods Composite Application Framework (CAF) framework.
- webMethods Optimize for Infrastructure can now discover and monitor Presto servers.
- webMethods Deployer now allows users to roll back any previous deployment of webMethods Business Rules assets from a Rules Engine on Integration Server. It also allows users to browse and delete existing assets from a My webMethods Server.

## **API Management**

This release of webMethods API Management platform contains significant enhancements to CentraSite Mediator. This release also introduces API Cloud Managed Services, which provides hosting of API-Portal within webMethods Cloud, enabling customers to expose their APIs to internal users, third-party developers, and partners.

The key features include:

- Support for user onboarding that leverages existing social network accounts.
- Administrators can configure private API communities to which users can be assigned or invited.
- Administration user interface allows customization of portal page content as the first level of self-service.
- Individual tenant backup and restoration of API-Portal and collaboration.

## Cross-Suite Enhancements

webMethods product suite 9.8 provides several enhancements across various products. Listed here are a few highlights:

- webMethods 9.8 products support Java 8.
- webMethods 9.8 products support SQL Server 2014 for webMethods database schemas.
- webMethods suite 9.8 installation is supported on Red Hat Enterprise Server Linux version 7.
- Eclipse version for Software AG Designer and its plug-ins have been upgraded to version 4.4.

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For more details about the key additions and enhancements for this release, see the product descriptions.

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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](#).

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## Application Platform

### Develop Application Logic Using Standard Java Frameworks

Application Platform provides users the means to develop and integrate application logic written in Java into the webMethods platform without proprietary webMethods APIs. Also, users can now employ popular Java development models (such as POJOs or Spring Beans) as the application logic and run them in a webMethods runtime container. Consequently, there is no need for a third-party application server.

### Integrate with Integration Server Services

Application Platform services can benefit from bi-directional integration with Integration Server service, such as Flow service or adapter services.

- Use simple Java annotations to expose Application Platform services within Integration Server and make them callable from Flow services, triggers, or web service connectors.
- Automatically create Java class wrappers for Integration Server services to make them callable from the Application Platform service, without using Integration Server's proprietary client APIs.

### Deploy into the Same Container

Application Platform services run in the Integration Server container. Use Asset Build Environment and Deployer to build and deploy Application Platform services from one environment to another.



# CentraSite

## Importers for RAML and Swagger API Documentation Formats

The CentraSite Business user interface supports direct importing of REST APIs that are described through RAML and Swagger API documentation formats. CentraSite 9.8 supports RAML version 0.8 and Swagger version 2.0.

## Scheduled Report Execution

CentraSite provides default reports that API-Portal consumers can use to monitor their API usage for a specific duration. Reports can be scheduled on a regular basis (daily, weekly, monthly) to automatically generate and distribute reports to the e-mail addresses that API-Portal consumers provided during registration.

## Gateway Management in CentraSite Business UI

The unified concept of *Gateways* in CentraSite Business user interface replaces Target Management in CentraSite Control. Using gateways, CentraSite users can create Mediator and API-Portals instances in the Business user interface. Additionally, gateways provide a fine-grained security model that helps control which users can view and use gateways for publishing.

## Archive Import for Business User Interface

CentraSite Business user interface offers a new “Archive Import” option to import assets by importing the archive file (ZIP file) to which the assets were previously exported. The Create Asset Wizard provides access to this new feature.

## Retry Mechanism for API-Portal Communication

CentraSite provides a configurable retry mechanism that ensures the delivery of messages from CentraSite to API-Portal, and protects requests from transient failures that might occur while messages are being sent.

## Unified Publishing for API-Portal and Mediator

The CentraSite Business user interface unifies the previously available “Publish” and “Publish to API-Portal” actions used to publish an API to Mediator and API-Portal, respectively. These actions also support bulk operations in this release.

## Kerberos-based SSO

CentraSite supports Kerberos authentication for SSO.

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# FICO Blaze Advisor, FICO Compiled Sequential and FICO Decision Simulator

## Product Deprecation

FICO Blaze Advisor, FICO Compiled Sequential and FICO Decision Simulator have been deprecated.

## Removal of FICO Blaze Advisor

FICO Blaze Advisor has been removed due to missing Java 8 compliance.

---

## My webMethods Server

### OpenCAF

OpenCAF is a new approach to user interface development in My webMethods. OpenCAF gives developers maximum flexibility in creating rich, interactive user interfaces, without being constrained to the proprietary webMethods Composite Application Framework (CAF) framework.

Developers can import HTML, CSS, and JavaScript assets into their project and enrich them with CAF controls (for example, navigation). It provides the best of both worlds, allowing developers to use standard or custom-designed HTML/CSS templates to leverage their favorite JavaScript libraries and frameworks, while using enterprise capabilities (such as navigation, access control, clustering, integration) of My webMethods Server.

OpenCAF surfaces mainly in Software AG Designer with updated wizards for project creation.

### Concurrent Initial Startup

Previously, when configuring a cluster of newly installed My webMethods Servers, users had to start one instance and allow it to finish bootstrapping the database before starting additional nodes. This time-consuming process is now simplified with an automated installation of complex environments. Additional My webMethods Servers detect that bootstrapping is underway, and wait for it to complete automatically.

### Additional Software AG Command Central Support

The following My webMethods capabilities are now exposed through Software AG Command Central:

- Viewing, filtering, and download of log files.
- Configuration of endpoints for Monitor and Business Rules portlets.
- Creation and deletion of My webMethods Server instances from the command-line.

### webMethods Deployer Rollback of My webMethods Server assets

Users can roll back projects containing My webMethods Server assets to a previous state, if required.

## **Deletion of My webMethods Server Assets Using webMethods Deployer**

Deployer supports deletion sets for My webMethods Server assets. Users can browse and select assets for deletion and then trigger their deletion.

---

## **Software AG Designer**

### **Eclipse 4.4.0 Update**

Software AG Designer and all its plug-ins are supported on Eclipse version 4.4.0.

### **Software AG Designer Installation**

It is now possible to install Software AG Designer and its plug-ins in a subfolder of C:\Program Files directory in the Windows environment.

---

## **Software AG Command Central**

### **Declarative Composite Template-Based Provisioning**

Declarative templates enable the provisioning of complex multi-server environments. Three-level inheritance allows users to customize standard out-of-the-box templates and use them with environment-specific server mapping and configuration through the simplest possible set of configuration files.

Command Central orchestrates installation, patching, and configuration of the environment using parallel processing, wherever possible.

### **Improved Password Handling in Templates**

Previously, outbound passwords were not included in Command Central templates for security reasons. Therefore, passwords had to be set separately after applying a template, in order to make a system operational. Now, Command Central encrypts passwords in templates using a secure shared-secret. This allows the storage and application of passwords without the risk of being compromised by anyone with file system access to the templates.

### **Terracotta Support**

Command Central allows management of Terracotta instances for the following:

- Installation of Terracotta.
- Start/stop of Terracotta instances.
- Configuration of ports.
- Configuration of memory settings.
- Configuration of Terracotta clustering.
- Monitoring of basic KPIs.

- Viewing, filtering, and downloading of Terracotta log files.

### **Additional My webMethods Server Support**

Command Central allows management of the following for My webMethods Server:

- Configuration of endpoints for Rules and Task Engine portlets.
- Creation of My webMethods Server instances.
- Viewing, filtering, and download of My webMethods Server log files.

### **Additional Integration Server Support**

Command Central now allows management of the configuration of remote server aliases in Integration Server.

### **Pre-QA Fix Installation**

Users can install pre-QA fixes with Command Central. Each Pre-QA fix must be enabled with a key that Software AG Global Support provides as part of a Support Incident.

### **Product Installation (Command-Line Interface Only)**

Users can install products on a remote server using Command Central command-line tools or REST APIs. This facility is available for adding products to an existing installation or performing a new installation, especially in combination with Platform Manager bootstrapping.

### **License Installation Report**

Command Central now makes it easier for customers to manage and monitor their compliance with their license agreements. After obtaining an electronic license manifest (which contains complete details of the licensed software) from Software AG, customers can import the electronic license manifest into Command Central, and generate a report showing any mismatch between the landscape known to Command Central and their license agreements.

---

## **Software AG Installer**

### **Checksum Verification for Downloaded Files**

Product jar files and product files downloaded from Empower require SHA256 checksum verification.

### **Java 1.8 in Installer DMG and EXE Files**

The DMG and EXE files, used to start the Software AG Installer, contain Java 1.8. The previous release contained Java 1.7.

## **Install Allowed for Some Products in the Program Files Directory**

Users can now install some Software AG design-time products in the Program Files directory of a Microsoft Windows system. The installer indicates which products meet the condition.

---

## **Software AG Presto**

### **Dashboard**

Presto presents a new business user-centric and freeform dashboard in this release. This feature offers users an easy-to-use means of generating dashboards based on a flexible layout, visualizing both streaming data and data from Terracotta BigMemory. Users also have the option to refine and condense data from BigMemory before being visualized. The use of Real-Time Analytics Query Language (RAQL) enables this feature. The (Freeform) dashboard comes with out-of-the-box components that include line chart and grid view.

### **Miscellaneous Enhancements**

Presto also offers the following features:

- Configuration of chart themes in Presto Apps.
  - Enhanced querying through RAQL built-in functions for handling date values.
  - Read-only mode to enable users to deploy and execute apps and mashables even if they do not have creation privileges.
- 

## **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.

### **Data Analytics**

During overlapping imports, PPM detects duplicate rows using the primary key of the table, and prevents duplication. For this process, the Compact Test Kit (CTK) user interface provides the facility to configure primary key settings.

### **Operations and Automation**

PPM provides additional options for users to work with data sources. Users can now:

- View the current data source list.
- Add and remove currently available data sources.
- Change the order of data sources.

- Create and maintain their own data source lists and use them in their automation jobs.
- Configure PPM job notifications to use different sender e-mail addresses.
- Manually retrieve summary and detailed job status files from the server using a URL.

The other PPM enhancements include:

- Improved PPM which prevents two processes from working on the same data.
- Inclusion of specification for usernames and passwords in individual automation jobs.

## **Content Packages**

Content packages for SAP Sales and Distribution Module and Material Management have been enriched to include additional fields, measures and dimensions, where needed. The additions include Quantity Conversion, Quantities, and Currencies fields.

---

## **Software AG Runtime**

### **Single Sign On with Security Assertion Markup Language (SAML)**

In a Software AG Runtime instance of the Common Platform environment, user authentication is possible using a SAML token for single sign on (SSO). The SAML token is validated against an external SAML provider.

---

## **webMethods ActiveTransfer Server**

### **Improved Management of Events through Virtual Folders**

webMethods ActiveTransfer offers the ability to use virtual folder definitions (instead of direct IP addresses) in scheduled and post-processing events for remote endpoints involved with file transfers. The use of virtual folders facilitates central management of all endpoints. Any change to an endpoint address only needs a single edit in the virtual folder definition, which automatically reflects in all events that access the endpoint.

---

## **webMethods API-Portal**

### **User Onboarding with Social Network Accounts**

API-Portal now supports user onboarding by leveraging existing social network accounts for Google and Facebook.

### **Configurable Onboarding Approvals**

The API-Portal Administrator enables configuration of explicit approvals for user onboarding requests or use of confirmation e-mails.

## **Testing of SOAP APIs**

In addition to REST API testing, API-Portal now provides testing of SOAP-based APIs.

## **API Communities**

Administrators can configure private API communities to which users can be assigned or invited.

When APIs are associated with communities, only community members can view and use the associated APIs.

## **Self-Service Support**

The Administration user interface allows the first level of self-service customization of portal content pages. An easy-to-use editor enables customization of the Home page. In the advanced mode, users can edit other pages by modifying the underlying templates.

## **Tenant Backup and Restore**

Users can back up and restore API-Portal and collaboration data for individual tenants.

## **API Consumption Reports**

Users can request reports on their API consumption through the API-Portal. Based on the configured schedule, API-Portal e-mails the requested report to users.

## **Simplified Architecture**

The number of infrastructure processes needed for API-Portal is reduced by the co-location of several runnables into shared JVMs.

---

# **webMethods ApplinX**

## **New Look and Feel for Web Applications**

The look and feel of ApplinX Web applications is enhanced. In particular, for applications specifically designed for easier use on mobile devices.

## **Usability Improvements**

Creating new ApplinX applications is simplified. Users do not need to define a repository, because the application now uses an internal repository.

## **Performance Improvements**

CPU usage is optimized. When using Natural host keys pattern, CPU usage is reduced on average by approximately 50 percent compared to what was previously observed.

## Session Filtering

In ApplinX Administrator, users can filter their sessions by Session ID, Application, Device Name, Duration, State, Connection Pool and Type.

## Detecting Use of ActiveX when Downloading a Natural File

The download process for a Natural file uses a new property which indicates whether the download process uses ActiveX.

## Mobile Browser Support

ApplinX supports mobile browsers (for example, Safari) to:

- Perform checks to indicate whether a particular feature is supported by a browser.
- Override default setting which disables modal windows mobile devices, such as iPad and iPhone.

---

# webMethods BPMS

## Business Console

webMethods Business Console includes additional capabilities that enable users to:

- Create and manage group tasks.
- Customize the logo, title, color theme, masthead, and landing page.
- Save and reuse task searches.
- View the process analytics dashboard in the “Processes” tab.

## BPMS: Process Engine, Monitor and Closed Loop Analytics (CLA)

Monitor includes following changes in this release:

- Consolidation and merge of business process dashboard views in the My webMethods Server process administration page.
- Ability to convert the process analytics pages to Google Web Toolkit (GWT) and surface a process analytics page in the “Process” tab of Business Console.
- Ability to surface custom process IDs in a process analytics page and in CLA dashboards.
- Addition of a principal picker in CLA dashboards for escalation of task assignments.
- Ability to provide process projections by showing the percentage of completion, estimating when a process might be complete, and calculating the average cycle time for running instances.
- Use of Call Activities to invoke dynamic processes instead of using the *referenced processes* previously used. The dynamic referenced processes feature is deprecated.
- Ability to monitor individual dynamic referenced process instances.
- Improved Process Engine handling of parent-child status and interface. Parent-child process handling is streamlined and the Process Engine parent-child status and interface is improved.



Additionally, Send Tasks is enhanced to only publish sub-process return documents instead of publishing both native documents and sub-process return documents.

---

## **webMethods Broker**

webMethods Broker 9.6 features (tested and supported) in webMethods 9.8 are:

### **Migration Utility**

webMethods Broker offers a new command-line utility to migrate JNDI and JMS assets (such as JMS queues and topics) from Broker to webMethods Universal Messaging. This migration utility provides the ability to automatically move most of an organization's assets.

### **Improvements for Default Settings**

The default values for settings, such as cache, storage file size, parallel channels, and file settings, are adjusted to reflect customers' current common settings.

### **Monitor Authentication**

Broker Monitor connects to Broker Server only after Broker Server authenticates the requesting Broker Monitor. This feature strengthens the Broker Server security.

---

## **webMethods Business Rules**

### **New Set of Functions**

A new set of functions is now available in:

- Rules Engine.
- Rules Development feature of Software AG Designer.
- Rules Management Console, including math functions, date functions, inRange functions for dates, conversion functions, and mathematical expressions.

In the Rules Management console, a completely redesigned expression editor replaces the former function editor.

### **Deployer Improvements**

Business Rules now supports automatic rollback for deployment to previous version and state.

### **Command Central Integration**

Inventory, Runtime Status, and provisioning using templates are all available in Command Central for Business Rules.

Within Command Central, users can configure connection information for Business Rules to an Integration Server.

---

## webMethods CloudStreams

### Support for an Updated Salesforce connector

CloudStreams connector for Salesforce is updated to support partner SOAP API v31.

### Support Connectivity to Salesforce Wave (Analytics Cloud)

CloudStreams connector for Salesforce supports Salesforce Wave. The connector sends data to Salesforce Wave to help Salesforce generate analytics.

### Support OAuth Tokens in Connection Pools

Users can now configure CloudStreams connection pools to use OAuth tokens for authentication to SaaS APIs.

### Support for Enhanced NetSuite Connector

The CloudStreams connector for NetSuite is enhanced for better usability:

- Identification and automatic selection of mandatory and optional fields.
- Pre-population of NetSuite record fields, based on business object selection and other related conditions.

---

## webMethods Composite Application Framework

### OpenCAF

OpenCAF is a new approach to user interface development in My webMethods. It gives developers maximum flexibility in creating rich, interactive user interfaces without being constrained to the proprietary webMethods Composite Application Framework (CAF) framework.

Using OpenCAF, developers can import HTML, CSS, and JavaScript assets into their project and enrich them with CAF controls, navigation, and so on. It allows developers to use standard or custom-designed HTML/CSS templates to leverage their favorite JavaScript libraries and frameworks, while also using the enterprise capabilities of My webMethods Server, such as navigation, access control, clustering, integration, and so on.

OpenCAF surfaces mainly in Software AG Designer, with updated wizards for project creation.

---

## **webMethods Deployer**

### **Business Rules Rollback and Deletion**

Deployer includes these new features for business rules:

- Rollback of a previous deployment of webMethods Business Rules assets from a Rules Engine on Integration Server.
- Browsing and deletion of existing webMethods Business Rules assets from a Rules Engine on Integration Server.

### **My webMethods Server Rollback and Deletion**

In this release, Deployer allows users to:

- Roll back a previous deployment of My webMethods Server assets.
- Browse and delete existing My webMethods assets from a My webMethods Server.

### **Deployment of Universal Messaging JNDI Assets**

Deployer deploys JNDI assets to Universal Messaging servers. These include ConnectionFactories, Queues, and Topics.

---

## **webMethods Enterprise Gateway**

### **Support for Displaying Connections from Enterprise Gateway to Internal Servers**

webMethods Integration Server Administrator has a new option to display active connections between Enterprise Gateway and Internal Servers. This option is available from Display Connections to Enterprise Gateway Registration Port in the View Enterprise Gateway Server Details screen. The complete navigation is: Ports Screen > Port number of an Enterprise Gateway registration port > Security > Ports > View Enterprise Gateway Server Details > Display Connections to Enterprise Gateway Registration Port.

---

## **webMethods EntireX**

These enhancements are part of webMethods EntireX Version 9.7.0.7, which is included with webMethods Suite 9.8.

### **EntireX Workbench under C:\Program Files**

As part of the Software AG Designer, the EntireX Workbench can now be run under C:\Program Files.

### **Support for Java 8**

EntireX now supports Java 8.

## Support for RedHat v7

EntireX now supports Red Hat Enterprise Linux AS 7 on 64-bit platforms.

## Enhanced COBOL and CICS Support

The enhanced COBOL and CICS support includes:

- Use of concrete COBOL data length for a variable number of array elements.
- Mapping of fixed-size COBOL arrays to an unbounded IDL array in the IDL Extractor.
- Inclusion of the maximum expected length of the output data in the CICS RPC Server User Exit before calling the CICS transaction.

---

# webMethods Integration Server

## Support for OData Standard

Integration Server offers native support for OData (Open Data Protocol) version 2.0. The purpose of OData is to provide a REST-based protocol for CRUD-style operations (Create, Read, Update and Delete) against resources exposed as data services. Integration Server supports the new asset type OData service. Developers can quickly develop OData services using the OData service wizard available in the Designer Service Development plug-in.

## Web Service Authentication Using Kerberos for Outbound Service Requests

Integration Server uses Kerberos tokens to invoke a Kerberos-secured web service. Integration Server Administrator enables and configures Kerberos authentication for outbound web service requests. At run time, users can also provide includes Kerberos authentication details in a web service connector.

## Support for Salesforce Lightning Connect

Salesforce Lightning Connect is a new way for Force.com applications to connect with backend office applications. Integration Server can host OData-based data services that provide access to backend applications. Force.com accesses these servers and represents the on-premises data as external objects in Salesforce.

## Basic Authentication Support for Universal Messaging Connections

webMethods messaging connections to Universal Messaging servers can now include credentials for basic authentication (username/password). This allows basic secured communications to a Universal Messaging server for webMethods messaging (also known as *native pub-sub*).

## pub.publish:deliver\* Services Support for Universal Messaging

The pub.publish:deliver\* services now support Universal Messaging as well as webMethods Broker. The pub.publish:deliver\* services deliver documents to a specific webMethods messaging trigger or Integration Server.

## **Utility for Migrating Publishable Document Types and Trigger Filters to Work with Universal Messaging**

When switching webMethods messaging provider from Broker to Universal Messaging, users may want to:

- Change the encoding type of the publishable document types to protocol buffers.
- Update webMethods messaging trigger filters to benefit fully from the provider-side filtering available with Universal Messaging.

A new utility, the `pub.utils.messaging:migrateDocTypesTriggersToUM` service, enables the migration of publishable document types and filters for subscribing triggers to work with Universal Messaging instead of Broker. This utility also updates a subset of the publishable document types and triggers. This ability supports a phased migration or updates all publishable document types and triggers in a single operation. The utility also provides a report-only mode that allows the user to inspect the changes the utility will make before the changes are committed.

## **Support for Hot Deployment of Integration Server Packages**

Integration Server allows hot deployment of packages, which enables Integration Server administrators to quickly update packages without stopping the server. When using the “Hot Deployment” option for package deployment, Integration Server queues up new requests coming to the package. After a package finishes handling all existing in-process requests, Integration Server deploys a new package, and then begins processing the queued requests.

## **Support for SOCKS Proxy for Outbound Requests**

Socket Secure (SOCKS) routes network packets between clients and servers through a proxy server. Integration Server supports SOCKS proxy when sending outbound requests to other servers. SOCKS support is limited to versions 4 and 5.

## **Support for Chunking Flow Service Results**

Integration Server provides the ability to chunk results for a specified service. This can be very useful in cloud integration scenarios when an on-premises service returns a large data set to Integration Cloud. Integration Cloud requests the on-premises Integration server to send data in small batches sequentially. This approach is useful on networks with bandwidth constraints.

## **Additional Public Caching Services**

Integration Server provides built-in services that access the batch Ehcache APIs, including `pub.cache:getAll`, `pub.cache:removeAll`, and `pub.cache:putAll`.

## **Removal of WmPKI Package from Integration Server Distribution**

Integration Server version 9.7 announced the deprecation of the WmPKI package. This release removes the deprecated WmPKI package from Integration Server.

---

## **webMethods Mediator**

### **Enhanced Logging and Tracing**

Mediator supports a more granular logging configuration to enable better tracing of the Mediator operational and error information. Users can configure logging through Integration Server.

### **Configurable Service Result Caching**

For caching of service results, Mediator provides a new Runtime Policy Action that allows configuration of the caching behavior for each virtualized service. This functionality is available for SOAP- as well as REST-based services, and can be configured in the CentraSite Business user interface.

### **Cross Platform NT LAN Manager (NTLM) Authentication**

Mediator uses NTLM-based authentication on Windows and UNIX-based (Linux) platforms.

### **REST-to-SOAP Transformation**

For the exposure of existing SOAP Services as REST APIs, Mediator provides a Runtime Policy Action that triggers the automatic transformation of XML and JSON payloads to SOAP messages.

### **Content-Type Defaults for REST Services**

A new Runtime Policy Action is available to set the default Content-Type for requests or responses if the Accept or Content-Type HTTP Headers are not specified.

---

## **webMethods Mobile Administrator**

### **Switch to Software AG License Format**

Mobile Administrator uses the standard Software AG license key format.

### **Windows Build Node Wizard**

Similar to the Mobile Administrator Mac Build Node wizard, the Windows Build Node wizard highlights and verifies installation steps for all SDKs and dependencies.

### **Improved installation on Suse Linux Enterprise (SLES)**

Installation of Mobile Administrator on Suse Linux Enterprise 11 is improved.

---

## **webMethods Mobile Designer**

### **Install Mobile Designer via Software AG Installer Natively**

Now, Software AG installer directly installs Mobile Designer.

### **Program Files Installation**

Mobile Designer (along with Software AG Designer and Mobile Development) supports installation in the C:\Program Files\ folder on Windows platforms. Also, users no longer require administration rights to run Mobile Designer.

### **iOS 8 Support**

Mobile Designer provides full support of iOS 8 and iPhone 6 devices.

### **Support for iOS SDK 8.x**

Mobile Designer (and Mobile Administrator) supports the use of iOS SDK 8.x for development, both for local builds and on Mobile Administrator build nodes.

### **Support for Windows Phone 8.1 Project Format**

Mobile Designer now supports generation of both Windows Phone 8.1 and Windows Phone 8.0 projects. This extended support of the Windows Phone platform allows users to use Windows Phone 8.1 features and distribution formats.

### **Windows Phone Rotation Support**

Rotation of the user interface of mobile apps on the Windows Phone 8 platform is significantly improved.

### **Configuration of Mobile Designer Instance**

Software AG Mobile Development preferences include Mobile Designer configuration of the Mobile Designer instance used in the Software AG Designer workspace. Therefore, the MOBILE\_DESIGNER environment variable is no longer required for Software AG Designer and Mobile Development.

---

## **webMethods Mobile Development**

### **Improved New Mobile Development Project Wizard**

In the "New Mobile Development Project" wizard users can select one of the predefined pane configurations for application creation. Furthermore, users can now log in to Mobile Administrator with a username and password instead of an access token.

## **Mobile Development Preferences**

The preferences dialog box for Mobile Development now supports setting a default package name, a Mobile Administrator instance for the "New Mobile Development Project" wizard, and selection of the Mobile Designer installation to be used within the Eclipse workspace.

## **Outline Editor Enhancements**

The Outline Editor now supports:

- Fold and unfold operations for the application model.
- Contextual filtering and sorting of all drop-down properties.

## **Re-orderable List Views**

Native list views can now be re-ordered by the use of native platform conventions.

## **Improved Web Service Definition Language (WSDL) Support**

The existing WSDL support is significantly improved.

---

# **webMethods OneData**

## **Enhanced New User Interface Preview**

This release extends the use of the preview of OneData's next generation user interface (which was introduced in version 9.7) for data browsing in the parent-child level hierarchy. The enhancements are:

- New data detail views allow users to see the complete data record in separate screens.
- Advanced filtering capabilities.
- Insertion and editing of data with context menus and screens.

## **Service Layer Improvements**

Service logging and data auditing for incoming data are improved to provide more detailed information (six logging levels) that is presented in a format harmonized across the Representational State Transfer (REST) and JMS application programming interfaces (APIs). The data audit information is also easily accessible through the user interface using new System Objects.

Improvements to XSD generation and handling for data objects allow OneData to support complex data structures as well as easier and more flexible handling of XSDs for API clients.

The REST service performance for data import is also improved.

## **Security Improvement**

OneData now supports SSO between a client browser and OneData with Windows Integrated Authentication using the Kerberos protocol.



## User Interface Improvement in Data Manager

Columns, selected as *Description* while creating foreign keys, appear as hyperlinks in the Data Manager grid. On clicking these column hyperlinks, OneData directs users to the related objects.

## Support Expanded for Interactive Hooks

Integration Server's interactive hooks can use forms and work with OneData objects which have workflows defined.

---

# webMethods Optimize for Infrastructure

## Presto Monitoring

Optimize for Infrastructure now includes Presto as a first class citizen. Discovery of Presto and monitoring of its key metrics are now possible within Optimize for Infrastructure.

## Enhanced Terracotta Monitoring

Terracotta monitoring is enhanced to include SSL encryption in the discovery TSAs, detailed Cache Manager and Cache monitoring, and delta readings to cumulative KPIs.

## Enhanced Universal Messaging (UM) Monitoring

The full-featured UM monitoring is extended to include:

- Monitoring support for 9.7 and 9.8 UM servers.
- Simple authentication with user ID and password to connect to Universal Messaging.
- Cumulative KPIs for existing monitoring, and delta KPIs on them.

## Performance Enhancements

The base Optimize engine improvements are:

- Much faster startup time.
- Much higher throughput in both clustered unclustered configurations.

These improvements bring Optimize to new performance levels, enabling its application in situations that would have been unmanageable previously.

## webMethods Optimize for Process

### Enhanced Closed Loop Analytics

Closed Loop Analytics (CLA), which was introduced last release, is enhanced with many new capabilities for business users:

- New Email action in CLA dashboards.
- Support for customer process instance IDs.
- Support for estimated process completion time.
- New principal picker in task assignments.

Additionally, the user interface presents many aesthetic changes.

### New KPI Type: Counter

In earlier releases, while Optimize performed robust statistical analysis of inbound streaming data, it lacked the simple ability to define a KPI that counted events and records. The current release addresses this gap. Now, users can create KPIs that count the occurrences of any *non-blank* field in an Optimize event.

### In-context Jump to PPM for Exploration

Should users see something on a dashboard that requires additional investigation to understand its root cause, they can now jump directly to PPM while retaining the original context of the dashboard. Once in PPM, the user has the full strength of the PPM engine to explore historical data related to the process under investigation.

### Performance and Scale Enhancements

In addition to immensely improved throughput of KPI Engine, DCA Dimension handling and Stats engine, the startup time of Analytic Engine is greatly reduced. When coupled with the ability to horizontally scale Analytic Engines, this release meets and exceeds the throughput requirements of even the most demanding operational situations.

---

## webMethods Service Development

### Support for VCS Operations from the Package Navigator View

When using the Local Service Development feature, users can perform Virtual Client Services (VCS) operations on Integration Server assets directly from the Package Navigator view instead of from the Package Explorer view. This improvement streamlines the user experience and reduces the number of steps required to complete the task.

*Note: If your VCS client is Team Foundation Server, you cannot use this feature with Java services.*

## Support for OData Standard

Integration Server offers native support for OData (Open Data Protocol) version 2.0. The purpose of OData is to provide a REST-based protocol for CRUD-style operations (Create, Read, Update and Delete) against resources exposed as data services. Integration Server supports the new asset type, OData service. Developers can quickly develop OData services using the OData service wizard available in the Designer Service Development plug-in.

---

## webMethods Trading Networks

### Enhanced B2B Analytics

webMethods Trading Networks includes a variety of charts and dashboards for deep targeted analysis on partner transactions. Users have an additional set of dashboards and charts to monitor a variety of metrics, either across all partners, or for a specific partner. The metrics include transaction volume trends, total value trends (based on purchase order amount, invoice amount, and so on), late functional acknowledgement (FA), violations, and the split between successful and failed transactions. Filtering of the information shown in charts is also possible to focus on a sub-set of partners (top-tier, bottom-tier, and so on).

### Improved management of TPAs

webMethods Trading Networks has simplified the editing of Trading Partner Agreement (TPA) parameters, especially for TPAs containing an array list. An array list now appears as a table in a pop-up window. An administrator can create rows for and add values to child elements. The tabular representation makes it easy for users to compare values across all the elements in an array without opening and closing each element individually.

### Improved Usability

webMethods Trading Networks has enhanced usability in a variety of areas:

- Improved keyword search of Trading Partner Agreements (TPAs), where keywords can now search for senders and receivers, in addition to agreement ID.
- Trading Networks maintains context sensitivity across all its screens. The initial state before a user's action is recorded, and returns the user to the initial state after a user action is complete.
- Users can also directly import ZIP files as well as bin and XML files. Administrators no longer have to extract ZIP files before importing them.

### Support for Substitution Variables during Deployment

webMethods Trading Networks enables users to specify substitution values for almost all assets. This ability to substitute values during deployment removes the need to go into target systems to tweak configurations after deployment. For easy monitoring and tracking of deployment activities, Trading Networks Activity logs the deployment of all assets through Deployer.

---

## webMethods Universal Messaging

### Automatic Interest Propagation Using Zones

Universal Messaging now allows the configuration of Zones. Realm servers in the same Zone inform each other about local subscribers to channels/topics, so that other members of the Zone can forward messages to local subscribers when required. This minimizes unnecessary wide area network (WAN) traffic by only forwarding messages when there is a known interested party on the remote Realm server.

Also, users can configure Zones from the Enterprise Manager or by using a newly introduced section of the Admin API. This feature is the equivalent of webMethods Broker Territories.

### Basic Authentication with Admin API and Enterprise Manager

The Universal Messaging Admin API and Enterprise Manager support the passing of basic authentication credentials when a connection is established. This provides a more secure configuration of the Realm and improved authentication of administrative clients.

### Realm XML Export Includes JNDI Assets

XML export of a Realm server now includes the option to export JNDI assets: ConnectionFactories, Topics, and Queues. These are used for deployment using Deployer.

---

## Documentation

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

### webMethods BPMS

- Business Console includes context-sensitive online help.

### webMethods Mobile Administrator

- Information previously in the *webMethods Mobile Administrator Configuration Guide* is now included in the new *webMethods Mobile Administrator User's Guide*. The *webMethods Mobile Administrator Configuration Guide* is deprecated.

### Distribution of Documentation

- Documentation is now no longer available for download from the Software AG Installer.
- Customers with existing Empower credentials can view and/or download the documentation from the Software AG customer portal Empower at <https://empower.softwareag.com/Products/Documentation/>. For convenience, selection boxes are available on the web pages for flexible bulk download of product documentation as zipped content.

- Users registered with the Software AG TechCommunity can view the documentation at <http://techcommunity.softwareag.com/>. When registering with the TechCommunity, users must select Documentation as an area of interest on the registration form.

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## Upgrade

### Infrastructure

Migration of infrastructure for webMethods and IBO products that are running on the common platform has been completely automated. This includes migration of Software AG Runtime. You now migrate all infrastructure and Software AG runtime using the Infrastructure migration utility.

### Command Central

Migration of Command Central port configuration has been automated; you can migrate port configurations using the Command Central migration utility. You can also migrate the ehCache DiskStore used by Command Central.

### Platform Manager

Migration of Platform Manager port configuration has been automated for upgrade from 9.6 or 9.7; you can migrate port configurations using the Platform Manager migration utility.

### My webMethods Server

The My webMethods Server migration utility now supports the use of a zip file containing the source installation. You no longer have to copy the actual source installation to the target machine and recreate the directory structure.

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WEBM-RN-98-20150707

# webMethods Product Suite 9.9

## Release Notes

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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.

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## 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 more details about the key additions and enhancements for this release, see the product descriptions.

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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.
- 

## **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.

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## 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.

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## **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.

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# **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.

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## 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.*

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## 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.

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# **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.

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## **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.

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## **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.

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# 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.

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## 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.
- 

## **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.

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# **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.

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# **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.

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# 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.

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## 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.

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## 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.

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# **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.

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## 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).

### **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.

### **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.

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## **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.

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## **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.

## **Readmes Contain Cumulative Information Back to webMethods 9.5 Release**

Readmes have been changed to contain cumulative information from webMethods 9.5 through 9.9. Supported upgrade paths to 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.

## **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.

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- 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

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# webMethods Product Suite 9.10

## Release Notes

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webMethods 9.10 represents significant enhancements to Software AG's Digital Business Platform.

This release includes capabilities that provide companies with an extensible, scalable and reliable integration backbone—running either in the cloud, on-premises or in hybrid scenarios. Platform provides seamless integration for technologies such as cloud, mobile, APIs and the Internet of Things.

Additionally, companies pursuing digital transformation must adapt processes end-to-end, and build better business apps on top of them. This release of webMethods streamlines process management and agile application development to help you improve your business operations and respond more quickly to changing business needs.

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## Release Highlights

### Integration

This release of the webMethods suite includes many integration enhancements, including compare and merge functionality for Integration Server assets in Designer, the ability to expose REST resources located on Integration Server as a Swagger descriptor, and the encryption of Trading Networks data before persisting them in a database.

The key features include:

- Software AG Designer now lets you merge differences between two assets on the same server or on different servers. Merging is available for flow services and Integration Server document types. The compare editor provides a visual view of the compared items, along with annotations that indicate the differences between the items. And within the same view developers can choose to merge individual differences from one version of an asset to another.
- Integration Server provides the ability to expose REST resources located in Integration Server as a Swagger descriptor. Integration Server automatically generates a Swagger descriptor for REST APIs. This version provides support for version 2.0 of the Swagger specification.
- Integration Server supports the automatic creation of OData provider APIs. Using Software AG Designer, developers can automatically generate an OData provider API based on a user-selected database table and associated columns.
- Trading Networks provides out of the box support for encrypting payloads when the same payloads persist in the MySQL database. Encrypting payloads provide an additional layer of security that is especially valuable in the event that the database that is storing the payloads, is compromised.
- New CloudStreams community connectors provide connectivity to the following applications and interfaces: Software AG Alfabet, Magento, Zuora, Marketo, and OData version 2.0 interfaces.
- webMethods OneData's Elasticsearch functionality now allows scheduled and automatic re-indexing of data.

- In addition to Data Manager, webMethods OneData's protection against Cross-Site Request Forgery (CSRF) attacks is expanded to include the workflow, data interchange, and security modules.
- Integration of OneData with LDAP is enhanced to allow manual and scheduled resynchronization.

## **API Management**

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

The key highlights are:

- Runtime API Consumption Dashboards in API Portal will help users get runtime data and graphs for APIs.
- API-Portal's collaboration functionality is enhanced to include the ability to follow and unfollow updates to APIs, as well as to include a new notification panel. The API gallery is enhanced to visually inform users about the maturity status and business terms associated with the API.
- CentraSite includes many usability enhancements, improved Swagger support, as well as improved robustness for access token enforcement configuration.
- CentraSite provides complete support for both design-time and run-time governance of OData services.
- Mediator now supports webMethods API-Portal and Elastic Search databases as additional destinations for sending API run-time events and Key Performance Indicator (KPI) metrics.
- Mediator now supports OData services at design time and runtime.

## **webMethods Business Process Management Suite**

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

The key features are:

- EDA event emission in Task Engine allows customers to route EDA events in an event routing framework and persist the events through the webMethods Event Persistence API to a persistence layer, such as Hadoop or Elasticsearch.
- webMethods Business Console can be customized with out-of-the-box gadgets. Additionally, custom dashboards are now provided next to the out-of-the-box CLA process dashboards.
- A ready to use mobile client for Business Console is now available in the Apple App store and Google Play app store.
- The Mobile Suite has many enhancements including Entity Modelling (EML), image caching, and the introduction of a FileDataProvider to load local or offline data into a data source.
- Decision trees, which are a new kind of decision entities, are now available in webMethods Business Rules. You can create and test decision trees in Software AG Designer.
- The actual content of a decision table that a user has entered in the Rules Management Console can now be verified with custom provided REST services before deployment.

- There is a 75% improvement in load time for large decision tables in the Rules Management Console.
- The SAML implementation in webMethods Agile Apps is extended to work with Microsoft Azure Active Directory in the cloud allowing the team and user to sync from Azure to AgileApps. This now works with all the SAMLv2 compliant identity providers.
- Users are now provided with an option to choose between the AgileApps database and an external CMS as the repository for attachments.

## Operational Intelligence

The key enhancements for operational intelligence are:

- For users who are running both Optimize and PPM, the Business Console Analytics dashboard provides a “View in PPM” function to do an in-context jump to PPM. Once in PPM, the user can explore longer-term historical data on the same process and perform root cause analysis based on business process data.
- The Web Service Data Collector can now be monitored in Command Central, making it now possible for - WSDC installations to be discovered and run-time status to be displayed.
- Optimize for Infrastructure now offers added self-debugging and diagnostics, monitoring of Universal Message clusters, and additional KPIs for Presto and EntireX monitoring.
- Optimize for Process offers a number of cache usage performance improvements and provides better response on data retrieval in large scale implementations. In addition to a pre-configured analytics dashboard, users now have the option to display custom-created Mashzone NextGen dashboards in Business Console.

## Suite Enhancements

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

- Command Central can now migrate certain releases of Integration Server, Trading Networks, My webMethods Server, and Universal Messaging data to 9.10 using Command Central (see the Command Central readme for supported paths). This enables for the migration of single servers, clusters, or entire environments in a fully automated way.
- The Command Central bootstrap installer can be used to self-upgrade Command Central with a single command line command.
- Command Central now supports the creation of mirror repositories for fixes. This allows a user to create a local copy of a repository within their corporate network for use when provisioning fixes across their landscape.
- In silent mode, users can now migrate multiple My webMethods Server instances on a single command when using the live database, as well as migrating multiple Universal Messaging instances using a single command.
- By providing an out-of-the-box way to send a Kerberos token in the HTTP header, Integration Server can access third party services, such as REST APIs, that are protected with Kerberos.
- In continuation to the Kerberos Inbound support provided in the last release, Mediator now supports Kerberos Outbound Authentication for web services. Customers can now protect the virtual services by any web service security mechanisms and can also invoke a native backend service which requires Kerberos Authentication.

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For more details about the key additions and enhancements for this release, see the product descriptions.

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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

## Enhancements in Business User Interface (BUI)

CentraSite Business User Interface is enhanced to include the following functionalities.

In addition to a preconfigured set of actions, users now have the option to plug in their own custom action implementations. The custom-created actions allow users to extend the product functionality. The following rendering mechanisms are supported for a custom action:

- WithUiRendering
- WithoutUiRendering

A new action “Notify Consumer” is added to the API details page. This action allows users to send ad hoc email notifications to all of the registered consumers of an API.

## Taxonomy Management

Users can now create and manage taxonomies using the CentraSite Business User Interface. Creating and managing taxonomies using the CentraSite Control User Interface, is deprecated and will be removed in the future release.

## Access Token Enhancements

Access token configuration screens are now improved to display a warning message when there is a change to the API configuration, which invalidates the user access tokens. This improvisation offers a better user experience.

The configuration screen for policy actions, for example, Throttling Traffic Optimization, is simplified to display only the access tokens created for a particular API as the possible list of consumers during the virtualization process. This simplified user interface prevents the user from choosing an unknown consumer.

Previously, when an API is unpublished from webMethods API-Portal, access tokens associated with that API were ignored and deleted from the API-Portal registry. Upon republishing, only the API was published to API-Portal. Now, republishing the API also publishes the associated access tokens to API-Portal.

## CentraSite Command Enhancements

Access token management using the CentraSite Command line interface is enhanced to include additional commands for purging and reactivating the access tokens. Report management using the CentraSite Command line interface is enhanced to include additional commands for execution of CRUD operations on reports. The CentraSite Command “set Authentication” to add a new LDAP authentication configuration to CentraSite, is enhanced to offer stricter validation. This validation behavior allows you to simultaneously verify the newly added LDAP configuration.

## Support for Open Standards

In the previous release, CentraSite supported Open Data Protocol (OData) services in a preview mode. In this release, CentraSite provides complete support for both design-time and run-time governance of OData services.

A new policy action “Generate Swagger2.0 file” is introduced to export an API in Swagger format. This policy action is applicable for the REST services and Virtual REST services.

## Optimized Infrastructure

CentraSite logs are separated from the logging containers and placed inside a dedicated log file called `centrasite.log`. This log file is available in the `<Software AG_directory>/profiles/CTP/configuration` directory, where the `wrapper.log` is available.

---

## MashZone NextGen

MashZone NextGen (formerly known as Presto) has the following new feature enhancements. The "Freeform" editor is now referred to as "Dashboard" editor.

### Data sources

Starting 9.10, MashZone NextGen has introduced new data sources including comma-separated values (CSV) file, JDBC (Java Database Connectivity) tables, and Software AG ARIS tables.

### Data querying using RAQL

There are several performance and feature improvements in RAQL including support for outer-joins and improved performance while executing set operations.

### Data Transformation

Several new data transformation operators are included in the Dashboard editor to facilitate data transformation.

### Visualizations and Custom Look & Feel

Many enhancements are made to the existing visualizations (incl. widget refresh properties, axis properties, extensions to grid chart and column styling, and pie chart) and new visualizations such as bar chart, traffic light widget, and gauge chart are added. A "dashboard only" mode to remove the application header using URL parameters is added.

Enhancements to enable custom Look and Feel include specialized widget styling by additional configuration parameters.

### Action Framework

MashZone NextGen 9.10 includes a newly designed Action Framework that supports triggering actions based on change in selection and other criteria; these actions include, changing tab for navigation within dashboards, configuring selection on other widgets, and calling a URL.

---

## My webMethods Server

Upgrade automation is enhanced to include Java Management Extensions (JMX), JSW, cluster and `jetty.xml`. And shared security infrastructure, Security Assertion Markup Language (SAML), is now adopted to improve the invocation of Integration Server web services.

---



# Software AG Command Central

## Suite upgrade support

Command Central can now perform upgrades from previous versions of the webMethods suite. Command Central can be used for installing the new version, as well as for applying the latest fixes and orchestrating the various migration utilities needed for transferring configuration and assets from the previous version.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/suite-upgrade-support>

## Command Central self-upgrade support

The Command Central bootstrap installer can be used to self-upgrade Command Central with a single command line. Bootstrap installer is now supported on Solaris and can be used to install Platform Manager or the Command Central using command line interface.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/self-upgrade-support>

## Database configuration

Command Central now enables users to orchestrate the database configuration utility as part of the composite template application utility. The database configuration utility can create or migrate database schemas as part of a complex provisioning or migration composite template.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/database-configuration>

## Fix mirror repositories

Command Central now supports the creation of mirror repositories for fixes. A mirror repository is a granular copy of the Software AG Empower master repository containing fixes and allows a user to create a local copy of such a repository within their corporate network for use when provisioning the fixes across the landscape.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/fix-mirror-repository>

## Simplified configuration user interface

The creation of instances of configurations which have a single type or single instance is simplified and streamlined, avoiding unnecessary popups and tables.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/simplified-configuration>

## Login page and logout link

Command Central now provides form based authentication, a login page for its web user interface, and a logout link. This makes it secure and allows multiple users to share the same machine and browser.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/login-page-logout>

## License repository

Command Central now enables you to upload all product licenses into one repository and easily use them when provisioning new environments using composite templates or when configuring licenses for runtime instances using the Command Central web user interface or command line interface.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/command-central/release-notes/license-repository>

---

## Software AG Designer

Software AG Designer and all its plug-ins are now supported on the latest service release of Eclipse 4.5. Software AG Designer is updated with the new Software AG rebrand.

---

## Software AG Installer

### Product Footprint Reduced

Previously, licenses for all third-party products used by Software AG products were installed for each product. In this release, only the licenses for third-party products used by the products you are actually installing are installed.

### Required Windows System Administrator Privileges Enforced by Installer

The installer now enforces the need for system administrator privileges when installing products. If the user under which you are running the installer does not have these privileges, the installer exits.

### Registration of UNIX Daemons Simplified

Previously, you registered the UNIX daemon for each product by calling a script located in each product's installation. You can now register daemons for all products using one centralized script. In addition, you can now list all registrations and remove obsolete registrations for products you have uninstalled.

### Software AG Designer Local Version Control Integration Installable on Integration Server Instance of Any Name

Previously, you could only install Software AG Designer Local Version Control Integration on an Integration Server instance named "default." You can now install this component on any Integration Server instance, regardless of its name.

### Ability to Name My webMethods Server Instance Created During Installation

Previously, the My webMethods Server instance you created during installation had to be named "default." You can now assign a name of your choice.

---

## Software AG Runtime

### Logging

Improvements in logging subsystems make troubleshooting much easier at customer side.

### Application Platform support

Deployment endpoint for Application platform has been finalized.

### Infrastructure

Tomcat engine was updated with latest features and security fixes.

---

## webMethods AgileApps

### Software AG standards adoption

AgileApps now supports JDK8 as the compilation engine as part of its integration with Software AG's standard processes. AgileApps now uses the Software AG branding across the product.

### Record Visibility

The visibility of records can now be controlled for a specific set of users, teams, or roles and even by using a custom user attribute. This allows the platform user to control permissions at a more granular level.

### CMS Integration

Users are now provided with an option to choose between the AgileApps database as the repository for attachments or use an external CMS. Existing customers cannot migrate their existing files from the AgileApps database repository to external CMS after changing the configuration.

### SSO via SAMLv2

The SAML implementation has been extended to work with Microsoft Azure Active Directory on the cloud and allows the team and user sync from Azure to AgileApps. This now works with all the SAMLv2 compliant Identity providers.

### New Datacenter

The AgileApps installation is now available on an additional data center in Europe provided by Amazon. These data centers now come with a pre-installed MySQL RDS on an encrypted file system, thereby, offering additional security to customers who have data on the cloud.

---

## webMethods API-Portal

### Usability Enhancements

API Gallery is enhanced to visually inform users about the maturity status and business terms associated with the API.

Application registration is improved to provide more information about API keys users have.

### API Testing Enhancements

API testing screens are enhanced to provide and display more information while requesting API Keys or using them during testing.

Authentication and error handling during API testing is improved to remove annoyances.

### API Analytics

API-Portal now provides dashboards to display runtime data and graphs for APIs.

### Collaboration

Collaboration functionality is enhanced to include an option to follow and un-follow updates to an API and a new notification panel.

### Infrastructure

API-Portal bootstrapping process is improved for efficient use of resources.

### Security

API-Portal is now protected against CSRF attacks.

---

## webMethods Application Platform

### Developer Friendly Tests

Application Platform now provides you with an easy, yet powerful Designer-based framework for writing and executing JUnit tests for your projects. You can confidently build complex applications and test them by using Application Platform and its runtime libraries.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/app-platform/release-notes/unit-tests>

### Single Sign-on Authentication

Application Platform enables you to set up security configurations to your servlet-based web applications. You can now enable authentication and authorization in your web applications. The following security-based scenarios are now supported in Application Platform:

- Adding security to the web application layer of an Application Platform web project by using the standard Java EE approach of configuring a security filter in the web.xml file.
- Adding security to the OSGi service layer of an Application Platform Java or web project. You can protect OSGi services that are:

- Exposed as Integration Server (IS) services and invoked through HTTP(S) calls.
- Exposed as POJO OSGi services.
- Invoked from the Application Platform web layer. This layer consists of web applications that run on Tomcat and are deployed to Integration Server via HTTP(S).
- Invoked from the Composite Application Framework (CAF) web layer. This layer consists of web applications that run on Jetty and are deployed to My webMethods Server via HTTP(S).

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/app-platform/release-notes/security-forwarding>

### **Enhanced Application Platform Service Exposure to Integration Server**

The following enhancements to the Application Platform service exposure to Integration Server are now available:

- Designer no longer displays the message “Unknown Service Type” when Application Platform services are exposed to Integration Server.
- When you un-deploy an Application Platform project, the corresponding Integration Server services that are exposed in the project are removed.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/app-platform/release-notes/ISservice-consistency>

### **Remote Deployment from Designer**

You no longer have to develop on the same machine where your development Integration Server and MWS are running. This allows you to share environment between developers.

<http://techcommunity.softwareag.com/ecosystem/communities/public/webmethods/products/app-platform/release-notes/remote-deploy>

## **webMethods ApplinX**

### **Usability Improvements**

The ApplinX Printlet deployment process in large organizations is made easier.

Previously, only complete ApplinX applications could be published to CentraSite. Now, individual ApplinX assets can be registered, updated, or unregistered from CentraSite.

---

## **webMethods Blaze Advisor**

### **Product Removal**

Due to the contract termination with FICO, Blaze Advisor has been completely removed from webMethods 9.10. Customers who have moved to FICO maintenance can get Blaze Advisor directly from FICO.

To provide the continuity of webMethods - Blaze Advisor integration for webMethods customers, download an “Integration Module” that serves exactly this purpose, from the Software Download Center.

---

## **webMethods BPMS**

### **Task Engine**

Task archival: EDA event emission in Task Engine allows the customers to route the EDA events in an event routing framework and persist the events through the webMethods Event Persistence API to a persistence layer, such as Hadoop or Elasticsearch.

Ability to schedule a task instance using either Task Engine built-in and RESTful services or Business Console.

### **Business Console**

Ability to create gadgets for Business Console: Gadgets are independent JavaScript components that use client-side AngularJS framework, which enables you to render these gadgets in Business Console by using the metadata information of each gadget.

Workbenches can now be customized and personalized in Business Console using the custom gadgets.

Task instances can now be scheduled using either Business Console or the Task Engine services (built-in or RESTful services).

### **Process Engine / Monitor**

- Join timer is now improved to avoid duplicates
  - Designer – Toggle for step ids is now allowed on top of steps
- 

## **webMethods Broker**

webMethods Broker 9.6 is tested and supported with webMethods 9.10.

---

## webMethods Business Rules

### Decision Trees

Decision trees, a new kind of decision entities, are now available in webMethods Business Rules. You can create and test decision trees in Software AG Designer. Currently, in the Rules Management Console, decision trees can be only displayed. Modification of decision tree content in the Rules Management Console is planned for the next release.

### Business Verification in Decision Tables

The actual content of a decision table which a user enters in the Rules Management Console can now be verified with custom provided REST services before deployment. For every column, a particular REST service can be specified in Software AG Designer, which checks if the actual cell content entered in the Rules Management Console is valid from a business perspective.

### Pagination of Decision Tables

In the Rules Management Console, pagination is introduced to improve the display and handling of large decision tables. Every page shows 100 lines of the decision table. Filtering functionality is supported for full decision table. The pagination speeds up the initial display of large decision tables.

---

## webMethods CloudStreams

### Community based Connectors

New CloudStreams Connectors provide connectivity to the following applications and interfaces:

- Software AG Alfabet
- Magento
- Zuora
- Marketo
- OData version 2.0 interfaces

### Deprecate CloudStreams Analytics dashboard

The Software AG MashZone based CloudStreams Analytics dashboard is now deprecated.

---

## webMethods Composite Application Framework

My webMethods Server now supports Java 8. In addition, it enables you to rename the default instance during installation or upgrade. Also, in a My webMethods Server cluster you can migrate each server instance separately.

# webMethods EntireX

## Compatibility with webMethods Suite

webMethods EntireX is now compatible with the following:

- Java 8 (Java 7 is no longer supported)
- Designer 9.10, Eclipse 4.5
- Microsoft Windows 10 and z/OS 2.2

## Administration and Configuration

webMethods EntireX now supports Command Central to administer and configure EntireX Brokers on LUW (Linux, UNIX, and Windows).

## COBOL Conversion

EntireX Adapter for Integration Server now allows you to convert binary COBOL data to Integration Server data and Integration Server data to binary COBOL.

## Monitoring

Ability to get the Broker CPU time using Command and Information Services and Broker CPU time is also a KPI now in Optimize for Infrastructure (O4I).

## Installation Packages Streamlined and Restructured

EntireX Broker can now run while you make runtime updates outside EntireX Broker. Administration and Monitoring functionalities are separated from runtime parts. Mini Runtime now has separate installation package compatible with Software AG Installer. Files are installed in standard EntireX directory. There are no post-installation steps required. Examples are reworked and streamlined.

---

# webMethods Integration Server

## Automatic Creation of OData Provider API Based on a User-Selected Database Table

Integration Server supports the automatic creation of OData provider API. Using Software AG Designer, a developer can automatically generate an OData provider API based on a user-selected database table and associated columns. Working in conjunction with the JDBC adapter, Integration Server generates the OData provider API using the database table related metadata provided by the adapter.

## Describing REST Services Using Swagger

Integration Server provides the ability to expose REST resources located on Integration Server in a Swagger document. Users can create a REST API descriptor from existing REST resources and then add interface metadata such as response codes, supported schemes, and supported MIME type definitions. Integration Server automatically generates a Swagger document for the REST API descriptor. Integration Server provides support for version 2.0 of the Swagger specification.



## **OpenID Connect Standard Support**

Integration Server supports the OpenID Connect standard. Integration Server can act as the OpenID Connect client and work with third party OpenID providers for delegated authorization purposes. Integration Server can expose APIs over a port protected by the OpenID client authentication policy. Salesforce users can access these APIs by supplying their credentials to salesforce.com. In this way Integration Server provides out-of-the-box, single sign-on for [force.com](https://force.com) application users.

## **Authentication Using Kerberos Tokens while Calling REST Services**

By providing an out-of-the-box way to send a Kerberos token in the HTTP header, Integration Server can access third party services, such as REST APIs, which are protected with Kerberos.

## **Enhanced Integration Server Administration Screens**

Integration Server provides a new look and feel for the web-based administration screens. The updated user interface is compatible with the new Software AG branding.

## **WmTomcat Deprecation**

The WmTomcat package is deprecated in Integration Server version 9.10.

## **Application/xml Content Type Support**

Integration Server provides out of the box content handler for the “application/xml” content type. The new content handler can easily support requests using the application/xml content type.

## **Utility Services for Strings and Dates**

Integration Server includes additional utility services in the WmPublic package for working with dates and strings.

---

# **webMethods Mediator**

## **API Analytics**

Mediator now supports webMethods API-Portal and Elastic Search database as additional destinations for sending API run-time events and Key Performance Indicator (KPI) metrics.

## **Kerberos Support**

In continuation to the Kerberos Inbound support provided in the last release, Mediator now supports Kerberos Outbound Authentication for web services. Customers can now protect the virtual services by any web service security mechanisms and can also invoke a native backend service which requires Kerberos Authentication.

## **Dynamic Routing**

A new Dynamic Routing policy is introduced, that enables Mediator to compute the native endpoint URL dynamically at run-time based on the incoming request parameters or the custom logic and then route the requests to that endpoint.

## **OData Support**

Mediator now supports OData services.

---

## **webMethods Mobile Suite**

### **Enhancements in Entity Modelling (EML)**

- A new data type “long” is introduced
- Entities can be explicitly declared as “abstract”
- Introduced two new helper methods: “updateFromJson()” and “getAppController()”
- The “<Entity>JsonTransformer” classes are extended to update values from the entity to the JSON
- Constructor arguments can now be passed to a transformer

### **FileDataProvider for datasources**

A FileDataProvider is introduced to load local or offline data into a data source.

### **URL encoding for parameters in REST services**

Parameters in REST services can now be set to be URL encoded. This is required for some values that are not allowed to be part of the URL (e.g. whitespace).

### **JPath API updates**

Now a “deep path” can be defined for JPath updates into the object structure without knowing if the object tree exists up to the deepest level. All missing paths are created automatically when the data is saved.

### **“{SELF}” in Binding Expression fields**

With the new keyword “{SELF}” in the expression property the currently selected model element can easily be referred.

### **Listener support for TemplateReferences**

A listener can now be attached to a TemplateReference.

### **HTTP POST request content type “application/x-www-form-urlencoded”**

A new content type for POST requests was introduced: “application/x-www-form-urlencoded”. It can be set for the content type of the request of any POST request object. It allows the request data to be form-encoded so that the query parameters are not attached to the URL but transmitted in the body of the request.

### **DatasourceNotifications**

A DatasourceNotification is used by datasources to notify its observers about the type and the data that have changed by an operation.

## **DateFormat / DateTransformer**

Mobile Designer now includes additional support for formatting dates.

## **Image Caching**

Mobile Designer now uses an image cache to speed up loading images. This behavior is 100% transparent so that existing projects will automatically see a benefit from it without any additional coding. Overall image loading times will be reduced up to 60%.

## **Extended JavaScript to Java Bridge**

The Mobile Designer API for Web Objects is extended. This allows Java code to call JavaScript methods inside a Web Object, and for JavaScript to trigger a callback with a message body in compiled Java code.

## **Registering MIME-Types and URLs for Applications**

Mobile Designer now provides a way to easily define two types of data sharing that are supported by mobile operating systems:

- File associations
- Certain URLs

## **Improved “nUISearchBar” for Android**

Mobile Designer now makes use of the native Android “android.widget.SearchView” class for handsets that support API 14 or greater (Android 4.0.x, Ice Cream Sandwich). This leads to a better and familiar user experience on those devices and can be customized much better.

## **HTTP Response body for failed requests**

Mobile Designer now listens to server error responses (usually in the 4xx or 5xx range) and passes them back to the developer. In case of an error such as a "page not found" or a "not authorized" the developer will now get both the HTTP error code number (e.g. 403, Forbidden), and any potential textual message that the server sends ("This page is only accessible by employees on Tuesday, Thursday and Saturday").

## **URLConnectionHandler - Support HTTP POST with DELETE**

Mobile Designer can now send HTTP DELETE requests with an optional POST style body.

## **Improved PPI detection for Android**

The PPI detection on Android is improved for Mobile Designer.

## **Product Deprecation**

All Mobile Device Management capabilities in Mobile Administrator are deprecated.

Mobile Task Inbox is deprecated. The provided functionality will be replaced by Mobile Business Console.

---

## webMethods OneData

### Metadata Transfer

The metadata transfer functionality is enhanced to check dependencies during the creation of transfer files. Users can now decide which dependent metadata elements to include in the transfer file.

### New UI Enhancement

The next-generation user interface screens introduced in previous releases have been enhanced to include the following features:

- Breadcrumbs
- Tooltips
- Descriptive messages panel and error panel
- Data explorer browse mode

### ApplicationWide Search

The Elasticsearch functionality now allows scheduled and automatic reindexing of data.

### SQL Server Support

The OneData support of SQL Server support is enhanced to include system objects.

### Security

In addition to Data Manager, OneData protection against CSRF is expanded to include the workflow, data interchange, and security modules.

### LDAP Integration

Integration of OneData with LDAP is enhanced to allow manual and scheduled resynchronization. During synchronization, OneData user data is updated to reflect changes in the LDAP system—new, modified, and deleted users. Also, administrator users can now to map LDAP roles and groups to OneData roles and groups.

---

## webMethods Optimize for Infrastructure

### Self-Diagnostics

Optimize for Infrastructure can now identify issues with its own functionality. In the 9.10 release, the following self-diagnostics functionality has been added. A mechanism now exists which can identify when the communication between the Infrastructure Data Collector and the Analytic Engine is broken. The diagnosis has been enhanced by exposing the internal configuration attributes as part of Infrastructure Data Collector. And the logging functionality has been enhanced for discovery and monitoring of assets through Infrastructure Data Collector.

## **Universal Messaging Cluster Monitoring**

Most customers deploy Universal Messaging servers in a cluster in their production environment. Optimize for Infrastructure has now been enhanced to enable monitoring of Universal Messaging clusters.

## **Enhanced EntireX Broker Monitoring**

Additional KPIs are now available for EntireX Broker Monitoring around CPU time, which is of special importance on the mainframe.

- EntireX CPU Time (delta)
- EntireX CPU Time Percentage (average)

## **Extended Presto Monitoring**

Presto monitoring by Optimize for Infrastructure has been enhanced to include additional delta KPIs for the Presto TomEE Tomcat server. A list of over 20 new KPIs is now available.

---

# **webMethods Optimize for Process**

## **Enhancements to In-Context Jump to PPM**

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. Once in PPM, the user can explore longer-term historical data on the same process using extensive analysis capabilities.

Building on the ability to do root cause analysis based on the intrinsic process information, business users can now also perform deeper investigation based on business process data. Custom data associated with a business process is now included in events generated by Optimize. These events are collected by PPM and included in the PPM database. In this way users who wish to do deeper investigation can logon to PPM and do dimensional analysis and design dashboards based on business process data.

## **Possibility to Add Custom-Created Analytics Dashboard**

In addition to a preconfigured analytics dashboard, users now have the option to display custom-created Mashzone NextGen dashboards in Business Console.

## **Performance Improvements**

A number of cache usage performance improvements now provide better response on data retrieval in large scale implementations. These enhancements continue a trend of implementing performance improvements with every release to support large-scale usage of Optimize for Process.

## **Suite Monitoring**

Users can now perform basic monitoring of Web Service Data Collector using the Command Central user interface. Web Service Data Collector installations are discovered and runtime status is displayed in Command Central. Users can also review logs for the Analytic Engine, Infrastructure Data Collector, and Web Service Data Collector from Command Central.

---

# webMethods Process Performance Manager

## Real-Time to Historic Visual Data Analytics

Building on ability to do root cause analysis on intrinsic process information, business users can now perform deeper investigation on business process data. Custom data associated with a business process is included in events generated by Optimize. Process Performance Manager (PPM) collects the events and includes them in the PPM database. Users who wish to do deep analysis can logon to PPM and do dimensional analysis and dashboarding using business data.

## More Flexible Migration

Users can now selectively migrate some reports to the new reporting engine whilst, continuing to use the old engine for others. This makes migration easier as it doesn't have to take place all at once.

## Java Web Start

Modern browsers prohibit Java applets for security reasons. PPM can now be launched directly using Java web start.

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## webMethods Service Development

### Automatic Creation of OData Provider APIs Based on a User-Selected Database Table

The Service Development plug-in for Software AG Designer includes a wizard for generating an OData provider API based on a user-selected database table and associated columns. Designer and Integration Server work in conjunction with the JDBC adapter to generate the OData provider API using the database table related metadata provided by the JDBC adapter.

### Describing REST Services Using Swagger

Using the Service Development perspective, users can create a REST API descriptor based on the Swagger specification. A REST API descriptor includes existing REST resources within the Integration Server and specifies interface metadata such as response codes, supported schemes, and supported MIME type definitions. Integration Server automatically generates a Swagger document for the REST API. Integration Server provides support for version 2.0 of the Swagger specification.

### Local Version Control Integration Server Improvements

Multiple local instances of Integration Server local instances can now be used as Local Version Control Integration Server (LCVI). Additionally, the Integration Server instance no longer needs to be named "default".

### Merge Capability added for Flow Service and Integration Server Document Types

Developers can use the new merge capability to merge the differences between two assets on the same server or on different servers. Merging is available for flow services and Integration Server document types. The compare editor provides a visual view of the compared items along with annotations that indicate the differences between the items. In the same view, developers can then choose to merge individual differences from one version of an asset to another.

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## webMethods Trading Networks

### Reuse of partner profile related information

webMethods Trading Networks provides an ability to reuse a partner profile's attributes related to contacts, addresses, and delivery methods across other partner profiles. Administrators, when creating or editing partner profiles will have the ability to either copy or share another partner profile's attribute. This avoids the need to recreate the same information especially when the same attributes are shared across multiple partner profiles.

### Support for payload encryption

Trading Networks provides out of the box support for encrypting payloads when the same payloads persist in the MySQL database. When an end user views the encrypted payload details through the Trading Networks Transactions screen, the payload gets automatically decrypted. Encrypting payloads provide an additional layer of security that is, especially valuable in the event, the database that is storing the payloads, is compromised.

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## webMethods Universal Messaging

### Docker support

A Universal Messaging Packaging Kit for Docker is now part of the standard Universal Messaging installation on Linux. The kit was previously available only on TECHcommunity.

The Universal Messaging Packaging Kit can be found here:

<SAG Install Folder>/UniversalMessaging/server/<UM Server Name>/bin/docker.

The kit includes the following Docker tools:

- Dockerfile for creating a Docker image from the Universal Messaging installation on Linux.
- Samples showing how to start the Universal Messaging server from the Docker image and run the sample applications of Universal Messaging within the image.
- The Tradespace demo application shows how to use 'docker-compose' to set up and run TradeSpace demo of Universal Messaging.

### Optimized persistent store

There is a new form of persistent store, enabled by setting the spindle size to a value greater than zero. This store format uses multiple files for each channel or queue and removes the overhead of Universal Messaging which has to "perform maintenance" on them. This new mechanism also allows stores to grow without any restriction on the JVM heap. The standard persistent store mechanism keeps an in-memory index which grows each time a message is added.

### Improved handling of maximum message size

In previous releases, Universal Messaging restricted the maximum message size that the server will read in by the MaxBufferSize configuration property. Exceeding this value would cause the connection to be disconnected, but the message had already been sent over the network and the reason for the disconnection was not obvious to the client. This check by the server remains but

Universal Messaging now has a client side check so that the message is rejected before it is sent over the network and the user can handle the exception.

### **Clients can “follow the master node”**

Clients can now be enabled to “follow the master” in a cluster. The client will initially connect to a server in the cluster but if that server is not the master, the client will be redirected to the master node. Connecting to the master node can provide better performance in some use cases.

### **Transactions over AMQP**

The AMQP specification defines a number of transactional operations. Universal Messaging now supports AMQP transacted operations so that client applications can perform transactional work when communicating with the realm server over AMQP. For example, if an application communicates to the realm server using a JMS AMQP client library (e.g. Apache Qpid JMS client) it can take advantage of the local transaction functionalities defined in the JMS specification.

Universal Messaging does not currently support the AMQP Transactional Acquisition operation. However, this sets no limitations on using JMS transactions over AMQP.

### **Configuration profiles in Installer**

It is now possible to select different configuration profiles using the Software AG Installer. We have provided two configurations: one tuned for typical webMethods use cases and one tuned for standalone use cases.

### **JNDI asset configuration in Command Central**

Command Central now supports the creation and maintenance of JNDI connection factories, queues, and topics for Universal Messaging. These assets can be managed through the Command Central web user interface, command line interface, REST API, and within templates.

### **Stand-alone Installer removal**

Universal Messaging can no longer be installed using its own standalone Installer. It can now only be installed using the standard Software AG Installer or Command Central.

Enterprise Manager handles realm name conflicts more gracefully

You can no longer connect to a realm with the same name as the realm to which you are already connected. Enterprise Manager now shows the host and port in the realm tree to make it clear which realm is being referenced.

Additional sample applications

New sample applications are included that can be used to:

- Create clustersf
- Create server interfaces
- Manage security groups

### **Additional documentation**

The documentation has been updated with a guide helping you configure your JVM in order to be compliant with FIPS 140-2.



The documentation now includes best practice guidelines helping you to configure Universal Messaging to have separate interfaces for client and cluster communication. The guide describes how to restrict regular client communication but allow administrators to connect when a cluster is forming.

Documentation is also provided which describes the API's `setMessageType()` method that allows a client to convert a JMS message back to its original type.

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## Documentation

### **webMethods Application Platform**

A new webhelp, webMethods Application Platform Webhelp, is available on the Software AG Documentation website. The webMethods Application Platform Webhelp includes information about how to configure Application Platform, develop projects in Application Platform, deploy your Application Platform projects, diagnose and troubleshoot Application Platform issues, and use the Application Platform API.

The webMethods Application Platform Help in Designer now features native content. It no longer redirects the user to the Application Platform guides on the Documentation website.

The webMethods Application Platform Tutorial is no longer available on the Documentation website. The webMethods Application Platform Tutorial, together with code samples, can be downloaded from the Software AG TECHcommunity website.

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## Upgrade

### **Added New Application Platform Migration Utility**

Previously, you had to copy configuration properties from Application Platform projects manually from the old installation to the new installation. You can now run the Application Platform migration utility, which migrates the properties automatically.

### **Added Event Routing to EDA Migration Utility**

Automated migrations of Event Routing configurations and event types have been added to the EDA migration utility.

### **Ability to Migrate Multiple My webMethods Server Instances on a Single Command**

In silent mode, you can now migrate multiple My webMethods Server instances on a single command when using the live database.

### **Ability to Migrate Multiple Universal Messaging Instances on a Single Command**

In silent mode, you can now migrate multiple Universal Messaging instances using a single command.

### **All Migration Utilities Use Software AG Directory as Source Installation**

Previously, all product migration utilities used the Software AG directory as the source installation except Integration Server and Universal Messaging, which used their product directories as the

source. Now, Integration Server and Universal Messaging also use the Software AG directory as their source. This change standardizes migration utility prompts for the source and creation of zip files containing the source.

### **Increased My webMethods Server Migration Automation**

The My webMethods Server migration utility now automates migration of JMX port configurations, Java Service Wrapper customization, The Universal Messaging URL, and Jetty load balancer additions.

### **Simplified Universal Messaging Migration**

The Universal Messaging migration utility has been simplified and streamlined. For example, it no longer prompts for a license, and it uses the Software AG directory as the source installation for consistency with the rest of the webMethods products.

### **Ability to Configure Platform Manager from Command Central Instead of Migrating Using a Migration Utility**

Previously, you had to run a migration utility to migrate Platform Manager. You now configure Platform Manager from Command Central.

### **Migrate Integration Server, Trading Networks, My webMethods Server, and Universal Messaging from Command Central**

You can migrate certain releases of Integration Server, Trading Networks, My webMethods Server, and Universal Messaging data to 9.10 using Command Central (see the Command Central readme for supported paths). You can migrate single servers, clusters, or entire environments in a fully automated way.

### **New webMethods Upgrade Area on TECHCommunity**

You can find a new webMethods Upgrade area on TECHCommunity. The area offers presentations made by webMethods upgrade experts, and tips, tricks, and workarounds from webMethods upgrade experts who test the upgrade procedure and work with customers. We welcome feedback, comments, and suggestions for content. You can find the area here <http://techcommunity.softwareag.com/pwiki/-/wiki/Main/webMethods+Upgrade>

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WEBM-RN-910-20160415

# webMethods Product Suite 9.12

## Release Notes

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Software AG's Digital Business Platform powers digital transformation and enables any organization to become a Digital Enterprise. And the webMethods Product Suite, a core component of the Digital Business Platform, helps you achieve this transformation.

webMethods Product Suite includes a broad collection of capabilities including application and partner integration, API management, agile process development, master data management, and operational intelligence.

With webMethods, you have an extensible, scalable and reliable backbone - running either in the cloud, on-premises or in hybrid scenarios – providing seamless integration for cloud, mobile, APIs, and Internet of Things, and streamlining process management and agile application development.

Release 9.12 of the webMethods Product Suite provides significant enhancements in every functional area of the suite.

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## Release Highlights

### Integration

Software AG's webMethods Integration Platform is a proven, pre-integrated software suite that enables enterprises to rapidly integrate systems, services, devices, processes, business partners, and data to provide new business value and improve business performance.

The key features include:

- Integration Server and the Software AG Designer Service Development plug-in now support an enhanced mapping construct that allows a business analyst to map an array of input documents (source) to a target using a single mapping step, simplifying the mapping process.
- Software AG Designer and Integration Server now support the ability to search for individual variables and identify all references to those variables in the code base, improving dependency management tasks.
- Software AG Designer lets you visually compare and merge Integration Server assets such as JMS triggers, adapter services and connections, for improved development and debugging.
- Digital Event Services (DES) is the new mechanism for event-based integration between Software AG and other Software AG components.
- Integration Server now supports out-of-the-box integration with Apama using DES.
- The Unit Test Framework (WmTestSuite) is now available via the Software AG Installer as part of webMethods DevOps Edition and allows developers to run automated unit tests for continuous development and continuous integration.
- Integration Server provides out-of-the-box scripts to create Docker Integration Server images, and is supported on RedHat Linux OS.
- Integration Server now supports an enhanced distributed caching functionality.

- Universal Messaging adds supports for round-robin message publishing using JMS connection factories for horizontal scalability, as well as improved handling of low memory situations to improve reliability.
- webMethods Trading Networks is now tightly integrated with webMethods ActiveTransfer for better management and monitoring of files that traverse these two components. Additionally, Trading Networks can now deliver documents via ActiveTransfer.
- Trading Networks and ActiveTransfer no longer need to run on the same Integration Server in order for ActiveTransfer and Trading Networks to communicate with each other.
- webMethods Application Platform now provides service browser capabilities that provides information of services exposed to Integration Server.
- A new graphical view in the App Platform perspective named Visual Navigator, allows developers to easily see dependencies in their Application Platform projects.
- A generic OData connector is now available with full support for the 2.0 specification, as well as limited support for the 4.0 specification.
- The CloudStreams engine now supports Transport Layer Security (TLS) 1.1 and 1.2 for improved security.

## **API Management**

Software AG's API Management Platform enables companies to unlock the business value of their unique data and services, while also supporting open API, mobile first, improved customer experience, Internet of Things, as well as service governance initiatives.

webMethods 9.12 includes the first release of the unified webMethods API Gateway, which is a solution that combines the mediation and security capabilities from webMethods Enterprise Gateway and webMethods Mediator as a single, easily installable and configurable product.

The key features include:

- webMethods API Gateway provides a first-level threat protection for APIs in the DMZ as well as service mediation, API lifecycle management and API policy definition, while removing the dependency on CentraSite. It also provides a new, dedicated web-based user interface for performing all API management related tasks, including creating APIs, defining policies, and publishing APIs to the API Portal.
- API Portal provides public APIs for use by external solutions, enabling the automation of API Management tasks such as publishing APIs to the portal.
- API Portal provides enhanced support for API monetization, including the definition and management of API plans and packages, enabling users to more easily publish and support API subscription and charge back services.
- API Portal provides public APIs for publishing package and plan information from external sources, enabling automated ways to define packages and plans in addition to the standard API Portal user interface.
- CentraSite now supports the HTTP PATCH verb in native and virtual services.
- Integration between CentraSite and ARIS has been enhanced to support the creation and retrieval of REST services. Also, this release includes several Business UI enhancements.
- Mediator now supports the HTTP PATCH verb, enhanced Kerberos support for inbound and outbound transactions, as well as support for the mediation of REST services without the need for the Axis framework.

## **webMethods Agile Process**

Software AG's webMethods Agile Process Platform is a unified offering designed to create business applications that are based on orchestrated, managed and monitored end-to-end business processes or workflows. The offering improves process speed, visibility, consistency and agility, while reducing costs and driving standardization across all critical components of effective business operations.

The key features include:

- Tight integration between Process Engine and AgileApps allows for the invocation of an AgileApps case from a BPM process.
- Users can now do complete monitoring of a webMethods BPM process that includes an AgileApps case and its related activity (case tasks) and workflow (case process) status via the Business Console.
- My webMethods Server now supports a SAMLv2.0 compliant SSO provider to enable seamless data flow between Business Console and AgileApps.
- webMethods AgileApps now supports Terracotta Ehcache as an option for storing object metadata in the cache.
- webMethods AgileApps now supports delegation through proxies, allowing users the flexibility to delegate their access profiles and role access to other users.
- Customers can now monitor performance statistics for Rest services provided by MWS and Business Console.
- The My webMethods Server migration utility now enables you to clone a server node in the same cluster after the first node has been migrated successfully.
- The Rules Management console now allows user to edit decision trees.
- The Mobile Suite has many enhancements including certification with Android 6, preview of the gadget in a browser view, and addition of a new user interface Control TabView.

## **Operational Intelligence**

Based on a consistent event-driven architecture, Operational Intelligence integrates best-of-breed technologies from existing Software AG products for process and data analytics into a single offering with a novel business-user interface.

The key features include:

- The dynamic ant farm process analytics view in Optimize for Process can now be configured to a specific date or time range.
- Optimize for Infrastructure can now monitor named objects, or durable subscribers, for Universal Messaging.
- MashZone NextGen Visual Analytics 9.12 is a new product that provides exploratory, ad hoc analysis of streaming and historical data from multiple sources. The product has a particular focus on Internet of Things (IoT) use cases, also providing the capabilities to support other use cases in retail, financial services – anywhere you have large amounts of data in motion.
- Command Central, the centralized monitoring tool for the webMethods Suite, can now be used to monitor, stop, start, and pause Process Performance Manager (PPM) remotely.
- New expanded search functionality in PPM makes it possible for users to select from all available dimensions and measures in the Analysis UI, independent of process type.

- PPM now provides a simplified process flow visualization that can be used along with the classic process flow capability to reduce complexity.

### Suite Enhancements

The webMethods Suite includes enhancements that improve functionality across multiple products.

The key features include:

- Command Central provides a web user interface for product installation for releases 9.8 or later.
- Command Central now allows creating, updating and deleting instances of Integration Server, My webMethods Server, Universal Messaging and Apama, directly from the web user interface.
- The Command Central product and fix repository management web user interface is now streamlined and enhanced to support the browsing and searching of the repositories, making the creation and maintenance of mirror repositories easier and more robust.
- Troubleshooting of template-based provisioning and other operations is now easier with cleaner, more readable and fewer logs on Command Central.
- Command Central can now be used to monitor shared durables. A single table in the user interface now shows all durable subscribers in Universal Messaging.
- Asset Build Environment and Deployer now allow webMethods AgileApps assets to be built and deployed to AgileApps on-premises servers.

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For more details about the key additions and enhancements for this release, see the product descriptions.

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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](#).

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## Centrasite

### HTTP Verbs Support

CentraSite supports HTTP PATCH verb in native and virtual services.

### ARIS Integration

In addition to SOAP services, Integration with ARIS supports the creation and retrieval of REST services.

### Business UI Enhancements

- Report template owners can assign permissions to allow only the authorized users to execute a report.



- Report template supports JDBC.
- Consumption request initiators can see the list of consumption requests that are pending for approval.
- CentraSite Business UI performance is improved for search functionality and asset details page rendering.

### **Administration**

- CentraSite installation and administration is simplified by removing unused ports.

### **Security**

- Security libraries that CentraSite uses are updated to recent versions.

### **Infrastructure**

Obsolete libraries are removed to make the CentraSite architecture simple.

---

## **MashZone NextGen Business Analytics**

### **Data Sources**

Starting 9.12, MashZone NextGen introduces new data sources including Excel and webMethods Process Performance Manager (PPM). These datasources can be leveraged to build dashboards based on .xlsx files and PPM (URL based) respectively.

### **Visualizations and Filtering Enhancements**

This release introduces new visualizations and filtering enhancements. These include new bubble chart, ability to have threshold colors/values in charts, filtering columns, and multi-tab filtering.

### **Graphical Feed Editor**

A new graphical feed editor that can be used to create and edit feed definitions without any programming knowledge is introduced in 9.12.

### **Migration Toolkit**

MashZone NextGen 9.12 includes a newly designed workflow to migrate data feeds from (legacy) MashZone to MashZone NextGen. The workflow includes documentation and tools to be able to export (legacy) MashZone feeds and then import them into MashZone NextGen. Once these feeds are imported, they can be used like any other data source to build dashboards using Dashboard Editor.

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## MashZone NextGen Visual Analytics

MashZone NextGen Visual Analytics 9.12 is a new product that provides exploratory, ad hoc analysis of streaming and historical data from multiple sources. The product has a particular focus on Internet of Things (IoT) use cases, also providing the capabilities to support other use cases in retail, financial services – anywhere you have large amounts of data in motion. Visual Analytics allows operations analysts, maintenance specialists, researchers, developers, and data scientists to perform their job more effectively.

Following are the capabilities:

- Explore, visualize, and analyze real-time data streams
- Explore, visualize, and analyze historic data
- Auto-discover and deploy new data sets
  - Timestamps
  - Dimensions
  - Measures
- Quickly discover new data insights through automatic statistical profiles
  - Dimensions
    - Number of unique values
    - Distribution of values
  - Measures
    - Number of instances
    - Distribution
    - Sum
    - Mean/min/max
    - Standard deviation
- Explore real-time and historic data sets using interactive visualizations
  - Line
  - Bar
  - Area
  - Scatter
  - Bubble
  - Contour
  - Stacked/grouped
  - Split
  - Groups
- Filter data as you explore
  - Dimensions

- Include
  - Exclude
  - Measures
    - Thresholds
    - Min/max
    - Mean
    - Statistical range (mean +/- standard deviation)
    - Custom ranges
  - Capture, save, and share data explorations
    - Individual analyses
    - Multi-analysis projects
  - Highlight and color measure visualizations using dimensions and other measures
- 

## My webMethods Server

My webMethods Server offers the following new features:

### Support for Universally Unique Identifier (UUID) Mechanism

Support for Active Directory alternative UUID mechanism. By default, My webMethods Server uses distinguished names (DNs) to identify users and groups. In this case, if a user moves from one division of an organization to another division, the user's DN changes, and My webMethods Server is unable to recognize users with changed DNs. To enable identification when a user is moved between divisions in an organization, the server now provides an option to use unique user identification operational attributes, such as GUID or entryUUID, depending on the user directory. If the DN does not match, the server checks the UUID to locate the user.

### Other Supported Features

- Compliance with 508 accessibility standards. Images now have alternative text, and input fields have titles or labels.
- Support for Microsoft Edge browser.
- Connectivity with external directory services through services instead of direct access by JDBC.
- Functionality in migration utility to clone a server node in the same cluster after the first node is migrated successfully.
- Support for fix uninstallation.
- Command Central plugin to create and delete server instances.

---

## Software AG Command Central

### **Product Installation Web User Interface**

Command Central provides web user interface for product installation for releases 9.8 or later. Language pack installation is also supported for 9.12 installations only.

### **Instance Creation Web User Interface**

Command Central now allows creating, updating, and deleting instances of Integration Server, My webMethods Server, Universal Messaging and Apama for installations of release 9.12, directly from the web user interface.

### **Repository Management Web User Interface**

Product and fix repository management web user interface is streamlined and enhanced to support browsing and searching the repositories. Creating and maintaining mirror repositories is easier and more robust.

### **Readable Logs in Command Central**

Troubleshooting of template based provisioning and other operations is now easier with cleaner, more readable and fewer logs on Command Central.

### **Bootstrap Installer is Now Available for HP-UX and AIX**

The Command Central bootstrap installer is now available for HP-UX and AIX, which provides support for all supported operating systems. The bootstrap installer is the main option for installing Command Central, Platform Manager or the command line tools on any operating system.

### **Cross-Site-Request-Forgery Prevention**

The Command Central web user interface is now protected against cross-site-request-forgery attacks.

### **Cross-Site-Request-Forgery Prevention**

The Command Central web user interface is now protected against cross-site-request-forgery attacks.

### **Easier to Use Online Help and Web User Interface Instructions**

Command Central online help is now reorganized and streamlined, and much of information is moved to the Command Central web user interface where it appears in the form of instructions and tooltips. Product-specific information is moved from the Command Central help into the appropriate product documentation. With this change, all information for each product is in one all-inclusive location, and the Command Central online help is now product neutral.

## **New Comprehensive Feature Support Matrix**

A comprehensive feature support matrix for Command Central is now available as a separate document titled Software AG Command Central Feature Support Matrix, available on the Empower website. The matrix lists the products you can manage using Command Central and the features that are supported for each release of those products.

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## **Software AG Designer**

Software AG Designer supports Eclipse version 4.5.2.

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## **Software AG Digital Event Services**

Software AG Digital Event Services (DES) is a new mechanism for event-based integration between Software AG components. The 9.12 release provides out-of-the box integration between Integration Server and Apama. As part of this integration, you can send events from Integration Server as digital events by switching the native messaging transport for the Integration Server document type to the new DES transport. Apama can then listen to these digital events as native Apama events and can take actions based on business logic and rules.

---

## **webMethods API Gateway**

This release (9.12) is the first release of webMethods API Gateway. It is a solution that combines current webMethods Enterprise Gateway and webMethods Mediator capabilities in a single product. API Gateway offers the same capabilities within a simplified architecture and removes the dependency on CentraSite for policy definition. Also, for all the functions, API Gateway provides a new, dedicated, web-based user interface to perform API-related tasks, from creating an API, defining a policy, to publishing the API to API Portal.

### **Simplified Architecture**

There is no dependency on CentraSite to manage APIs and policies and does not require a dedicated Enterprise Gateway to protect the APIs.

### **Two Editions**

webMethods API Gateway combines the current webMethods Enterprise Gateway and webMethods Mediator capabilities in a single product. API Gateway provides a first level threat protection for APIs in DMZ (Standard Edition) and another instance of API Gateway in green zone manages the rest.

### **Modern Web Interface**

webMethods API Gateway has a dedicated simplified web application to manage APIs, policies, consumer applications, and administrative activities.

## **Informative Dashboards**

webMethods API Gateway comes with rich dashboarding capabilities for API Analytics.

## **Developers Engagement**

APIs can be published to API Portal from API Gateway for developers to discover them. Organizations can group APIs and define policy enforcements on them as a single unit, which can then be subscribed by the developers.

---

## **webMethods AgileApps**

### **Ehcache as an Option to Memcached**

AgileApps now supports Terracotta Ehcache as an option to Memcached for storing object metadata in the cache. This option is available when the user chooses to install AgileApps on an on-premise environment.

### **Delegation through Proxies**

When a user is unavailable, the user has the flexibility to delegate the access profile and role to another user.

### **AgileApps Migration Utility**

On-premise users are now provided with an upgrade utility to migrate from 10.5 to 10.6 and upwards in a side-by-side setup.

### **MySQL5.7 Certification**

AgileApps is now certified with MySQL v5.7 Community Edition.

### **RHEL7 Certification**

AgileApps is now certified on RHEL7 environment.

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## **webMethods Agile Process**

### **Universal Messaging as a Communication Mechanism**

Universal Messaging (UM) as a communication mechanism between Process Engine (PE) and AgileApps enables invocation of an AgileApps Case from a BPM process. Any terminal status changes on the Case are relayed back to PE through UM and are reflected on Process Monitor as well.

## **Monitoring AgileApps Cases on Business Console**

A user now has the complete view of a webMethods BPM process that includes an AgileApps Case and its related Activity (Case Tasks), and Workflow (Case Process) status through the Business Console.

## **webMethods Deployer for AgileApps**

webMethods Deployer can now be used to deploy the application packages of AgileApps from one environment to the other.

## **MWS as an SSO Provider**

My webMethods Server now supports a SAMLv2.0 compliant SSO provider to enable seamless data flow between Business Console and AgileApps, thereby preventing the user to be authenticated again by the AgileApps platform if the user is already logged into MWS.

## **Common Asset Registry or Repository for Case, Process, Tasks and Analytics**

The user now has a GIT-based registry/repository to allow designers to choose assets shared by other developers to design processes and case workflows.

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# **webMethods API-Portal**

## **API Monetization Support**

API Portal provides enhanced support for API monetization. This is in the form of API Packages being displayed next to the API Gallery with API Plans defined for those packages. User can view the details of the package, such as included APIs and associated plans. Plans provide information about pricing and quality of service terms defined within them. Consumers can subscribe to any plan available under the package, based on their business needs. This initiates the subscription token process and an access token is delivered to the consumer. This subscription token can be utilized to access the list of APIs available under the package.

API Packages and Plans are normally defined in API Gateway and published to API Portal. However, API Portal also provides public APIs for publishing packages and plans information from other sources.

## **Extension Points**

API Portal provides public APIs as extension points for use by external solutions. Enhancements in this release include:

- An API for publishing APIs to API Portal and un-publishing them from API Portal. It supports both REST and SOAP APIs.
- APIs for API provider and access token management:
  - Provider registration API that can be used by the API providers to register themselves as providers for a particular API. They can also register a URL, which API Portal connects to in case someone requests an access to the API.

- An API for API providers to query API Portal for any pending API access requests.
- An API for API providers to send information about access tokens being approved, denied, renewed, or revoked.
- An API provider can update some of the basic information of an API, such as name, description, categorization, and icon of an API.

### **HTTP Verbs Support**

API Portal supports HTTP PATCH verb.

### **Advanced Dashboards**

API Portal dashboard is enhanced with the API trends dashboard. Administrator can now view the trending of APIs by success, failure, and response.

---

## **webMethods Application Platform**

### **Service Browser**

Provides the following information about services, deployed in Application Platform:

- services exposed to Integration Server
- common services
- system services

You can filter the services by name and attributes.

### **Application Platform Graphical Viewer**

A new view is now supported in the Application Platform perspective, named Visual Navigator. In Designer, Developers can use this view to improve comprehension of the dependencies in their Application Platform projects.

### **Application Platform Bundle Manager Enhancement**

The Bundle Manager view is enhanced to support Bnd templates and provide customers with more flexibility when creating bundles out of native jar files.

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## **webMethods ApplinX**

### **Start and Stop Connection Pools from Designer**

In Software AG Designer, you can now start and stop connection pools from the context menu of the selected pool.



## Replacement for Print Applet

An alternative for host printing is provided using Java Web Start technology as the Applet technology will soon be deprecated and will not be supported in new browser versions.

## Usability

The new list of entities displays the created and last modified date and time of the entity. You can filter by entity name, and use the timestamp to sort the content.

---

# webMethods BPMS

## Task Engine

Communication between Task Engine and Process Engine: The `wmTaskClient` package uses Universal Messaging as transportation. The architecture change enhances the `wmTaskClient` performance.

## Business Console

Business Console gadgets were introduced in Version 9.10. The current version adds the following enhancements:

- Preview the gadgets on a browser view in the Designer user interface Development perspective.
- Renamed Dashboard to AppSpace in Business Console.
- Grouping and sharing of AppSpaces in Business Console.
- Creating custom layouts for AppSpaces in Business Console.
- Adding gadgets to each container in an AppSpace.
- Expanding or collapsing all gadgets in an AppSpace while editing the AppSpace. This action enables you to view all gadgets in an AppSpace without having to scroll down to the end of the page.
- Viewing an AppSpace using a URL in a web browser outside of Business Console.
- Configuring the maximum number of gadgets allowed in an AppSpace.
- Accessing AppSpaces and gadgets directly through a URL displays the My webMethods Server login page if a user is not logged on.
- Generating to-do lists sequentially.
- Searching for gadgets in the Add New Gadget dialog box.
- Newly deployed gadgets appear in the Add New Gadget dialog box without having to refresh your web browser or clearing cache.
- New framework to resolve potential conflicts between similarly named JavaScript functions.
- Auto-generation of gadget code using drag-and-drop RESTful services.
- Enhanced these built-in gadgets: Task Calendar, Instance List Management, Work Stream, and Task Charts.

## Process Engine

- Queue an AgileApps Case instance from Process Designer and eventually return control back to Process Engine.
  - View a running case instance from Process Monitor.
  - Migration: Removed the dependency of the ISCoreAudit db component during ProcessAudit db migration.
- 

## webMethods Broker

webMethods Broker 9.6 is tested and supported with webMethods 9.12.

---

## webMethods Business Rules

### Edit Decision Trees in Rules Management Console

Decision trees can now be locked, unlocked, edited, and hot deployed in the Rules Management Console.

### Change Order of Decision Tree Elements in Designer

The order of decision tree elements can now easily be modified in Software AG Designer to change the evaluation order.

### Dynamic Data Providers in Decision Tables

For every column of a decision table, a particular REST service can be specified in Software AG Designer that provides a list of valid values for this column in the Rules Management Console. Only the provided values can be selected in all cells of this column; free entry is prevented.

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## webMethods CloudStreams

### Generic OData Connector

A generic OData connector is now available with support for 2.0 specification and limited support for 4.0 specification. All CRUD operations and BATCH operation services for a single entity with OData 4.0 can be created on webMethods CloudStreams version 9.10 and later.

### New and Updated Connectors

- New connector for Avalara AvaTax, version 15.4, is now available for download on Software AG TECHcommunity.
- ServiceNow connector is updated with support for Geneva version.

## TLS 1.1 and TLS 1.2

CloudStreams engine now supports Transport Layer Security (TLS) version 1.1 and version 1.2 for higher security.

---

## webMethods Content Service Platform

### New set of Integration Server Content Adapters

A new set of Integration Server Content Adapters is released to easily access the content from several Enterprise Content Management repositories, including:

- webMethods Adapter 9.12 for Documentum
- webMethods Adapter 9.12 for FileNet
- webMethods Adapter 9.12 for SharePoint
- webMethods Adapter 9.12 for Alfresco
- webMethods Adapter 9.12 for Content Management Interoperability Services (CMIS)

**Note:** You can use the webMethods Adapter 9.12 for CMIS to access all the repositories that support the CMIS standard content management protocol.

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## webMethods Deployer

### Support for Deployment of AgileApps Assets

Asset Build Environment and Deployer now allow webMethods AgileApps assets to be built and deployed to AgileApps on-premises servers.

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## webMethods EntireX

### Enhanced Flexibility with Your COBOL Endpoints

If you use Multiple Possible Output (MPO), you now have maximum flexibility to place the selector of the MPO case within your COBOL code: before, within, or after the MPO group.

Also, you can now compile the EntireX-generated COBOL assets with version 4.2 or 5.1 COBOL compilers on z/OS.

### Manage Your EntireX Assets with Command Central

Create and delete EntireX brokers using the Command Central graphical user interface. Additionally, display and stop services and server instances that are attached to the EntireX broker now.

## **Internationalize your Integration Scenarios**

Safely extract your Natural source comments also when using Arabic shaping and/or multibyte character sets. Define your favorite custom conversion now on z/OS as was previously possible on other platforms.

## **Profit from Enhanced Usability**

Description of feature or enhancement:

- Work with user-defined date and time formats in the EntireX Adapter for IS
- Use mixed-case passwords for CICS® ECI
- Find a date field when generating a .CSV file with the EntireX Trace Utility
- Get clear error messages when starting your EntireX broker in case of an inconsistent attribute file

---

## **webMethods Integration Server**

### **Mapping Enhancements**

Integration Server, in conjunction with Designer, provides an enhanced mapping construct that allows a business analyst to map an array of input documents (source) to the target using a single mapping step.

Additionally, the mapping enhancement (Data Mapper) allows the developer or mapping analyst to test the map step without executing the entire flow service.

### **Event-Based Integration between Integration Server and APAMA**

Digital Event Services (DES) is the new mechanism for event-based integration between Software AG components. The 9.12 release provides out-of-the box integration between Integration Server and APAMA. As part of this integration, you send the events to digital event services by switching the native messaging transport to the new DES transport. APAMA can listen to these events and can take actions based on business logic and rules within APAMA.

### **Search and Refactor Support**

In conjunction with Designer, Integration Server supports the ability to search for a particular variable and identify all references to that variable in other assets, such as flow services, document types, specifications, and triggers. Users can selectively or globally replace a particular variable with another variable. This kind of global search and refactor increases developer productivity and enables easier maintenance of the code base thereby reducing costs.

### **Docker Scripts for Integration Server**

Integration Server provides out of the box scripts to create Docker Integration Server images. While tested on the Red Hat Linux operating system, the feature can be used on a non-Windows operating system on which Integration Server is supported and Docker has native support.

## **Publish REST API Descriptor to API Portal**

Using the Designer tool, developers can publish the Swagger document for a particular REST API descriptor to the API portal.

## **Kerberos Delegation Support**

Integration Server provides out of the box support for Kerberos delegation at transport level for HTTP/REST protocols.

## **Distributed Caching Enhancements for Integration Server**

Integration Server provides enhanced service results caching functionality. This includes the ability to:

- Use a distributed cache for service results caching.
- Pre-fetch and fill data into the service results cache at startup time.
- Return a list of all cached values from service results cache.
- Delete an entry for the distributed service results cache.

---

# **webMethods Mediator**

## **HTTP Verbs Support**

Mediator supports the HTTP PATCH verb:

## **API Protection and Security**

- Mediator supports Kerberos over transport in inbound and outbound (including delegation) scenarios.
- SAML feature is enhanced to provide support for the following:
  - Holder Of Key Symmetric binding in Inbound
  - Holder Of Key Symmetric and Asymmetric binding in Outbound
  - Bearer Token in Outbound
  - ActAs delegation in Outbound

## **Architecture**

Mediation of REST services is supported with or without the Axis framework. This is controlled by a CentraSite configuration parameter. Once this parameter is set to not use Axis for REST services, all newly deployed services do not use it. Existing services continue using Axis until it is manually changed by publishing and republishing the service.

---

## webMethods Mobile Suite

### New User Interface Control TabView

A TabView provides a high level navigation pattern, where a user can switch between different Views using a swipe gesture. A Tab provides content grouped in a View. A label or icon describes the content of the Tab. To support this pattern with Mobile Suite, nUITabView is introduced. nUITabView is a nUIViewDisplay and can be used in the same way as a regular nUIViewDisplay. Together with tabs, you can add other user interface elements to nUITabView to be displayed between view header and tab elements (not supported for Windows phone).

The AML Outline Editor also supports modeling of nUITabViews. An element named TabView is now available to be added to the Views node within the Outline Editor.

### Styles

The AML Outline Editor now allows customers to group their user interface properties in reusable elements, named Styles. Each user interface element can be linked to a Style and so every user interface property related to this element will be taken from the Style. Also, Styles can build an inheritance relation.

The ApplicationStyle now offers a capability to define Styles and Themes for Android projects. According to Android, a Style is a collection of properties that specify the look and format for a View. In the AML Outline Editor, the ApplicationStyle node provides a child called Android Theme.

### New Wizard to Import Sample Projects

A new wizard is added to import example projects in Mobile Designer.

### ARIS Picture-to-Model App as Sample Project

The ARIS Picture-to-Model app is now added as a sample project with full source code. This can be used as a basis for the development of similar apps using the same technology.

### CredentialStore and IsolatedKeyValueStore Classes Added

Storing sensitive data such as usernames, passwords, and settings, require more data security than the record store may be able to provide on a given platform. To overcome this, Mobile Designer 9.12 provides a com.softwareag.mobile.md.io package with CredentialStore and IsolatedKeyValueStore classes. These classes make a best-effort attempt to isolate the data from other applications and casual snooping.

Mobile operating systems differ in how this isolation occurs, but Mobile Designer attempts to use features such as the Keychain Services (iOS), and/or mark files as private/protected, and excluded from backups.

A sample application, `_NativeUICredentialStore_`, is shipped with Mobile Designer to demonstrate the use of both classes.

## Definition of Colors/Sizes/Font Sizes

The AML Outline Editor offers the capability to define colors, sizes, and font sizes within the UserInterface - Values section. Each of these is identified by a name and can be chosen as value for correspondent properties.

## New User Interface Templates in the Editor Palette

Following new templates are added to the Palette view in the Templates->List Items category:

- Avatar with Text and Icon
  - Two-line item
- These templates are frequently used user interface patterns and can now easily be dragged into the Templates section of the application model.

## New APIs and AML Outline Editor Properties

Following user interface APIs and corresponding properties are now supported in AML Outline Editor:

- `nUITabView`
- `nUIWebViewElement#bgColor`
- `nUIWebViewElement#scaleToFitEnabled`
- `nUIWebViewElement#overscrollingEnabled`
- `nUIDateEntry#halign`
- `nUIDateEntry#fallbackText`
- `nUIDateEntry#fontColor`
- `nUITextfieldElement#clipType`
- `nUIDropdownListEntry#halign`
- `nUIDisplayObject#tag`
- `nUIDisplayObject#backgroundDrawable`

## Support for new union type *dp* in AML

The AML Outline Editor now supports density independent pixels for dimensional properties, like "x", "y", "innerX", and "innerY". A *dp* represents a virtual pixel unit to express dimensions or position in a density-independent way. In addition to specifying *dp* values in the AML Editor, users can programmatically set dimensions or position. Therefore, the API method `com.softwareag.mobile.runtime.toolkit.util.AppUtility.convertDpToPixel(int)` is added to calculate a pixel value based from the passed *dp* value.

## New property Tag to nUIObjects

For `nUIObjects` a new property tag is added. Tags contain some context information about the `nUIObject` instance that can be used in callbacks and delegates.

## Custom Resources in Android Project

The Android platform build is extended to take custom resource folders into account, as this is a common source for native code injections. Specified resources are copied to the <project>/res directory and thus, must follow Android resources guidelines.

## EML Support for Operations

EML is extended to allow method definitions. Those are generated as an abstract method and must be implemented in the entity implementation.

## EML Support for Defining Opposite References

Sometimes, data models declare a bi-directional relationship between entities, which have to be maintained manually by writing code. EML will now take care of bi-directional synchronization and maintains such relations automatically.

## Configuration of ANT Target Executed After Code Generation

Previously, the code generation was always followed by the ANT target Re-Activate-Handset. Now it is possible to select the ANT target, which is executed after code generation. Possible candidates can be selected within the Mobile Development preferences page.

## Cancel Button in iOS Keyboard Removed

In iOS, the **Cancel** button that appeared at the top-left corner when you open the keyboard or any of the pickers is removed.

## New Events in Date/Time Picker

You can now click **Done** button to trigger a `nUIConstants.EVT_PICKER_OK` event and click **Cancel** button to trigger a `nUIConstants.EVT_PICKER_CANCEL` event.

## Native Code Injection Support for Phoney

Using native code injection in Phoney allows using J2SE feature set for Phoney platform. This can be useful by testing native libraries such as Tesseract, direct in simulator.

## Android Header Implementation Refactored to Use Toolbar

In Android, view header is replaced by Android's native Toolbar class. Together with improved native look and feel, it is now possible to customize view header as well.

## Introducing setTag/getTag Methods in nUIObject

In some cases, it is very useful to store some data in UI objects. The methods are defined in the `nUIObject`, the top most parent in user interface hierarchy.

## New onRemoved() method in UI Hierarchy

When you subclass a UI class, you can now overwrite the `onRemoved()` method to clean up references that are stored in the class, to avoid cyclic references on iOS platform.



### **urlDecode Added**

A new method `urlDecode` is now added to `HttpConnectionHandler`. The method decodes bytes into UTF-8 string.

### **Improved urlEncode Performance and Support for UTF-8**

`HttpConnectionHandler.urlEncode` now supports UTF-8 strings. Performance is improved by using lookup table for checking for valid characters.

### **imageScaler Class To Use Native Methods for Scaling Images**

To improve quality of scaled images, an `ImageScaler` is now introduced. It uses native platform methods to scale images. The class is used internally in `ImageHandler` as well, so that old projects can automatically benefit from new functionality after the new Multi-Build with MD 9.12

### **syncUI Method Added**

A new blocking method `syncUI` is introduced to force UI flushing. Since the method is CPU-intensive, this method should be used with care.

### **New API to Request Permissions at Runtime**

Mobile Designer now supports a new API to request permissions at runtime. This is a mandatory requirement of Android 6. For certain features, it used in iOS 8 and later versions.

### **New Background Concept: IBackgroundDrawable**

WIn previous versions of Mobile Designer, it was only possible to set background colours and Images on very few `NativeUI` Objects. Now, all `NativeUI` Objects inheriting from `nUIDisplayObject` have a common method to set or get their background.

- `public void setBackgroundDrawable(IBackgroundDrawable background)`
- `public IBackgroundDrawable getBackgroundDrawable()`

Additionally, there is now a `com.softwareag.mobile.runtime.nui.background` package that manages the following types of `IBackgroundDrawable` that can be set:

- `ColorBackground` describes a single colour for the element's background
- `DefaultBackground` is used to give the standard behaviour for that handset and OS combination, and
- `PatternImage`, which can be used to draw an Image into the background of an element (OS and element permitting).

`PatternImage` is the most complex among these, and it supports several different modes of operations such as tiling, scaling proportionally, and stretch to fit. When tiling, you can specify vertical and horizontal tiling independently, or to have both enabled.

### **Support for Self-Signed SSL Certificates (iOS and Android only)**

Self-signed certificates are now allowed for each URL on Android and iOS. Android and iOS uses the following API function for checking Self-signed certificates:

```
public boolean allowUnsecureSSLConnectionForURL(String url)
```

For each web page (*https://...*), the operating system uses this API to verify if the associated URL is valid (even if a certifying authority has not verified the URL).By default, this API function returns false for all URLs (rejecting all self-signed certificates).

### **Android 6 Certification**

Mobile Suite is now certified for Android 6.

### **Improved Build Job Details in Mobile Administrator**

Build jobs now link directly to the build configuration used for the build. Further, build jobs now provide information about the client application version on the build node used to execute the build. The build job now also contains build logs, which helps developers troubleshoot issues during the build.

### **Removed Deprecated Mobile Device Management Capabilities from Mobile Administrator**

Mobile Administrator does not support Mobile Device Management as of 9.12 release. All corresponding features are removed or disabled.

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## **webMethods OneData**

### **User Interface Improvements**

The new user interface for OneData is enhanced in the following areas:

- In data entry screens, improved display of errors and new customization options for data display.
- In the data grid for search results, improved user experience in the display of dates, sorting of data columns, and resizing of the left panel.
- In the audit data screen, more filter options are introduced.
- Searching and browsing of data, which now includes remote objects.

### **API Layer Enhancements**

New public data quality APIs is now exposed:

- Data cleanser APIs, which include:
  - A generic cleanser.
  - A cleanser that uses OneData-defined cleansing projects.
  - A cleanser that uses OneData-defined cleansing projects for a given data object.
- Data matcher APIs, which include:
  - A generic matcher.
  - A matcher that uses OneData-defined matching projects.
  - A matcher that uses OneData-defined matching rules.
  - A matcher that uses OneData-defined matching projects for a given data object.

### **OneData objects now support JSON schema:**

- You can use JSON as the payload format in HTTP POST calls to OneData REST data.
- The object definition allows you to generate a JSON schema for such calls. You can then retrieve this schema in an API call with “/JSONSchema” appended to the REST API exposed by the object.

### **Security Improvements:**

In addition to the previously available protection of input validation against cross-site script (XSS) attacks, OneData now provides enhanced protection against security vulnerabilities of XSS through responding encoding. API methods are also now protected against XSS attacks.

### **Infrastructure Improvements:**

The search functionality in OneData is now configured to use Software AG Event Data Store by default. This change does not affect the previously available option to use a separate instance of Elasticsearch as the search engine.

---

## **webMethods Optimize for Infrastructure**

### **New Monitoring Capabilities**

- Optimize for Infrastructure can now monitor named objects, or durable subscribers for Universal Messaging.
- Optimize for Infrastructure can now monitor the event routing runtime.
- My webMethods Server deployments that are configured with a custom root context can now be monitored by O4I.
- Terracotta Server Array (TSA) can now be monitored over SSL (HTTPS).

---

## **webMethods Optimize for Process**

### **508 Compliance - Tables and Forms**

508 compliance is implemented for tables and input fields in forms, thus improving the accessibility for Optimize portlets.

### **Custom Range and Auto-Refresh for Process Analytics**

The dynamic ant farm process analytics view can now be configured to a specific date or time range. In addition, you set the refresh rate to automatically refresh on a user-defined interval.

---

## **webMethods Process Performance Manager**

### **Ease of Use**

New expanded search functionality makes it possible for users to select from all available dimensions and measures in the Analysis UI independent of process type.

Core PPM components now have less restrictive locking defined so more activities can be performed simultaneously. For example, when a user is editing a user-defined measure, imports can proceed in parallel.

Reports can now be issued using the XLSX report output format. Tables can be exported using this format as well.

There is improved consistency checking and error handling for Microsoft SQL Server.

### **Improved User Interface**

A new simplified process flow visualization is available that can be used along with the classic process flow. This view provides reduced complexity. Users have the ability to drag and drop steps to arrange the discovered process in a clearer pattern and save the preferred view.

PPM can now be used as a data source for MashZone NextGen Business Analytics dashboards. Users can now create MashZone NextGen charts that consume data from PPM and filter those charts using business dimensions from the process.

The Microsoft Edge browser is now supported.

### **Monitoring and Administration**

Command Central, the centralized monitoring tool for the webMethods suite, can now be used to monitor, stop, start, and pause the PPM remotely. Administrators can see CPU and memory utilization, and have remote access to logs for analysis. All Command Central capabilities are fully automatable through command line scripting or REST services. More granular permissions can now be defined for reporting.

The report automation authorization is now separate from the report definition authorization.

### **SAP Support**

Using SAP SNC, it is now possible to configure a secure connection to SAP for data extraction.

PPM supports SAP for process discovery. This includes any SAP-supported database such as HANA.

### **Cloud Support**

Old protocols used to communicate across runtimes are replaced with HTTP-based communication to enable cloud deployment.

PPM now allows administrators to define a separate public server name from internal server names for intra-server communication. This addresses some cloud deployment scenarios where the name used to externally access the webserver is different from the server name of the running hardware.

---

## webMethods Service Development

### Mapping Enhancements

Service Development provides an enhanced mapping construct that allows a business analyst to map an array of input documents (source) to the target, using a single mapping step. Service Development offers improved debugging of data mapping by introducing the Data Mapper view. While in this new view, developers or mapping analysts can test the map step without executing the entire flow service. Furthermore, users can execute, modify, and then re-execute a mapping without saving the changes in between test executions.

### Search and Refactor Support

Service Development now supports the ability to search for a particular variable and identify all references to that variable in other assets, such as flow services, document types, specifications, and triggers. Users can selectively or globally replace a particular variable with another variable. This kind of global search and refactor increases developer productivity and enables easier maintenance of the code base thereby reducing costs.

### Publish REST API Descriptor to API Portal

Users can now publish the Swagger document for a particular REST API descriptor to the API portal.

### Improved Debugging for Flow Services

To improve debugging capability, Service Development includes a Debug to Here option, which allows a developer to debug a flow service up to a specific flow step.

### Visual Comparison and Merge for JMS Triggers, Adapter Services, and Adapter Connections

Service Development now provides support for visually comparing versions of JMS triggers, adapter services, and adapter connections and merging any differences between versions.

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## webMethods Trading Networks

### Tight Integration with ActiveTransfer

webMethods Trading Networks is now tightly integrated with webMethods ActiveTransfer for better management and monitoring of files or documents exchanged. Trading Networks now provides an ability to deliver documents through ActiveTransfer. Administrators can explicitly select ActiveTransfer as the delivery method in Trading Networks and set the end points that ActiveTransfer connects with to transfer the documents. Documents delivered through ActiveTransfer are monitored directly in the Transactions page that includes the transaction ID for the document as an attribute.

## **Eliminate Co-Dependency Between ActiveTransfer and Trading Networks**

Trading Networks and ActiveTransfer instances no longer need to run on the same Integration Server instance for ActiveTransfer to communicate with Trading Networks and Trading Networks to communicate with ActiveTransfer. ActiveTransfer can now route inbound files to any Trading Networks instance without any intermediate storage. Similarly, Trading Networks can deliver files through any ActiveTransfer instance for outbound file transfers.

## **Configure User Status**

Administrators can now optionally configure user status and allow it to be set only from a predefined set of values. Using this option, users can set a user status to one of the values from the pre-defined list. This eliminates users from making typographical errors while specifying the user status values in a free form setting.

## **View Transport Status**

Trading Networks now lists the transport status as a column in the Tasks lists to view the transport status messages for delivery tasks.

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# **webMethods Universal Messaging**

## **Durable Subscribers Monitoring and API Improvements**

Enterprise Manager has improved monitoring of durable subscribers and is now able to display more details for the durable subscribers, including details about the connections currently being used, the EIDs and the number of events outstanding in the queues. This information can now also be accessed via the administration API.

The client API for durable subscribers and named objects are redesigned to improve performance, robustness, and usability. The new durable subscribers API, available from the client API, maps to the existing durable functionality of subscriber functionality.

## **New and Enhanced Command Central Capabilities**

You can now use Command Central to add, edit, delete, administer, and monitor channels (topics) and queues. In addition, you can monitor durable subscribers to easily detect and identify issues such as stalled triggers or processing backlogs.

These capabilities can be accessed using Command Central web user interface, Command Central command-line interface, and REST API.

The Command Central web user interface now provides the following capabilities:

- Create and delete Universal Messaging server instances.
- Search for JNDI entries, channels, and queues.
- View, create, edit, and delete access control lists (ACLs).
- View create, edit, and delete joins for a channel or a queue.
- Delete durable subscribers.

## Improved Handling of Low Memory Situations

New methods for protecting against out-of-memory situations have been introduced to increase the robustness of Universal Messaging under heavy load.

The “event usage” metric provides information on memory currently in use by on-heap events. This includes current on-heap event memory usage, the maximum memory currently available to the JVM, and the percentage of on-heap memory currently in use. These statistics enable monitoring of the current memory usage, allowing action to be taken accordingly.

Universal Messaging servers can now throttle producing connections while processing their events. At predefined, configurable thresholds of on-heap event memory usage, producer connections are throttled, enabling consumers to reduce the number of events on the connections while they are throttled. Connections are more strictly throttled as memory usage rises, helping to prevent out-of-memory situations.

## Round-Robin Message Publishing Using JMS Connection Factories

Horizontal scalability improvements are introduced with the API for JMS now allowing the configuration of round-robin connection factories. These factories allow clients to publish messages in a round-robin fashion, so that one message or transaction gets published to the first realm node or cluster, the next message to the next realm node or cluster, and so on.

These JMS connection factories have the following limitations:

1. Event consumption is not supported through these factories so, for example, message listeners cannot be registered and consumers cannot be created through the sessions created from these connection factories.
2. The sessions created through these connections factories do not support distributed (XA) transactions.

For more information consult the JMS section of the product documentation.

## Logging Capabilities Enhancements

Support has been added for utilizing the third party logging frameworks Logback and Log4J 2. Both of these testing frameworks offer improved throughput performance when compared to the existing Flogger engine.

Log file entries are now categorized by the component which generated the entry, for example Cluster Communications and Joins.

**Note:** Changes have been made to the logging configuration items stored in the `data/RealmSpecific/Logging Config.cfg` file. When you migrate a realm data directory from an older version to the 9.12 installation, remove this file. The server then loads only the new configurations items on initialization. The logging configuration then needs to be reset through Enterprise Manager or the administration API. For more details on how to reset the configuration, see the Realm Configuration section in the Universal Messaging user documentation.

## Improved Futureproofing for Universal Messaging Clients

The client API is now officially supported for use with newer versions of the Universal Messaging server. That is, the 9.12 client API will be supported for use with future versions of the Universal Messaging server.

The client API is extended in this release with features that were previously only in the administration API (which is not supported for use with newer versions of the server).

Access Control List (ACL) can now be set at store-creation time through the Java and C++ client APIs. This allows basic ACL control for stores without needing to use the administration API.

Setting ACLs at store creation time has been a typical use for the administration API. These changes allow the client API to be used in a greater number of use cases. The client API is lighter-weight than the administration API, and therefore switching to the client API can increase overall system performance and consumed bandwidth.

### **HTTP Drivers Support Checking of Origin Headers**

The HTTP/WebSocket drivers are updated to process the Origin header field according to standards proposed in RFC-6454, RFC-6455 and the W3C Cross Origin Resource Sharing document (<https://www.w3.org/TR/cors>).

The nhp/nhps interfaces should have the CORS Allowed Origins (located under the nhp/nhps Interface -> Javascript tab in Enterprise Manager) altered if an HTTP request has the Origin header field set. Previous versions of Universal Messaging had default values of "localhost, 127.0.0.1" assigned to the CORS Allowed origins field, and would process only host names as values to this field. The current W3C standards now expect any origin to be of the form `<scheme>://<host>:<port>`; for example, `localhost` is an incorrect value, while `http://localhost:11000` is a properly formatted value. The exception is a single value of "\*", which indicates that all hosts are permitted access; note that the processing of this value has not changed with the update, and is now the default value in the CORS Allowed origins field whenever an nhp/nhps interface is created.

In addition, support for matching `http://example.com` and `http://example.com:80` as origins (as documented in RFC-6454) is currently not supported. You will need to explicitly white list hosts with `*:80` as potential origins (if needed) in addition to others.

### **Warning of the Effects of Editing Stores**

When stores are edited, Universal Messaging deletes and recreates the store and this can disrupt active subscriptions. Enterprise Manager is updated to display a warning message that the store will be recreated, before a channel edit is performed.

### **nInterfaceTool Extended to Allow Editing of Additional Interface Settings**

The nInterfaceTool is extended to provide additional capabilities. For example, it now allows you to set interfaces to automatically start when the server starts.

### **Support for Docker 1.10**

The Universal Messaging Docker kit now supports Docker 1.10.

### **Inclusion of Python and iOS Client Libraries in Installation**

The client libraries for Python and iOS are now included as part of the installation.

### **UM-Tools Runner Installed with Template Applications Module**

The um-tools runner is now part of the installer the *Template applications* module and not the *Server* module. This allows you to install the um-tools runner without installing the server.



## Updated Version of OpenSSL

Universal Messaging now uses OpenSSL 1.0.2 instead of the previous version 1.0.1.

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## Unit Test Framework

With webMethods 9.12, the Unit Test Framework, which is popularly known as WmTestSuite, is available as a product. It is officially supported and made available through Software AG Installer 9.12.

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## Documentation

### Command Central

- Easier to Use Online Help and User Interface Instructions for Command Central  
Command Central online help has been reorganized and streamlined, and much information has been moved to the Command Central GUI where it appears in the form of instructions and tooltips. Product-specific information is moved from the Command Central help into the appropriate product documentation. With this change, all information for each product is in one all-inclusive location, and the Command Central online help is now product neutral.
- New Comprehensive Feature Support Matrix for Command Central  
A comprehensive feature support matrix for Command Central is now available as a separate document titled Software AG Command Central Feature Support Matrix, available on the Empower website. The matrix lists the products you can manage using Command Central and the features that are supported for each release of those products.

### Trading Network

From this release onwards, the Trading Networks Webhelp is not available as a standalone document on the Empower website. The content of the Trading Networks Webhelp is available in the B2B Integration compendium.

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## Upgrade

### Integration Server Migration Utility Offers Separate Prompts for JDBC Pools in Prompt Mode and Options in Command Line Mode

Previously, JDBC pools were included as part of the prompt for configuration files, and you had to prompt through configuration files one at a time to prevent the migration of JDBC pools when using a cloned database. With this release, the JDBC pools prompt is separate, and asks whether you are using a cloned database. In addition, you can now specify the connection information for a cloned database in command line mode, which enhances the automation of migration.

### **My webMethods Server Cluster Migration is More Efficient.**

My webMethods Server migration utility now performs faster and efficient cluster migration.

### **My webMethods Server Migration Utility Command Line Mode Offers the Ability to Migrate When Using Cloned Database.**

Previously, you could use the My webMethods Server migration utility's prompt mode to migrate when using a cloned database. You can now specify connection parameters for a cloned database on the migration utility command line mode, which enhances migration automation.

### **Ability to Migrate All Universal Messaging Instances Simultaneously.**

Previously, you could use the Universal Messaging migration utility to migrate multiple instances you specified explicitly by name. You can now migrate all instances at the same time without specifying instance names.

### **webMethods Adapter for SAP Migration is More Automated.**

Another manual step in the webMethods Adapter for SAP migration has been automated. You no longer have to manually copy the *node.ndf* files from the old installation to the new installation.

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