

Software AG Universal Messaging 10.11 Readme

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This file contains important information you must read before using Software AG Universal Messaging 10.11. You can find system requirements, user documentation, and installation and upgrade instructions on the Documentation website at <https://documentation.softwareag.com/> or the Tech Community website at <https://techcommunity.softwareag.com/>. 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](#).

- NUM-18109
A Universal Messaging client may fail to receive events sent to a Universal Messaging server over AMQP via the AMQPNetLite library. The client returns an `ArrayIndexOutOfBoundsException`. For a workaround to this issue, contact Software AG Global Support.
- NUM-16844
The main pages of the Javadoc and API documentation for C++ and C# included in the 10.11 GA release do not have tabs for Main Page, Related Pages, Packages, and Data Structures. The issue affects the index.html pages in the `SoftwareAG_directory\UniversalMessaging\doc\cplusplus\dotnet\java` directory. Instead, you can access the API documentation from the index.html page in the `SoftwareAG_directory\UniversalMessaging\doc` directory or use the links in the *Reference Guide* in the Universal Messaging web help.
- NUM-16519 (Memory leak in JMX durable connection handling and JMX cannot be properly disabled.)
The current JMX implementation can result in the following issues:
 - JMX not working properly for various JMX beans
 - Memory leaks in some JMX bean structures
 - Non-fatal exceptions in the logs
 - JMX objects staying active even when JMX is disabledThere is currently no workaround for these issues.
- NUM-14533 (UM log messages using LOG level are logged with ERROR level when using Logback.)
When Universal Messaging is configured to use Logback as the logging framework, many of the server start-up messages in the server's `nirvana.log` file will be written with status ERROR. This happens due to a limitation in Logback that does not provide usage of custom log levels. Therefore, Universal Messaging messages logged with LOG level are translated to ERROR level when Logback is used.
There is no workaround for this issue.
- NUM-10210 (UM instance manager crashes if instance name is too long.)
The Universal Messaging instance manager tool may crash when run on Windows with an instance name longer than 42 characters, although the instance may still be created.
The only workaround is to use a shorter instance name.

- NUM-9263
When using the C++ client API, if you specify a number bigger than 16 (default) for the session thread pool size, creating the seventeenth session will result in an error because the Universal Messaging default thread pool size is exceeded.
The workaround is to increase the thread pool size by calling `nSession::setThreadPoolSize` to ensure enough threads are available.
- NUM-7839 (If an exclusive asynchronous durable is created, closed, and then re-subscribed immediately, it is possible for the client to receive an exception that the subscriber is already bound.)
The issue occurs because the session disconnected operation does not wait for all resources to be cleaned. If a client waits for a while before the second subscription, all resources on the server are cleaned so the subscription is successful, but there is no way currently to ensure the exact time at which everything is cleaned.
- NUM-6147 (P2P hidden channel appearing)
When upgrading an installation from 9.10, a channel with the name "-p2p/serviceinfo" may be visible within the namespace of Universal Messaging. This channel can safely be removed because it is an artifact of a deprecated and now removed feature, P2P. If not removed, it will have no adverse effect on Universal Messaging.
- Shared memory drivers are currently not supported on HP-UX systems.
There is currently no workaround for this issue.

3.0 Usage Notes

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

- Note that after you create a server instance you cannot change the server instance name or the realm name. When you create the server instance, the server instance name is set to the realm name by default. Previously, it was possible to do that by modifying the `RNAME` server Java system property. This functionality has been removed.
- In version 10.11 and higher, Universal Messaging client, non-admin sessions in an active/active cluster are always terminated if the server to which the client application connects is not in a good cluster state, that is, either master or slave state.
Prior to Universal Messaging 10.11, you could use the `DisconnectIfClusterFails` flag to configure the behavior of client sessions when the server is not in a good cluster state. The `DisconnectIfClusterFails` flag has been removed in Universal Messaging 10.11.
- Now the persistent flag for durables is implicitly set by the API depending on whether the channel on which the durable exists supports persistence. Currently channels of type `Mixed` and `Persistent` support persistence. For these channel types, the flag is implicitly set to "true", while for all other channel types the flag defaults to "false".
- Universal Messaging enables both higher-release Java clients to connect to lower-release realm

servers, and lower-release clients to connect to higher-release servers. For more information, see the section "Concepts > Deployment > Bi-directional Client and Server Compatibility" in the Universal Messaging documentation.

- The Java®-based components of Universal Messaging now support Java 8 and Java 11 virtual machines at run time.
- Behavior related to the "Pause Publishing" functionality:
 - Modifying JNDI entries is not possible while publishing is paused. This is because JNDI entries are stored in a Universal Messaging channel.
 - Clients created using an API from a product release prior to version 10.1 will not throw the intended `nSessionPauseException` while publishing is paused. Java® `publish/commit` operations will throw `nBaseClientException`, whereas C++ and C# will throw `nUnexpectedResponseException`.
 - If publishing is paused, editing a store in the Enterprise Manager will cause the events on the store to be lost, as they cannot be republished on the re-created store.
- The set of Windows Start Menu entries created for each Universal Messaging instance has been simplified. Starting with the 10.3 release, each instance has a Start Menu entry for an "Examples Command Prompt" and for a "Realm Server Command Prompt". The language-specific command prompt entries created by previous releases have been removed, and the documentation updated to describe how to configure the environment to develop with Universal Messaging using these languages.
- The server-side event filtering functionality in Universal Messaging does not support filtering of Google Protocol Buffer events using the "map" container type available in recent versions of the Google Protocol Buffer language.
- Many realm server configuration properties were removed in the 10.3 release. See the "Release Notes" 10.3 section in the Universal Messaging documentation for further details of these changes.
- The Command Central asset inventory commands that Universal Messaging supports in version 10.7 are a preview feature that is subject to change in the future without deprecation announcements. This preview has limited functions and is not intended for use in a production environment. If you want to provide feedback for this preview feature, go to the Command Central area on the Software AG Tech Community website.

4.0 Fixes Included in Each Release

For detailed information about available fixes that have been applied in current or previous product releases, go to the Knowledge Center on the [Empower website](#).

5.0 Resolved Issues

The current release resolves many functional, robustness and performance issues that arose in previous releases. This section provides a short summary of the resolved issues that may be of most interest to customers.

Release 10.11

- NUM-16257
A `NullPointerException` occurs randomly in a Universal Messaging server when you try to publish events to a mixed channel.
The issue is resolved.
- NUM-12799
Out-of-memory errors, `ConcurrentModificationException`, and deadlock might occur when a user keeps connecting to and disconnecting from the same channel or queue.
The issue is resolved.
- NUM-15853
When initializing a Universal Messaging multiplex session, the connection times out and the Java Service Wrapper detects a deadlock condition.
The issue is resolved.
- NUM-15694
A deadlock might occur when a Universal Messaging realm is transitioning into a master state and trying to purge events from a JMS store. The issue was introduced with the `DisconnectOnClusterFailure` server-side flag functionality.
The issue is resolved.
- NUM-15643
Caching does not work for multi-file disk stores even when caching is enabled for the server instance.
The issue is resolved. By default, caching is not enabled for multi-file stores. To store events from a channel with multi-file stores in the cache:
 1. When configuring the Universal Messaging server instance, set the `EnableStoreCaching` and `EnableCaching` server configurations to "true" and restart the server.
 2. When creating a channel with a multi-file store, set the "Enable Caching" channel storage properties to "true".
- NUM-15404
Universal Messaging might shut down with an out-of-memory error.

In some cases, the Universal Messaging realm server might shut down with `OutOfMemoryError`. The issue occurs due to a combination of factors including the slow processing of data buffers from multiplexed sessions. The issue is resolved.

- NUM-14767

Exclusive durables are not always properly recovered during cluster recovery. The issue is resolved.

- NUM-16249

Synchronous durable topic or queue consumers that have low timeout values (tenths of milliseconds or less) and consume messages from a slave realm in a Universal Messaging cluster might stop consuming messages and log the following message in the `nirvana.log` file for the slave realm: "Cluster> Rolling back Event IDs to allocate for a local connection that no longer exists."

The issue is resolved. Universal Messaging now has the `TimeoutSynchronousConsumerOnMaster` advanced realm configuration property that you can use to switch the timeout procedure to the master realm in the cluster. Valid values for the new property are:

- true - switches the timeout procedure to the master realm in the cluster
- false (default) - the timeout procedure is run on a slave realm in the cluster

Important! You must configure the new property after updating all realms in the cluster to the fix version of the master realm.

- NUM-15340

During transactional publishing to Universal Messaging using a horizontal scalability (HS) session, the Universal Messaging client might report `nUnexpectedResponseException`.

When a client is performing transactional publishing of messages to Universal Messaging servers that are part of an HS URL, and one of the servers is stopped during the transaction, some messages might remain unpublished. In addition, the client returns `nUnexpectedResponseException`. The exception occurs because the transaction request does not receive a reply from the Universal Messaging server.

The issue is resolved. When a Universal Messaging server is stopped during multi-threaded transactional publishing, the transaction returns `nSessionNotConnectedException`, and the transaction can be retried.

- NUM-16364

Universal Messaging fails to start automatically after migration using a Command Central composite template.

The server writes a `NullPointerException` to the `nirvana.log` file. You can start the server only from the Command Central web user interface.

The issue is resolved.

- NUM-14901

Exporting or importing a realm configuration into XML results in missing or incomplete join details.

When exporting or importing realm configurations from Enterprise Manager or using the "nexportrealm" or "nimportrealm" code samples, one of the following issues occurs:

- The exported XML file does not include any information about the remote joins.
 - The join entries in the exported XML file do not include the details of the remote realm, which incorrectly represents the join as local.
 - The information about the remote joins does not get imported.
- The issues are now resolved.

- NUM-14412

Connecting nodes in a Universal Messaging cluster might fail when you use the VIA list of an interface to configure access control list (ACL) entries for cluster communication.

The issue is resolved.

Release 10.7

- NUM-10799 (Uninstallation may not remove UM Windows service.)
Windows services created during or after installation of Universal Messaging may not be removed when the product is uninstalled. Users should check whether any such services still exist after uninstallation and manually remove them if so, using the Windows Services control panel.
The issue is now resolved.
- NUM-9489 (JMS API allows creation of multiple exclusive durables with the same name.)
Since the 9.12 release, the JMS Session.createDurableSubscriber allows creating more than one exclusive durable subscriber with the same name, with no exception thrown or other indication that this has occurred.
The issue is now resolved. Exclusive durables are now bound to synchronous subscribers.
- NUM-6873 (Out of order event after restarting shared durable receiver)
Disordering of events can occur when re-starting a shared durable subscriber with unacknowledged events using the queued shared durable implementation.
A workaround for this is to ensure that the “Fanout Config -> SyncQueuePublisher” realm configuration property is set to false. This however may cause excess events to build up on server queues in scenarios where consumers do not keep up with publishers.
Note that for a Universal Messaging delivery as part of a webMethods bundle, the configuration property defaults to false anyway.
The issue is now resolved.

Release 10.5

- NUM-10743 (MQTT QoS 2 connections are not downgraded to QoS 1)
Universal Messaging doesn't support MQTT QoS 2 and will automatically downgrade client connections to QoS 1.
This issue is resolved.
- NUM-11606 (Universal Messaging status shown as ERROR in CCE)
Command Central displays an ERROR run-time status for a clustered Universal Messaging server when you replace interfaces on one or more of the realm servers in the cluster from outside Command Central.
When you monitor a Universal Messaging realm server that is part of a cluster in Command Central, and you add a new interface and remove the previously active interface on one or more of the realm servers in the cluster from outside Command Central (for example, in Enterprise Manager), Command Central displays an ERROR status for the monitored realm and also displays offline cluster members until Platform Manager is restarted.
The issue is resolved.
- NUM-11965 (Universal Messaging cluster formation may take too long to reform)
Logic for purging events from a multi-file store is now optimized. Previously, events were read twice from disk although this was not really needed.
The issue is resolved.
- NUM-11971 (NSPS connection from DotNet to UM)
C# clients were not able to connect to NSPS interfaces using SASL authentication.
The issue is resolved.
- NUM-12285 (Selectors starting with % sign are not parsed correctly)
An error was thrown when parsing a selector which starts with the string "%_". This was an unhandled case in the code, which is now corrected and this scenario is working properly.
The issue is resolved.
- NUM-12300 (Batch consumption for serial durable consumers does not use the allowed batch size)
Serial consumers did not correctly consume messages in batches even when there was a large backlog of events. For example, if the batch size was 50, a serial consumer could receive only 2 or 3 messages in a single batch instead of all 50.
The issue is resolved.

Release 10.4

- NUM-10669 (Channels and queues are not sorted in the EM tree)
The Universal Messaging Enterprise Manager previously did not display newly added channels or queues in alphabetical order.
The issue is resolved.
- NUM-10754 (UM Tools for manipulation of JMS artifacts fail when used with authentication)
The issue is that beside the usual connection which is properly supported for authentication, there is a JNDI connection required where credentials were hardcoded. The credentials provided via the command line are now also used by the JNDI connection.
The issue is resolved.
- NUM-10872 (Enterprise Manager slows down while editing channels or queues)
Previously, when editing channels or queues in the Enterprise Manager, the processing became slower after each save operation. When you edited channels or queues nested in several containers (folders) in the Enterprise Manager, the time for saving your changes increased with each save operation.
The issue is resolved.
- NUM-10944 (Batch Purge performance)
Event purge performance has been improved in the case where there is an indexed durable (Shared or Serial) attached to a store.
- NUM-10945 (Problem when editing a queue in Enterprise Manager)
Editing a queue in the Universal Messaging Enterprise Manager could previously cause some events on the queue to be lost.
The issue is resolved.
- NUM-11166 (Cluster manager doesn't throttle events when queue becomes big)
Previously, in inter-cluster communication, one node could send events faster than the receiving node could process them. This could lead to an out of memory exception.
Now if the event queue becomes too big, the receiving node will throttle.
- NUM-11381 (Universal Messaging C# client only supports secure connection TLS 1.0 and SSL 3.0 protocols)
This issue is now resolved. The Universal Messaging C# client now also supports TLS 1.1 and TLS 1.2 protocols.

Release 10.3

- NUM-10389 (Possible memory leak when deleting channels.)
A memory leak of cached Google Protocol Buffer definitions that could be triggered by deleting channels from the Universal Messaging realm server has been resolved.
- NUM-10317 (JAVA_HOME environment variable not tailored correctly on Windows.)
The JAVA_HOME environment variable was not being correctly tailored to point to the installed Java Virtual Machine when opening one of the Universal Messaging command prompts from the Windows Start Menu. The variable will now be set correctly.
- NUM-10313 (Enterprise Manager hangs after 10 minutes.)
The Universal Messaging Enterprise Manager tool could hang after a period of time when connected to a realm server under heavy load. This issue has been resolved.
- NUM-9719 (AMQP/JMS mapping header mismatch.)
The AMQP to JMS mapping supported by Universal Messaging has been updated to include some additional mappings defined in the latest updates to the AMQP specification.

Release 10.2

- NUM-9143 (It is not possible to import a realm configuration exported from UM 10.1.)
Previous releases allowed realm configurations containing clustered Simple and Transient channels to be imported even though these configurations are unsupported. The import tooling has been updated to detect such invalid configurations and allow automatic upgrading of these channels to Mixed type if requested by the user.
- NUM-9326 (UM's SPM should set connection name for admin connection.)
The Software AG Platform Manager (SPM) plugin for Universal Messaging will now set the "connection name" property when making an administrative connect to the Universal Messaging server. This allows easier identification of the clients connecting to a particular server.

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 10.11

- *Enterprise Developer's Guide for Python* has been removed.
- The Scheduling documentation in the *Administration Guide* has been removed.
- A new section, "Handling Multiple Connections", has been added to the *Operations Guide*. It provides information about how to handle multiple connections both on the client side and server side, and how to resolve some related issues that you might encounter.
- The information about using Prometheus in Universal Messaging has been moved from the *Concepts* guide to the section "Monitoring Containers" in the *Operations Guide*.

Release 10.4

- The documentation set has been extended to include a new *Operations Guide*. This guide contains information on standard procedures related to the smooth running of the Universal Messaging system. The guide covers daily operations, special operations, monitoring, troubleshooting, as well as other active and proactive tasks.

Release 10.3

- The *Universal Messaging Clustering Guide*, which was previously released as a PDF file complementing the product documentation set, has now been incorporated into the *Universal Messaging Concepts Guide*.
- Detailed documentation of the AMQP (Advanced Message Queueing Protocol) implementation in Universal Messaging has been added to the product documentation set.
- The differences in functionality available through the Universal Messaging management UIs in Enterprise Manager and Command Central have been documented.

Release 10.2

In previous releases of the documentation, the terms "named object" and "durable subscription" were used to mean the same thing. In this release all use of "named object" has been dropped in favor of the terms "durable subscription" or just "durable".

Release 9.12

The description of how to use Command Central to perform administrative tasks on Universal Messaging has moved from the Command Central documentation set to the Administration Guide of the Universal Messaging documentation set.

7.0 Terminology Changes

See the *Release Notes* document in the Universal Messaging documentation.

8.0 Added, Removed, Deprecated, or Changed Items

See the *Release Notes* document in the Universal Messaging documentation.

9.0 Added, Removed, Deprecated, or Changed Parameters

See the *Release Notes* document in the Universal Messaging documentation.

10.0 Added, Removed, Deprecated, or Changed APIs

See the *Release Notes* document in the Universal Messaging documentation.

11.0 Copyright Information

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