

webMethods Product Suite 9.7

Release Notes

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.

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 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

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.

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.

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.

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.

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

“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.

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.

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.

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.

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.

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.

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

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.

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).

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.

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.

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

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.

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.

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

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.

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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