

webMethods EntireX 10.1 Readme

October 2017

This file contains important information you must read before using webMethods EntireX 10.1. You can find system requirements, user documentation, and installation and upgrade instructions on the [Documentation website](#) or the [TECHcommunity website](#). At those locations, you can also find suite-related security and globalization information.

Included in this file is information about functionality that has been added, removed, deprecated, or changed for this product. Deprecated functionality continues to work and is supported by Software AG, but may be removed in a future release. Software AG recommends against using deprecated functionality in new projects.

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1.0 Critical Information

This section lists any critical issues for the current release that were known when this readme was published. For critical information found later, go to the Knowledge Center on the [Empower website](#).

2.0 Known Issues

This section lists any issues for the current release that were known when this readme was published. For known issues found later, go to the Knowledge Center on the [Empower website](#).

- EXX-9859
Deeply nested IDL array group structures can lead to compilation errors of the generated client sources within Microsoft Visual Studio 2017:
<drive>:\<path>\C<idl_library>.c(<lineNo>): fatal error C1060: compiler is out of heap space
This is a known Microsoft problem. Please contact Microsoft if you encounter this error, referring to the following support entry:
Case number: 117071316034246
Case created: 7/13/2017 10:47:35 AM
Case title: cl.exe (vs2017) - endless loop
Product: Visual Studio Professional 2017
Severity: C
- EXX-10093
Windows only. The delivered icu* libraries were built with an older version of Visual Studio, with the result that some Microsoft runtime libraries are not installed. Under certain circumstances broker will not start.
Workaround: Install the latest Microsoft Visual C++ Redistributable Package (x64) or, preferably, install the latest fix of EntireX, where this problem no longer occurs.
- EXX-10085
After installing the Software AG EntireX .Net Wrapper Wizard Visual Studio Plugin, it is not visible in Visual Studio under Tools > Extensions and Updates. However, it is fully functional and can be uninstalled using Control Panel > Uninstall Program
- EXX-8540
ETBINFO does not find profile files in an exclusive "EntireX Administration and Monitoring" package installation.

3.0 Usage Notes

This section provides any additional information you need to work with the current release of this product.

- Change to z/OS installation
The broker stub executables are distributed prelinked with unresolved references to z/OS components. To resolve these external references, relink them in your environment. See step *Install the Broker Stubs and Bind the Broker Stub Executables* in the z/OS installation documentation.

4.0 Fixes Included in Each Release

This section lists the latest fix level that has been included in each release for each product component. A release is listed in this section only if changes occurred in that release. Go to the Knowledge Center on the [Empower website](#) for detailed information about fixes.

Release 10.1

- EXX_9.12_Designer_Fix1
- EXX_9.12_SPM_Fix3
- EXP912P010
- EXX_9.12_Core_Fix11
- EXX_9.12_Broker_Fix12
- EXX912L016
- EXB912L016

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- EXX_9.10_Designer_Fix2 Fix 2 for Eclipse

Release 9.10

- EXX_9.9_Core_Fix2 Fix 2 for EntireX Core
- EXX_9.9_SPM_Fix3 Fix 3 for SPM
- EXX_9.9_Designer_Fix5 Fix 5 for Eclipse
- EXB990L006 Fix 6 for z/OS
- EXX990L006 Fix 6 for z/OS
- XAI_9.9_Fix2 Fix 2 for the EntireX Adapter

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- EXX_9.7.0_Fix10 Fix 10 for EntireX Core
- XAI_9.7.0_Fix10 Fix 10 for EntireX Adapter
- EXX_9.7.0_Designer_Fix15 Fix 15 for Eclipse
(if Natural ONE is installed, must be version 8.3.5 or above)
- EXX_9.7.0_Fix11 Fix 11 for EntireX Runtime
- EXX970L019 Fix 19 for z/OS
- EXP970P020 Fix 20 for z/OS

Release 9.7

- EXB960P001 Fix 1 for z/OS

- EXX960P001 Fix 1 for z/OS

5.0 Other Resolved Issues

This section lists the issues that were resolved in each release but were not part of the fixes listed in the previous section. A release is listed in this section only if changes occurred in that release.

Release 9.7

- EXX-6228
Under UNIX and Windows, you can now keep the current and the previous four Broker log files.
- EXX-6303
For COBOL RPC clients, performance for marshalling has been enhanced.
- EXX-6519
Some errors (e.g. error 0148) in the stub log did not contain the error class (e.g. 0215).
Stub log now contains the error class to identify the error.
- EXX-7019
Description of broker attribute `HEAP-SIZE` and dynamic memory management has been enhanced.

6.0 Documentation Changes

This section describes significant changes to the documentation, such as the addition, relocation, or removal of product guides, online help, chapters, or other major content. A release is listed in this section only if changes occurred in that release.

Release 10.1

- Integration Scenarios
The scenarios Calling Integration Server from COBOL and Calling Integration Server from Natural have been thoroughly reworked and expanded.

Release 9.12

- Command Central
The separate Command Central documentation has been reorganized; product-specific information is now provided with the product itself. See *Administering EntireX Broker with Command Central* in the EntireX documentation. The command-line documentation has been enhanced, and a new section describing the graphical user interface is provided.

- Application Monitoring MashApp
As in earlier versions, a sample Application Monitoring MashApp is provided in Empower under Products & Documentation > Download Components > EntireX - Application Monitoring MashApp. This MashApp is no longer described in the main EntireX documentation. Separate documentation (PDF) and a readme file are also provided for download from Empower.

Release 9.10

- Web Services Stack
Multiple sections of the EntireX documentation reference the separate Web Services Stack documentation. Since webMethods Suite 9.8, this documentation is part of the *Software AG Infrastructure Administrator's Guide*, also available under <http://documentation.softwareag.com> > *Guides for Tools Shared by Software AG Products*.

Release 9.9

- Software AG documentation is no longer available on the Software AG installer. You can access all Software AG documentation on the [Documentation website](#).
- Documentation for EntireX Adapter is now incorporated in the EntireX documentation for ease of use. A standalone PDF file of the Adapter documentation is also provided for your convenience.
- For platform z/VSE, sections have been added to set up ATLS (Automatic Transport Layer Security).

Release 9.7

- COBOL Mapping Editor documentation thoroughly reworked. Functions documented for each interface type.
- Scenario "Calling Integration Server from COBOL" expanded.
- New documentation section Installing EntireX RPC Servers under IMS.
- Application Transparent Transport Layer Security (AT-TLS): various sections dealing with SSL or TLS support have been reworked and also include sections on how to set up AT-TLS.

Release 9.6

- Common Integration Scenarios section has been enhanced with regard to navigation. High-level, illustrated scenario descriptions lead to more detailed sections below.
- Documentation for mapping of fixed and unbounded arrays has been enhanced.
- Various sections dealing with SSL or TLS support have been reworked. See *Using SSL or TLS with*

the RPC Server under CICS | Batch | IMS, and *SSL or TLS and Certificates with EntireX* in the Security documentation.

- A new section describes IBM Language Environment runtime options relevant for CICS, Batch and IMS RPC servers.

Release 9.5

- **SVM File Handling**
Documentation of SVM file handling has been enhanced for all supported RPC servers.
- **CVM File Handling**
Documentation of CVM file handling has been enhanced.
- **Supported RPC Protocols**
New section lists the RPC protocols supported by the different EntireX and Natural versions.
- **Conversion Error Messages**
All error messages of class 1003 have been reworked and several new messages have been added.
- **Internationalization**
The internationalization documentation has been thoroughly reworked.

7.0 Terminology Changes

A release is listed in this section only if changes occurred in that release.

Release 9.12

Old Term	New Term
WebSphere MQ RPC Server	web Methods EntireX RPC Server for IBM® MQ
WebSphere MQ RPC Listener	web Methods EntireX RPC Listener for IBM® MQ

Release 9.7

Old Term	New Term
SVM file	Server-side mapping file.
CVM file	Client-side mapping file.

8.0 Added, Removed, Deprecated, or Changed Items

This section lists features, functionality, controls, portlets, properties, or other items that have been added, removed, deprecated, or changed. A release is listed in this section only if changes occurred in that release.

Release 10.1

Added Item	Description
Increased platform support	EntireX now runs under Windows Server 2016.
COBOL Integration Enhancements	
COBOL Server using fixed-length tables in variable manner	Support for COBOL server programs that process a variable number of array elements in a fixed-size COBOL table has been extended. This affects the IDL Extractor for COBOL together with the RPC Server for CICS, the EntireX Adapter, the RPC Server for CICS ECI and the RPC Server for IMS Connect.
Interface Type COBOL Converter	A new interface type COBOL Converter has been introduced in the IDL Extractor for COBOL. This interface type is used together with the COBOL Converter connection type of the EntireX Adapter to convert Integration Server data structures from/to a byte array representing COBOL binary data.
IBM i (AS/400) COBOL Extraction	COBOL computational data items extracted for AS/400 are mapped to IDL type P (packed decimal) instead of IDL type I (integer).
IBM Enterprise COBOL for z/OS Support	EntireX RPC client and server components now support IBM Enterprise COBOL for z/OS V6.1, in addition to the versions 4.2 and 5.1 supported in earlier versions of EntireX.
Command Central Enhancements	
Installing EntireX using Command Central	EntireX can now also be installed using Command Central instead of the Software AG Installer.

Added Item	Description
Template-based provisioning	EntireX now supports template-based provisioning with Command Central. Using templates within Command Central you can install EntireX and - at the same time - add instances such as EntireX Broker and multiple RPC servers on local and remote hosts.
Administering RPC Servers using Command Central	EntireX RPC server for C, .NET, IMS Connect, Java, IBM MQ and SOAP/XML can be administered using Command Central.
Workbench Enhancements Preferences	The structure of EntireX preference pages in the EntireX Workbench has been simplified. It is now more compact with the most commonly used target environments - COBOL, Integration Server, Natural, PL/I and Web Services - on the first level relative to EntireX preference page. From preference page EntireX > Wrappers you can navigate to all wrappers.
IDL Extractor for Integration Server and Integration Server Wrapper	When the Extractor or the Wizard either creates a new connection or updates an existing connection, both the list of connection types and connections are now filtered. Connection types that require a license are only shown if a corresponding license file is available. Reliable RPC connections are only shown if all IDL programs contain only IN parameters. Also, if a server mapping file is available, only those connection types that support the interface type specified in the server mapping file are shown.
CVM/SVM Handling	Client-side mapping files (CVM) are now default in the EntireX Workbench. As server-side mapping files (SVM) will be dropped in a future version, we strongly recommend using client-side mapping files. These are easier to use and do not require any deployment on your server. Support for CVM files for platforms z/VSE and BS2000 will be introduced in a future version.
EntireX RPC Server Enhancements	

Added Item	Description
New RPC Server for AS/400	The new EntireX RPC Server for IBM® AS/400® enables you to remotely call server programs written in all ILE-based languages, for example C, COBOL, RPG.
RPC Server for CICS Abend Handling	As of version 10.1, the exit for the CICS RPC abend handling is no longer delivered in the LOAD module of the z/OS installation. The exit is assembled from the CEEWUCHA source delivered with the z/OS LE sample library CEE.SCEESAMP. The install job EXPINSTA delivered on EXX1010.JOBS has a step that assembles the CEEWUCHA exit.
User Exit for Additional HTTP Headers with RPC Server for XML/SOAP	A new user exit allows you to add HTTP headers before an RPC call, or to add an HTTP header to an optional retry call.
Configuration Parameter <code>entirex.server.verbose</code>	The configuration parameters <code>entirex.server.verbose</code> and <code>entirex.bridge.verbose</code> previously used by multiple servers and listeners are no longer available. Verbose logging is now enabled whenever the configuration parameter <code>entirex.trace</code> has a value greater than 0.
EntireX Adapter Enhancements	
COBOL Server using Fixed-length Tables in Variable Manner	The EntireX Adapter - together with the IDL Extractor for COBOL - supports additional approaches of a COBOL server that process a variable number of array elements in a fixed-size COBOL table (array).
New Interface Type AS/400 Connection	The new interface type AS/400 connection enables you to remotely call server programs written in all ILE-based languages, for example C, COBOL, RPG.
Alternative Mapping of IDL Data Types to Integration Server Data Types	IDL data types can now be mapped to non-string Integration Server data types. The main use case is to support JSON document types in Integration Server.
Other Changes and Enhancements	
Microsoft Visual Studio 2017 support	The C Wrapper and the DCOM Wrapper now support Microsoft Visual Studio 2017.

Added Item	Description
Unique message ID	With ACI version 11 and above, all messages sent to the broker are given a unique message ID. This message ID is useful for tracking individual messages in the trace and log files.
Postpone units of work	Service-specific attributes <code>POSTPONE-ATTEMPTS</code> and <code>POSTPONE-DELAY</code> have been added to postpone processing of UOWs that have been cancelled by the receiver. The UOWs are moved to the postpone queue instead of being deleted.
Support of 64-bit Time Values on z/OS	Broker attribute <code>PSTORE-VERSION</code> now has a new version 5 to support 64-bit time values on z/OS.
Improved Adabas PSTORE Handling	Adabas persistent store handling has been enhanced on all platforms. The new <code>PSTORE</code> version 5 offers significant improvement in performance. We strongly recommend you use this version.
CIS Version 10	The new object <code>UOW-STATISTICS</code> supplies important information on units of work per service. The CIS command <code>SET-UOW-STATUS</code> has been added to control postponed units of work.
Consistent Handling of Duplicates in Broker Attribute File	With this release, additional checks are performed on service-specific attributes in the broker attribute file. Duplicate entries are now detected and error message 00210035 is given. This applies to the default definitions and the individual definitions in all <code>DEFAULTS=SERVICES</code> sections. This behavior is now consistent for all sections of the attribute file.
SSL/TLS Hostname Verification in Java Components	For all Java-based components that act as an SSL client, the hostname verification has been changed to conform to the RFC 2818 standard. If the server certificate contains a <code>subjectAltName</code> extension of type <code>dNSName</code> , this name is now used as the identity. Otherwise, the <code>Common Name</code> field in the <code>Subject</code> field of the certificate is used. If only the <code>Common Name</code> field should be used as before, the SSL parameter <code>ignore_rfc_2818=yes</code> must be set in the Broker ID.

Removed Item	Replacement, if any
z/VM	EntireX no longer supports the operating system z/VM.
ETBSRV	The EntireX Broker command-line utility ETBSRV is no longer provided. You can use ETBINFO under z/OS UNIX Windows z/VSE BS2000 or Command Central instead.
EntireX Broker Tutorial	The Natural-based EntireX Broker Tutorial is no longer provided.

Deprecated Item	Description
Java API Class BrokerService	The obsolete methods <code>getEnvironment()</code> , <code>setEnvironment(String)</code> , <code>useCodePage()</code> and <code>useCodePage(Boolean)</code> of the Java class <code>BrokerService</code> have been deprecated. They will be removed with the next version of EntireX.
Server-side mapping files (SVM)	Server-side mapping files (SVM) will be dropped in a future version. We strongly recommend using client-side server mapping files (CVM) for ease-of-use.
EntireX RPC Server for IBM i	The of EntireX version 7.1.1 running under IBM i (AS/400) will no longer be supported in the next version of EntireX. We strongly recommend using the new RPC Server for AS/400 or the EntireX Adapter.
Java class BrokerService	The obsolete and deprecated methods <code>getEnvironment()</code> , <code>setEnvironment(String)</code> , <code>useCodePage()</code> and <code>useCodePage(Boolean)</code> of the Java class <code>BrokerService</code> will be removed in the next version.

Changed Item	Description
Automatic character conversion	EntireX Broker has a reworked mechanism for character conversion. Incorrect configurations (e.g. RPC communication without character conversion configured) are detected. In these cases the configuration defined in the broker attribute file is not used and a warning message is written to the broker's log file. Adapt your broker attribute file to avoid the message.
New SSL port default for Broker Administration Service	The default SSL port for the Broker Administration Service has changed from 57708 to 57808.
License file Handling	Under UNIX and Windows, the license file specified during installation is renamed by the Software AG Installer to "license.xml" and copied to the EntireX/config directory. The name and location of this file can no longer be changed as in earlier EntireX versions.
EntireX Adapter license file handling	The license file specified in the Adapter license administration is renamed by the Adapter to 'license.entirex.xml' and copied to the IntegrationServer/instances/<instance_name>/config directory. The name and location of this file can no longer be changed as in earlier EntireX Adapter versions.
Support of 64-bit time values on z/OS	Broker attribute PSTORE-VERSION now has a new version 5 to support 64-bit time values on z/OS.
Enhancement to the Broker Agent	You can now specify the address of the network interface on which the Broker Agent will listen.
Broker Installation Verification	The broker verification programs bcoc (client) and bcos (server) are delivered in executable form (binary, load module) only.

Release 9.12

Added Item	Description
Increased platform support Workbench enhancements	<p>EntireX now supports AIX 7.2.</p> <ul style="list-style-type: none">Enhanced COBOL MPO support: For MPO groups based on a <code>REDEFINE</code> declaration, the MPO selector definition can be anywhere in the <code>DATA DIVISION</code> of the COBOL source: before, inside or after the MPO group. With the IMS MPP Message Interface (IMS Connect) you can now determine the position of an MPO selector using a fixed offset starting from the end of the message. You can also use an offset from the beginning of the message as in earlier versions.The IDL Extractor for Natural now supports Arabic shaping as well as multibyte character sets.
Brainstorm ideas	<ul style="list-style-type: none">Date and Time support for EntireX Adapter [02848]. The EntireX Adapter now supports user-defined formats for mapping the IDL data types Date and Time.Trace Utility enhancement [03277]. The EntireX Trace Utility has been enhanced: a date field has been added to the generated CSV file.
Command Central	<p>The following operations on EntireX Broker have been added:</p> <ul style="list-style-type: none">Display ServicesDisplay Server Instances of a ServiceStop Server InstanceCreate new EntireX BrokersDelete existing EntireX Brokers
RPC server	<p>Enhanced COBOL MPO support for EntireX COBOL RPC servers (CICS, Batch, IMS BMP, Micro Focus, CICS ECI, IMS Connect). See Workbench enhancements above for details.</p>

Added Item	Description
EntireX Adapter enhancements	<ul style="list-style-type: none"> ▪ User-defined formats for mapping the IDL data types Date and Time are now supported. ▪ You can now use mixed-case passwords for CICS ECI connections. ▪ Enhanced COBOL MPO support. See Workbench enhancements above for details.
XML/SOAP Listener and high availability	<p>The XML/SOAP Listener now supports persistent sockets, socket reconnect and security handling. This means it can now be used in high-availability scenarios where the EntireX Broker is load-balanced.</p>
ICU custom conversion under z/OS	<p>Custom conversion using ICU is now available under z/OS in addition to the support already provided under UNIX and Windows.</p>

Removed Item	Replacement, if any
Direct SSL/TLS support for broker stubs under z/OS	<p>Direct SSL/TLS support (using GSK) inside the broker stubs under z/OS has been dropped. We recommend using IBM's Application Transparent Transport Layer Security (AT-TLS) instead.</p>
Administration using System Management Hub	<p>Administration with SMH is no longer supported. This also includes the batch interface argbatch and SNMP. The most important functionality is provided by Command Central. Minor features have been moved to the command line or were dropped.</p>
Dynamic IDL/RPC parameters with IBM® MQ	<p>webMethods EntireX RPC Server and Listener for IBM® MQ no longer support dynamic IDL/RPC parameters.</p>
Microsoft Visual Studio 2010, 2012 or 2013	<p>These versions are no longer supported. The following EntireX components support Microsoft Visual Studio version 2015:</p> <ul style="list-style-type: none"> ▪ C Wrapper ▪ DCOM Wrapper ▪ Microsoft Visual Studio Wizard for .NET Wrapper

Changed Item	Description
Command Central	When using the command-line mode to get information from or to administer EntireX, the data representation for input and output of some commands has changed.
Authorization rules	Authorization rules for UNIX and Windows are no longer managed with System Management Hub. Instead, rules can be stored in an LDAP repository (as in earlier versions of EntireX) or in a new section of the Broker attribute file, <code>DEFAULTS=AUTHORIZATION-RULES</code> .
Broker attribute file validation	The validation of the broker attribute file has been thoroughly reworked. Inconsistent definitions may result in an unexpected error when you start your broker.
COBOL RPC Client and Server	The sources generated by the EntireX Workbench component COBOL Wrapper can be compiled by any compiler supported by the COBOL Wrapper: standard COBOL compiler, for example IBM Enterprise COBOL for z/OS 4.2 or 5.1.
Microsoft Visual Studio support	<p>The following EntireX components support Microsoft Visual Studio version 2015:</p> <ul style="list-style-type: none"> ▪ C Wrapper ▪ DCOM Wrapper ▪ Microsoft Visual Studio Wizard for .NET Wrapper <p>Older versions of Microsoft Visual Studio (2010, 2012 or 2013) are no longer supported.</p>

Changed Item	Description
EntireX Adapter	<p>The mapping of MPO groups to Integration Server data structures and to the signature has been changed with this version to simplify the usage of the MPO construct in the Integration Server.</p> <p>Previously the alternatives of an MPO group (groups in the IDL file with the attribute CHOICE) were mapped to arrays with either zero array elements (unselected alternative) or one array element (selected alternative). This has been changed such that arrays are no longer used. Unselected alternatives are suppressed and thus not visible in the output pipeline. The selected alternative is directly represented in the output pipeline without the enclosing array.</p> <p>However, this enhancement means the new output signature is not compatible with existing Adapter services. This also affects the runtime behavior. If you use MPO groups, regenerate these Adapter services from the Designer and adapt the services that are using the new Adapter service to the changed output signature.</p>
DIV Persistent Store Parameter Handling	<p>Defining a DIV persistent store has been streamlined. New broker attributes have been introduced to replace format parameters.</p>

Release 9.10

Added Item	Description
Increased platform support	<p>EntireX now supports z/OS version 2.2 and Windows 10 Professional and Enterprise 64-bit editions.</p>
Workbench enhancements	<ul style="list-style-type: none"> ▪ COBOL program ID and Channel name can now be modified after extraction, using the COBOL Mapping Editor. ▪ EntireX now uses Eclipse version 4.5.
EntireX Adapter	<p>New connection type "COBOL Converter" introduced to convert IS data structures from/to a byte array representing the COBOL binary data.</p>

Added Item	Description
Command Central	<p>Enhanced support for EntireX Broker instances running under UNIX or Windows. You can now perform the following operations on EntireX Broker in addition to the operations supported in EntireX version 9.9:</p> <ul style="list-style-type: none"> ▪ Configure Application Monitoring ▪ Configure EntireX Broker Persistent Store ▪ Configure EntireX Broker Security ▪ Enable and specify EntireX Broker Trace Level dynamically
KPIs for CPU time	<p>New KPIs are available with Command and Information Services interface for showing amount of CPU time consumed since Broker start. CPU time can also be shown in the Software AG product Optimize for Infrastructure.</p>
Support for Visual Studio 2012 and 2013	<p>The EntireX .NET Wrapper Wizard now supports Microsoft Visual Studio version 2012 and 2013 in addition to version 2010 already supported.</p>

Removed Item	Description
Windows 32-bit Operating Systems	<p>Software AG no longer supports Windows 32-bit operating systems. However, the following EntireX components are supported for 32-bit applications on Windows 64-bit operating systems:</p> <ul style="list-style-type: none"> ▪ EntireX Mini Runtime ▪ Transaction Object Editor of Broker ActiveX Control ▪ .NET Wrapper Runtime
Java Message Service	<p>JMS support has been dropped.</p>
Publish and Subscribe	<p>The EntireX Broker communication model Publish and Subscribe is no longer supported. You therefore need to remove the broker attribute PUBLISH-AND-SUBSCRIBE from your broker attribute file, otherwise error ETBE0023 'Unknown attribute PUBLISH-AND-SUBSCRIBE ' is returned.</p>

Removed Item	Description
Swapping out New Units of Work	The ability to swap out new units of work that was provided in earlier EntireX versions is now no longer required. The corresponding broker attributes <code>SWAP-OUT-NEW-UOWS</code> and <code>MIN-UOW-CONVERSATIONS-IN-MEMORY</code> are no longer supported and will be ignored.
Library <i>broker.so</i>	Under UNIX, library <i>broker.so</i> has been replaced by library <i>libbroker.so</i> . Library <i>libbroker.so</i> was already delivered in earlier EntireX versions and is identical. Make sure you applications use only <i>libbroker.so</i> .
SMH Technical Information	The System Management Hub Technical Information Agent is no longer delivered.
SNMP	The SNMP (Simple Network Management Protocol) interface of the System Management Hub is no longer supported.

Deprecated Item	Description
Direct SSL/TLS Support for Broker Stubs under z/OS	Direct SSL/TLS support (using GSK) inside the broker stubs under z/OS will be dropped in the next version. We recommend using IBM's Application Transparent Transport Layer Security (AT-TLS) instead.
Administration using System Management Hub	Administration with SMH (including the batch interface <code>argbatch</code>) will be dropped in the next version of EntireX. The most important functionality will be provided by Command Central.
Encryption/decryption mechanism provided by EntireX Security	We strongly recommend using the Secure Sockets Layer/Transport Layer Security protocol.
Microsoft Visual Studio 2010, 2012, 2013	<p>With the next version of EntireX, the following components will support Microsoft Visual Studio version 2015:</p> <ul style="list-style-type: none"> ▪ C Wrapper ▪ DCOM Wrapper ▪ .NET Wrapper Wizard for Microsoft Visual Studio <p>Older versions will no longer be supported.</p>

Deprecated Item	Description
WebSphere MQ RPC Server and Listener Support for dynamic IDL/RPC parameters	

Changed Item	Description
Installation Packages	<p>The EntireX installation packages have been streamlined and restructured:</p> <ul style="list-style-type: none"> ▪ EntireX Broker can now stay running while runtime updates outside EntireX Broker are made. ▪ Administration and Monitoring functionality has been clearly separated from the runtime parts. ▪ Mini Runtime is now a separate installation package. ▪ Examples have been reworked and streamlined.
EntireX built with Visual Studio 2015	<p>This version of EntireX was built with Microsoft Visual Studio 2015. When you install EntireX components, the necessary Microsoft Redistributable Files are also installed.</p>
COBOL Wrapper, generic RPC service modules	<p>The generic RPC service modules for the following interface types need to be generated with the EntireX Workbench. See COBOL Wrapper documentation for details.</p> <ul style="list-style-type: none"> ▪ COBSRVID for CICS with standard linkage calling convention ▪ COBSRVIB for Batch with standard linkage calling convention

Release 9.9

Added Item	Description
Enhanced null value suppression	<p>A new button in the XML Mapping Editor Overview Page enables you to set the current null value suppression settings to all mappings.</p>

Added Item	Description
COBOL MPO support	The IDL Extractor for COBOL - together with the EntireX Adapter or EntireX RPC Servers - supports the concept of multiple possible output (MPO). This means that the output structure returned is decided by the COBOL server at runtime; the COBOL layout on output varies.
COBOL server using data length to process a variable number of array elements	The IDL Extractor for COBOL - together with the CICS RPC Server, the EntireX Adapter with IMS Connect connections, or the IMS Connect RPC Server - supports COBOL server programs that use the data length of their interface to process a variable number of array elements in a fixed-size COBOL table.
Command Central support	<p data-bbox="808 774 1477 1161">With the Software AG's Command Central you can configure, manage, and administer one or more installations of the webMethods product suite in your enterprise. EntireX supports Command Central for EntireX Broker instances running on Linux, UNIX or Windows. They must have been created with version EntireX 9.9 by System Management Hub, Command Central or command line (SMH, CC, or Broker command-line utility etbsrv).</p> <p data-bbox="808 1188 1477 1373">You can start, stop and configure EntireX Broker instances from a single location, using the Command Central user interface or from a command line. Basic monitoring KPIs for EntireX Broker instances can be seen from the UI.</p>
EntireX Adapter Listeners	A new information screen provides statistics about the listeners of the EntireX Adapter.
Application Monitoring Data Collector	The Data Collector now provides callback functionality for the processing of incoming events.

Added Item	Description
Logging exit for EntireX scripting commands	Since version 9.7, EntireX has provided a set of command-line scripts with which, for example, you can monitor your environment and check that all components (broker, RPC servers) are up and running. Now an optional logging exit is provided. This is called every time a component in the environment is checked; results can be written to a CSV file. You can use the sample script <code>log_environment.bat</code> as a template.
Set application name with .NET Wrapper	For accounting purposes, a new property <code>ApplicationName</code> has been introduced for the .NET Wrapper. Set this property before calling one of the Logon methods if you want to replace the default application name.
Preview of Date/DateTime Pattern in XML Mapping Editor	The Preferences page of the XML Mapping Editor now shows a preview for date and dateTime patterns entered.

Removed Item	Replacement, if any
EntireX Mini Runtime is no longer delivered with EntireX.	Functionality is provided with EntireX Libraries in the Software AG Installer.
EntireX support for Software AG's Integrated Authentication Framework (IAF) has been dropped from all interfaces.	
EntireX Wrapper for Enterprise JavaBeans. It is no longer possible to enable Java-based components to access an EntireX RPC server using Enterprise JavaBeans.	
Adapter Services Wrapper for Natural.	The functionality is already covered by using the IDL Extractor for Natural and the Integration Server Wrapper.
Partner Broker ID.	
Support for IBM compiler PL/I for MVS & VM.	Support for Enterprise PL/I for z/OS compiler will continue.
Microsoft Visual Studio Wizard for EntireX DCOM Wrapper.	The functionality is provided by the EntireX Workbench.

Removed Item	Replacement, if any
Broker Control Block Definitions NATDEF12 and NATDEF21 of ACI for Natural.	Use NATDEF in your application for Broker control block definition.
Deprecated Item	Replacement, if any
Encryption/decryption provided by EntireX Security will be deprecated in the next version.	For encrypted transport we strongly recommend using the Secure Sockets Layer/Transport Layer Security protocol.
EntireX Broker support for Java Message Service will be dropped in the next version.	
EntireX Broker support for Publish and Subscribe communication model will be dropped in the next version.	
Direct SSL/TLS support (using GSK) inside the broker stubs under z/OS will be dropped in the future.	We recommend using IBM's Application Transparent Transport Layer Security (A T-TLS) instead.
Administration using System Management Hub (including batch interface <code>argbatch</code>) and SNMP support is planned to be dropped in a future version of EntireX.	
The Generic RPC services modules COBSRVIB and COBSRVID delivered on mainframe will be moved to the examples in the next version.	For your integration scenarios, use the modules generated by the EntireX Workbench.
Changed Item	Description
DCOM Wrapper	The wrapper now supports Microsoft Visual Studio 2012 and 2013 in addition to the already supported Visual Studio versions.
Integration Server Wrapper	The wrapper no longer creates the <code><IDL>_IS.properties</code> file. Existing property files are ignored.
Platform support	EntireX and EntireX Adapter 9.9 now run under SUSE Linux Enterprise Server for x86-64 (64-bit) version 12 in addition to version 11.

Changed Item	Description
Java 8 support in Java Wrapper and IDL Extractor for WSDL	<p>When generating Java RPC clients (Bean-compliant) with the Java Wrapper, the name generation rules have changed slightly to ensure greater consistency. This means a name used for more than one IDL group parameter with different content is always changed.</p> <p>With the IDL Extractor for WSDL, prefix name assigning has been enhanced to ensure consistent generation of XML mapping files. If more than one prefix is associated with a URL, the last prefix (in alphabetical order) is used.</p> <p>See EntireX Release Notes for examples.</p>
EntireX Adapter license handling	<p>License handling for EntireX Broker connections now better reflects the EntireX pricing model: a license status line has been introduced for EntireX Broker connections (ACI connections or normal RPC connections), and a warning message is given in the case of a possible license coverage mismatch.</p>
CICS RPC user exit COBUEX02	<p>The user exit now provides the maximum expected length of output data (reply) before calling the target CICS program.</p>
Compatibility with webMethods Suite Naming Conventions	<p>The name of the UNIX start/stop script for the EntireX Broker Administration Service has changed to comply with webMethods suite naming conventions:</p> <p>in <i>directory etc/init.d</i>: from <i>sag<n>etbsrv</i> to <i>sag<n>exx99</i></p> <p>in directory <i>EntireX/bin</i>: from <i>sag<n>etbsrv</i> to <i>sagexx</i></p>
Running the XML/SOAP RPC server in the Software AG Runtime	<p>After installation, the default XML/SOAP RPC Server using Broker "localhost:1971" and server address "RPC/XMLSERVER/CALLNAT" is no longer started automatically.</p>
OpenSSL Support	<p>The OpenSSL Project has announced it will no longer support version 0.9.8 from December 31, 2015. EntireX now supports OpenSSL version 1.0.1. See CIPHER-SUITE under <i>Broker Attributes</i> in the EntireX documentation.</p>

Release 9.7

Removed Item

Broker Services were partially retired with EntireX version 8.0; they are now fully retired.

Location Transparency support was dropped in EntireX version 9.5. Location Transparency has now been removed from all major interfaces.

Replacement, if any

See Release Notes

Deprecated Item

See *Features to be Dropped in Future Versions* in the EntireX Release Notes for comprehensive list.

Replacement, if any

Changed Item

IDL Extractor for Integration Server

Description

The handling of content types when mapping Integration Server data types to IDL has changed. See *IDL Extraction from Integration Server* in the webMethods EntireX Adapter documentation.

WebSphere MQ Listener

The handling of the correlationId and the messageId in synchronous request/reply scenarios has been changed. See *Support for Synchronous Request/Reply Scenarios* under *Advanced WebSphere MQ Listener Functionality* in the EntireX documentation.

Release 9.6

Removed Item

Removed support for z/OS 1.12, z/VSE 4.3.

Replacement, if any

The following platforms are no longer supported: z/OS 1.12, z/VSE 4.3.

No new version of IAF is delivered with this release of the webMethods suite.

If you are running IAF, you can continue using the version delivered with an earlier suite version.

Deprecated Item

Broker stub BKIMBTSO is no longer provided.

Replacement, if any

The functionality is covered by stub BROKER. The default transport method for BKIMBTSO was TCP; default for BROKER is NET. However, this can be changed to TCP if required.

Release 9.5

The following functionality has been dropped in this release:

- Location Transparency is no longer supported in this version.
- Windows Server 2008 (32-bit) is no longer supported. We suggest you upgrade to the 64-bit or a more recent Windows version. See *List of Components per Platform* in the EntireX Release Notes for full list.
- JBoss is no longer supported.

9.0 Added, Removed, Deprecated, or Changed Built-In Services

A release is listed in this section only if changes occurred in that release.

Release 9.9

All services apply to EntireX Adapter.

Added Service	Description
<code>pub.listener.createDocumentTypes</code>	Creates document type objects, using the metadata stored in the listener, connection or adapter service object.
<code>pub.listener.createFlow</code>	Creates flow objects for the specified EntireX Adapter listener object.
<code>pub.listener.createIDL</code>	Creates an IDL file, using the metadata which is stored in the listener, connection or adapter service object.
<code>pub.wmentirex.directrpc.admin.setTLSProtocols</code>	Change the set of enabled TLS protocols.
<code>pub.wmentirex.directrpc.admin.getTLSProtocols</code>	Return the value of <code>setTLSProtocols</code> .
<code>pub.wmentirex.directrpc.admin.setCipherSuites</code>	Change the set of enabled cipher suites.
<code>pub.wmentirex.directrpc.admin.getCipherSuites</code>	Return the value of <code>setCipherSuites</code> .

Changed Service	Description
<code>com.softwareag.entirex.wmadapter.Deployment</code>	Namespace changed to <code>pub.wmentirex.listener</code> . The service is still available using the old namespace.

Changed Service

pub.wmentirex.listener:
generateIDLfromService

Description

The meaning of parameter `fileName` has changed. This is the name of the IDL file with extension ".idl". You cannot specify a folder name. The file is created in the folder `<IntegrationServer_instance>/packages/WmEntireX/resources`.

10.0 Added, Removed, Deprecated, or Changed Parameters

A release is listed in this section only if changes occurred in that release.

Release 9.12

Added Parameter

Multiple broker attributes under
DEFAULTS=AUTHORIZATION-RULES

Description

Use these attributes to define authorization rules in the broker attribute file.

Multiple security-specific attributes starting with
LDAP

Use these attributes to define authorization rules stored in an LDAP repository.

Multiple broker attributes under
DEFAULTS=DIV

DIV persistent store handling has been streamlined and these new attributes replace format parameters.

SECURITY-SYSTEM

Specifies whether authentication is performed against the local operating system or LDAP repository.

Removed Parameter

Security-specific broker attributes
AUTHENTICATION-TYPE and
AUTHORIZATIONRULE

Description

Replaced by new DEFAULTS=AUTHORIZATION-RULES section.

Multiple broker-specific attributes `SSL*` and
`TCP*`, for example `SSL-RESTART`

Use the corresponding SSL-specific and TCP-specific attributes instead, for example `RESTART` in the attribute file section `DEFAULTS=SSL`.

Release 9.9

Added Parameter	Description
Broker attribute <code>MAX-TRACE-FILES</code>	Maximum number of backup copies of trace file <code>ETB.LOG</code> .
Broker attribute <code>TRACE-FILE-SIZE</code>	Maximum size of one trace file. If this value is exceeded, a new trace file is allocated up to the limit specified in <code>MAX-TRACE-FILES</code> .

Changed Parameter	Description
Broker attribute <code>CIPHER-SUITE</code> .	New default value to support OpenSSL version 1.0.1.

Deprecated Parameter	Replacement, if any
Support for dynamic IDL/RPC parameters will be dropped in a future version.	

Release 9.7

Changed Parameter	Description
Broker attribute <code>POLL</code> .	Default value changed from YES to NO for z/OS and z/VSE.

11.0 Added, Removed, Deprecated, or Changed APIs

A release is listed in this section only if changes occurred in that release.

Release 9.7

Removed API	Replacement, if any
Location Transparency.	No replacement. Support for Location Transparency was dropped in EntireX version 9.5. It has now been removed from all major interfaces.

12.0 Copyright Information

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