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ApplinX User Guide

ApplinX Release Notes

Version 9.5 SP1

November 2013

webMethods ApplinX

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1   What's New in Release 9.5

Extended Browser Support

The following browsers are now additionally supported:

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

See Supported Browsers for full list.

Extended Application Server Support

The following application server is now additionally supported:

- Tomcat version 7

See Operating Systems and Supported Platforms for full list.

IIS Support

You can now deploy and run an ApplinX application under IIS. See Deploying and Running an ApplinX Application on IIS Version 7.5 or 8.

See Operating Systems and Supported Platforms for full list.

2   What's New in Release 9.0.0

Web Page Integration

The Web Page Integration feature enables simulating web browser activity and exposing it as a standard web service or integrating it with other ApplinX procedures. Web browser activity is simulated within ApplinX by recording and entering/capturing relevant web content using Web browser based tools. The web content is automatically produced by a new type of Procedure – the Web Procedure. This Procedure is specifically designed to enable integrating the User Interface (UI) of Web Pages within ApplinX taking advantage of the flexible and dynamic capabilities incorporated within ApplinX Procedure infrastructure. These procedures can be exposed as services in the same way the existing ApplinX procedures such as Path and Flow Procedures are exposed.

Support for IPv6

ApplinX supports working with IPv6 as well as IPv4 when working with ApplinX components that use IP addresses.

License

The license mechanism in ApplinX has been enriched and now displays how many licenses you have for each solution (in the Server Properties) and also (using Administrative Web Services) enables retrieving data regarding the use of the different license types, such as the number of connections currently being used per license type. Refer to the License Key Concept.

.Net 4 Support

ApplinX .Net frameworks are now available in .NET framework v4.0 on both 32 and 64 bit operating systems.

3 What's New in Release 8.2.2

Registering an Application to CentraSite

ApplinX enables publishing an ApplinX application to CentraSite ActiveSOA. The published application will include all the ApplinX assets: the Server, application, host, screens, screen groups, screen images, path and flow procedures, procedure groups, external web services and program procedures and the connections ("Associations") between them. The ApplinX assets will then be available to other CentraSite users for impact analysis. Refer to Publishing an Application to CentraSite for further details.

Enhancements when Importing Host Screen Maps

- Additional support has been added, to enable importing maps which have encoding which is not the server default encoding. Previously it was possible to import only maps which had the server default encoding. Now ApplinX enables selecting other encodings.
- ApplinX now supports importing a single Natural map (NSM format).
- When importing Natural maps, visual attributes such as intensified, underline, reverse video and colors are now imported into the screen images.
- ApplinX now supports importing Natural fields which are not declared in the definition section of the map.

Multiple Tables in Screens

ApplinX enables defining more than one table per screen (in the Screen Editor). This was possible in ApplinX versions previous to 8.X and has now been made available again. This is typically useful in SOA solutions, in Path Procedures, when required to provide structured output.

Browser Support

Added support for:

- IE 9.0
- FireFox 5.0

Support for AIX 7.1

Support has been added for AIX 7.1 and ApplinX now operates on this platform.

4 What's New in Release 8.2.1

Screen Process Extractor

The Screen Process Extractor extracts process-relevant data from 3270/5250 screens and provides it to ARIS PPM. The Screen Process Extractor is based on ApplinX technology, however, the data can be extracted from virtually any terminal emulation on the market.

In order to implement the Screen Process Extractor, ApplinX designed, Business Activity entities are required. These are created in ApplinX Designer and are used in the Business Process Analysis when analyzing trace files. The Business Activity entity enables defining rules and conditions that are later searched for when analyzing trace files. Once these rules and conditions are met, the relevant information regarding the activity is detailed in an XML file. The XML file is then loaded into ARIS PPM where they can play a part in analyzing a broader Business Process.

> **Note:** A BPD license is required for this feature.

Refer to Screen Process Extractor for further details.

Terminal Emulation Proxy Functionality

This feature enables redirecting emulation network traffic to pass through the port configured in the Application Properties (only relevant for AS/400 and Mainframe hosts). This feature is particularly required for two new key features:

- Screen Process Extractor: Used to collect user's trace files using their existing communication with the hosts.
- Automatically identifying screens and map steps using trace files.

Enhanced ApplinX Session Recordings Capability

ApplinX trace files have been enhanced and now include the following capabilities:

- Trace files can now be compressed to save space on the disc. This is particularly suitable when tracing a large number of files on a regular basis.
- Trace files can now be encrypted.
- Trace files can now be saved in separate directories per Day, Month and year. This is particularly useful when tracing a large number of files on a regular basis.

Refer to Recording Trace Files for further details.

Automatically identifying screens and map steps using trace files (GCT)

ApplinX has introduced a new wizard which enables using a trace file (GCT) to:

- Automatically identify screens.
- Automatically determine map steps between screens.

Integration with webMethods Integration Server (IS)

- webMethods Integration Server supports the integration of diverse services, such as mapping data between formats and communication between systems. ApplinX procedures can be registered as services in webMethods Integration Server.
- ApplinX procedures enable providing credentials to execute Integration Server services.

For further details, refer to Registering a Web Service to webMethods Integration Server.

CentraSite integration changes

Two changes have been made in the CentraSite integration:

1. It is no longer necessary to define a username and password for connection to CentraSite as the username and password defined in the CentraSite plugin preferences are used.
2. ApplinX now uses an aar file to register ApplinX procedure groups as services in CentraSite. The process has changed and now you need to first export the Procedure Group, and then generate an aar file (right click on a procedure group and select to generate the aar file and then in the Java perspective right click on the aar file, deploy it to WS-Stack and then right click again and register it to CentraSite).

Path Wrapper Conversion

When migrating previous ApplinX versions to the current version, Path Wrappers work in runtime, but cannot be edited. There is now a conversion process which converts these Path Wrappers to Path Procedures. Details regarding this process are included in the Post Migration Tasks.

Note: When converting a Path Wrapper, the path which is invoked by the path wrapper is also converted. When converting a Path which is invoked by a Path Wrapper, the Path Wrapper is also converted.

Procedure: Saving Procedure Node Tree as Image

An image of the Procedure tree can be saved as a PNG file for later reference, by right-clicking on the Procedure root node, and selecting **Save as Image...**

Replay File Navigation: Navigating to a Specific Screen

When using the Replay Trace File Navigator toolbar in the Session View, it is now possible to select the name of the screen you would like to navigate to. It is also possible to search for screens associated with a specific screen group, by selecting the screen group. Refer to Using the replay navigator within the Replay Mode Navigation section for further details.

Added Support to Visual Studio 2010

- In this version, it is possible to create .Net Web applications and Procedure Clients in Visual Studio 2010.
- Migration from previous Visual Studio versions is now available.

SSL connection between .NET base object/framework and ApplinX server

ApplinX .Net Base Object now supports SSL connection to ApplinX Server

New embedded database to be used as the ApplinX application repository

ApplinX now offers using an internal built-in ApplinX database to use as the repository. This improves performance, simplifies the repository configuration process and performs automatic synchronization during the migration process. The embedded database is listed in the list of repositories that can be selected when determining the database ApplinX is to work with. The embedded database is now used by default when defining a new ApplinX Application.

New Code Pages

Support has been added for the following code pages:

- cp274 (Old Belgium)
- cp1130 (Vietnamese EBCDIC)

Session Data

Session Data is an entity, based on data structure, used to save session context information. Each application has a single Session Data entity, located in the Repository folder. The Session Data entity enables defining variables and their types in the session context during design time. In Runtime, a Session Data object is created for each user session, and it is possible to set and then use the variables' values in the current session. The session data can be useful to save user information during the session.

5 What's New in Release 8.1

Installation using Software AG Installer

From ApplinX version 8.1, the installation process has changed and now uses the new Software AG installer. The installer enables downloading all the suite products which you have acquired. The installer also enables installing more than one ApplinX instance on the same machine. New installations cannot be installed in the same folder as previous major ApplinX installations and therefore you are required to migrate applications from previous versions. For detailed information regarding the installation process refer to the quick guide to installing a typical ApplinX installation or to Software AG Installation guide.

Integration with Software AG webMethods Suite Components and Products

ApplinX has been integrated with Software AG webMethods Suite Components and Products and uses the following:

- Software AG common Java package (based on JDK 1.6)
- Software AG common Tomcat package (based on Tomcat 5.5)
- Software AG common Eclipse package (based on Eclipse 3.4)
- Software AG common Web Services Stack (8.0)
- CentraSite plug-in (version 8.0) used to register web services to CentraSite using JAXR Protocol or for importing external web services definitions from CentraSite.

Creating Screens with Screen Creation Definitions

Screens can be identified and created quickly using general screen definitions. These definitions are used as the basic parameters of each new screen created. When the screen is identified, the unprotected field mappings are created automatically. The identification process can be initiated in three different modes:

- Automatically: A screen will automatically be created for each unknown screen that matches a screen group. This screen will include basic screen definitions, which are defined in the screen group.
- Semi-automatically: The New Screen Wizard will automatically be displayed for each unknown screen that suits a screen group. This screen will include basic screen definitions, which are defined in the screen group.
- Manually: The New Screen Wizard is displayed when clicking on the Identify New Screen icon.

Refer to Creating Screens with Screen Creation Definitions

Importing Host Maps

ApplinX enables importing maps and creating screens from a variety of host applications:

- NATURAL maps.
- BMS: CICS basic map support.
- MFS: IMS message format service.
- SDFX: ApplinX generic map format, used for other standard maps. To create SDFX files refer to SDFX File Format Definition.
- SDF: Compatible with Software AG's JIS product.

For each of the screens created from a map, ApplinX creates a screen image, which reflects the map definitions.

This can be implemented via the Import Host Screen Maps wizard or via batch files. Refer to Importing a Host Application's Maps.

Dynamic Field Mappings

Dynamic field mapping enables mapping protected and unprotected fields according to leading labels as oppose to mapping fields according to a fixed position. This is particularly useful in the following cases:

- The application has fields that are dynamically drawn on the screen.
- Host applications are sometimes changed and items can be moved. Using dynamic field mappings, the fields will continue to be mapped and identified and the application will not be affected.
- Using dynamic field mappings enables more flexibility when using Screen Groups, as Screens which include the same field, can be associated with the same Screen Group even when the field is located in a different position.

Refer to Map Fields section for further details as to how to map application fields according to their leading label.

Automatically Mapping Unprotected Fields

Fields can automatically be mapped to screens by clicking on the "Automatically identify unprotected fields" icon in the Session View.

Supporting VT Applications

Character mode based host applications (VT protocol) are now supported. (This protocol was temporarily removed in the previous version and has now been reinstated). Note that this protocol is only permitted to be used for ApplinX SOA applications. Refer to the VT chapter.

Supporting Hitachi

Hitachi host (protocol TN560) has now been reinstated in ApplinX (supported only by ApplinX Servers installed on Win 32 platforms.).

Creating an ApplinX Web Application in Visual Studio 2008

ApplinX now fully supports Visual Studio .NET 2008/.NET 3.0/3.5 environment in addition to Visual Studio .NET 2005/.NET 2.0.

HTML Emulation – New Toolbar

A new toolbar has been added to the HTML emulation. This tool bar includes the following icons: Logoff, Refresh screen, Display macro dialog box, Copy text to clipboard, Open FTP dialog box, Display Printlet frame, Print host screen snapshot, Set the font size and Choose the color set.

New Documentation for Framework JavaScript Functions

Additional documentation has been added to the API reference and framework task sections, detailing and describing the use of the available ApplinX framework JavaScript functions. Refer to Client Side (JavaScript) for details.

Copy-Paste/Drag 'n Drop of Entities between ApplinX Servers/Applications

ApplinX supports copying and pasting/ dragging - dropping entities between multiple ApplinX servers/applications.

Web Templates

- New Web application templates have been added ("Red", "Blue" and "Silver".).
- Web templates are now available in Eclipse new "Dynamic web project" using the ApplinX Frameworks Project Facets.

Updating a Screen's Image

The screen image of a screen entity can be updated by clicking on the "Capture screen image" icon in the Session View.

Strong Names for .NET Framework Assemblies

Strong names have been added to ApplinX .Net framework assemblies.

Support of J2EE Preview Web Server in Eclipse

ApplinX JSP Web applications can now be run on J2EE Preview Web server which is provided by Eclipse. Refer to "how to create a new web application"

Path and Flow Procedure Improvements

Path and Flow procedure editors have undergone changes to improve usability and functionality:

- A search option has been added in the Procedure editor. The Search option enables searching for a key word within the procedure nodes. The text is searched for within the description, details or name of the nodes. The nodes which contain the text will be selected and expanded in the tree.

- Mapping improvements: Mapped links are listed under the relevant node in the procedure nodes tree. This is in addition to the mappings being indicated by lines, linking between the source element and the target element.

- Screen groups are now supported within nodes which are related to screens. In additional a new node has been added which checks whether the current host screen is a member of a screen group (Is member of group).

- New nodes have been added:

  The Screen Properties node enables retrieving the following screen properties: the row, column and/or field where the cursor is positioned, the width and height of the screen and an indication whether the screen is a window or not.

  Sleep node: The Sleep node causes the procedure to pause for the defined number of milliseconds. This node is typically used in complicated customized wait conditions.

- User interface related improvements such as toggle of options and drop down lists (replacing wizards) have been added, to enhance the user interface experience.

Improved SSL Implementation

An internal server side Keystore has been implemented, to be used for importing certificates with the need to create a keystore manually. The user interface has been improved to suit these changes.

Viewing Server Logs from within the Designer

The Server log can now also be accessed from the Designer using an external browser. For further details refer to Viewing the Server Log.

Application Map Toolbar

The application map toolbar enables quick navigation within the session view (online), as well as testing application map navigation. Refer toTesting the Application Mapand to Navigating within a Session.

6 What's New in Release 8.0

Using Common Software AG Designer

ApplinX uses the Software AG Designer, sharing the same development environment as other Software AG products (such as Centrasite, WS-Stack and EntireX). Using the common Software AG Designer, information can be viewed in standard Eclipse viewers such as the Console, Properties and Error Logs and enables direct integration with ApplinX JSP Web Applications.

Integration with Software AG webMethods Suite Components and Products

ApplinX has been integrated with Software AG webMethods Suite Components and Products and uses the following common packages:

- Software AG common Java package (based on JDK 1.5)
- Software AG common Tomcat package (based on Tomcat 5.5)
- Software AG common Eclipse package (based on Eclipse 3.3)
- Software AG common Web Services Stack
- CentraSite integration for web services:
  - Registering ApplinX web services in CentraSite using JAXR Protocol.
  - Importing web service definitions from CentraSite to ApplinX external web services.

The New ApplinX Designer

The new ApplinX designer, now placed in the familiar Eclipse environment and is based on Eclipse standards. The designer replaces most of the functionality that was available in the ApplinX Administrator in previous ApplinX versions. The ApplinX user interface has greatly improved as many of the processes are based on Eclipse standard components: Eclipse standard wizards for new applications, host, entity creation, Web Application Manager, J2EE deployment Manager and more, standard properties dialog boxes for ApplinX Server, ApplinX Host, ApplinX Application and more, Eclipse visual editors for ApplinX entities (such as Screen, Path/Flow/Program Procedure, Connection pool, Connection Information Set). Using the built-in HTML preview, it is possible to view the original host screen, as HTML, with transformations and patterns (such as windows and host keys).

Emulation Session Improvements

Session improvements include:

- Opening more than one session connection in parallel.
- The look and feel of the emulation session has been greatly improved.

Design Time Development with Multiple Sessions

ApplinX provides the ability to have several session definitions and to run them in parallel (improving development time). There is a variety of connection types (online, offline (using trace files) or connection pool), are configured within the session definitions.

Import/Export

ApplinX now distinguishes between exporting just the entities (a gxz file is exported) to exporting the application configuration with/without entities (gxar file), together with trace files. The import process of gxar files can be via the Import wizard or "Hot deploy" method, placing the gxar file in the relevant directory.

New and Improved Application Map

The Application Map feature has been greatly improved. When enabled (by default), the Map is recorded at all times, creating a single map per application. The Map view is a group of thumbnails of the host screen images captured during the recording time and displays the steps between the different screens. Each step in the map is a part of the screen from which it originates. These steps have a status of pending/approved/not approved which indicates to the map whether these steps should be used for navigation. Additional steps can be added manually via the relevant screen in the screen editor. All Map paths from previous versions will be converted and merged to the new Application Map

Procedures (Path/Flow)

■ The Procedures' Panel has been redesigned. A functions pallet enables displaying the procedure nodes by subject. The nodes can be dragged and dropped to relevant place within the procedure.

■ A new "step" node has been added to the Path procedure, simplifying the usage of the procedure expressions

■ The procedures can be debugged using the Eclipse debugger tool. The debugging process is displayed in the ApplinX Console, and the variables are displayed in a dedicated view. When debugging Path Procedures, the procedure can be followed in the Session Viewer.

Path Procedures

Path procedures completely replace the previous version's Paths. To edit Paths created in previous ApplinX versions you are required to convert these Paths to the new Path Procedures using the conversion tool (right-click on a Path and select Convert).

Note: Old Paths are still supported in runtime, but cannot be edited or changed.

External Web Services

The External web service entity is a new entity which contains External Web Service Procedures. When importing External web services, this new entity will be created and will contain the procedures. External Web Services are exposed directly via Flow Procedures and can no longer be assigned to a procedure group and then exposed as an ApplinX web service.

Integration between ApplinX and WS-Stack

Software AG Web Services Stack (WSS) ver. 8.0 is a toolkit that provides functionality for execution, configuration and management of web services. It handles the complex process of sending and receiving of web services requests in Software AG products. It allows everyone to do web services while knowing only a few of the details about the web services specifications.

The core part of the WSS runtime is the SOAP engine, based on Apache Axis2. Incoming SOAP requests are processed by this SOAP engine. The SOAP request is given to the SOAP Runtime and sent back to the client as a SOAP response message. If an error occurs a SOAP fault message is sent back to the client.

ApplinX and other products in the webMethods suite use WS-Stack for exposing and deploying web services. Refer to Integration between ApplinX and WS-Stack for further details.

Tables' Advanced Support

Screen based tables: screen based tables are now created from within the Screen entity (in the Tables tab) as they are logically part of the screen.

Path based tables have been replaced by Path Procedures. Previously existing Path based tables are now deprecated and supported only in runtime. Collection of complicated data structures such as multiple tables and data collected from several screens can now be executed using the ApplinX Base Object/web applications using the ExecuteProcedure method (instead of using ExecutePath, which returns the screen collection).

Connection Information Set

The Connection Information Set is now managed as an independent entity and can therefore be created, accessed and edited as any other ApplinX entity. Defining and configuring Connection Information Sets using the entity Editor is now simpler and more intuitive.

ApplinX Web Applications (JSP/.NET)

- Partial page rendering using AJAX: ApplinX enables redrawing part of a page rather than reloading the entire page. This improves the application performance and also offers users direct feedback when actions are performed. This is typically used for Paging, Sorting, Collecting aggregated data from a few screens into the same web page.
- Web Application templates (SAG standard, Business, Travel etc). Built in templates can be incorporated within any Web application which you create as part of the process of creating a Web application.
- Host-Web synchronization using AJAX

Creating an ApplinX Web Application in Visual Studio 2008

ApplinX now partially supports Visual Studio .NET 2008/.NET 3.0/3.5 environment (runtime). The plug-ins are not supported yet.

Screen Generation in .NET

.NET Web pages are now generated from the ApplinX .NET add-in (previously this was done from the ApplinX Administrator).

Generation in JSP

As ApplinX is developed within the Eclipse environment, when working with ApplinX JSP projects, entities such as Screens or Procedure Clients are now generated directly into the relevant project.

HTTP Session from within the Designer

You can open an HTTP Instant session from within the ApplinX Designer, to simulate Web enablement solutions and view transformations.

J2EE Deployment Manager

The new J2EE Deployment Manager simplifies the deployment process, enabling you to package a web archive (WAR) of ApplinX Server or of the ApplinX JSP Web Application or both. The deployment manager supports standard J2EE Application servers such as Apache Tomcat, IBM WebSphere, Web Logic and JBoss.

Support Silent Printing in Sun JVM

In the Printlet, we now support silent printing in Sun JVM. Set the specific printer device parameter printer_device to "<default>".

Changes in ApplinX Terminology

A number of terms have changed in the new release:

- "Business entity" has changed to "Data structure"
- "Host Service" has changed to "Connection Pool"
- "Composer" node has changed to "ApplinX Designer"
- "Framework" has changed to "Web Application"

Demo Applications

Demo applications are now provided as read only applications (gxz files). To select a database to be used as the repository refer to the Repository section.

Additional Enhancements...

- Printer Applet support within the Designer: Printer session definitions, which are defined in the Designer, enable defining the printer applet parameters. This are typically used to test the printing jobs in design time.
- Keyboard Mapping: Keyboard mappings defined in the Designer, (within the Application Configuration), are implemented also in the framework (replacing the keyboard mapping configuration in the framework configuration editor). Changes to the keyboard mappings can also be made in the xml file.
- Improvement in multiple users working on the same application. These improvements have been made in conflicting scenarios where, for example, more than one developer edits the application properties or a specific entity.
- Database configuration is now simple and intuitive. The Test Connection button enables testing the connectivity to the database.
- Finding and looking up an entity is done using Eclipse's standard Open dialog box, enabling simple and fast looking up of entities.

- The process of converting a read-only repository to a database has been simplified. At the end of the process, the database is imported.

- It is possible to copy/show WSDL and web services from within the Designer.

- Dragging and dropping entities within an application: It is possible to drag and drop entities from folder to folder within a single application.

- Functionality has been improved when performing multiple user interface actions in parallel.

SabraFood Demo

The SabraFood demo will no longer be provided with the installation.

7   Features no Longer Supported from this Version

- The following are no longer supported:
  - Linux 32-bit versions.
  - Windows XP, Windows Vista, Windows 2003
  - HP-UX PA-Risc (64-bit).

8 Features no Longer Supported from next Version

■ From the next version ApplinX entities will be saved in internal repository and therefore external databases will no longer be supported as repositories.

9 ApplinX Supported Platforms

Software AG provides ApplinX support for the operating/teleprocessing system versions supported by their respective manufacturers. In general, when an operating/teleprocessing system provider stops supporting a version of an operating/teleprocessing system, Software AG will stop supporting that operating/teleprocessing system version

- AIX 7.1 (64-bit)
- HP-UX 11i v3 (64-bit) for IA
- Red Hat Enterprise Linux 6 for IBM System z
- Red Hat Enterprise Linux 6 for x86-64 (64 bit)
- Red Hat Enterprise Linux 6 for Amazon EC2 (64 bit)
- SUSE Linux Enterprise Server 11 for IBM System z
- SUSE Linux Enterprise Server 11 for x86-64 (64-bit)
- Solaris Ultra SPARC 10 (64 bit)
- Solaris Ultra SPARC 11 (64 bit)
- Win Server 2008 Standard/Enterprise Edt x86
- Win Server 2008 Standard/Enterprise Edt x86 (64 bit)
- Win Server 2008 Standard/Enterprise Edt Amazon EC2 (64 bit)
- Win Server 2012 Datacenter/Standard Edt x86 (64 bit)
- Windows 7 Professional/Ultimate/Enterprise - x86
- Windows 7 Professional/Ultimate/Enterprise - x86 (64 bit)