

# 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 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.

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## 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.

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## 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.

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# 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>

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## **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.

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## **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.

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## 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.

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## 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.

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## 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.

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## 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>

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## **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.

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## 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.

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## 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
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## webMethods Broker

webMethods Broker 9.6 is tested and supported with webMethods 9.10.

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## 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.

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## 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.

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## 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.

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# 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.

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# **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.

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## **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.

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## 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.

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## 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.

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# **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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