Informatica® Corporation
Ultra Messaging *Persistence Edition*
Version 6.7.1
Release Notes
August 2014

Contents

This document contains important information about changes to Ultra Messaging.

New Features and Enhancements

Features and enhancements added in Version 6.7.1.

- Ultra Messaging Persistence Edition is now available on the HP NonStop platform. For information on limitations, see the *Documentation Introduction*.

- You can now set how a context learns the ID of its own Topic Resolution Domain (TRD) with option `resolver_domain_id_active_propagation_timeout (context)`. This provides more flexibility in situations where you might need to change the Topic Resolution Domain (TRD) ID values for contexts. See the *Ultra Messaging Configuration Guide*.

- Log messages `Core-5688-1882` and `Core-5688-1891` now display delay times in seconds and milliseconds, instead of seconds only.

- The following error log messages are added to the Operations Guide:

  - `Core-5688-4383: JNI detected an exception in (%s): %s`

- `Core-5688-1794: LBT-RU source received unknown packet type %u. Origin: %s:%d`

- `CoreApi-5688-3772: FD event already defined`

- `Core-5688-3267: WARNING: could not bind, (port = %d, multicast group = %s), on multicast receive socket: %s`

- `CoreApi-5688-4499: Can't allocate memory of %u bytes [%s:%d]`

- `CoreApi-5688-4110: no default multicast interface available`

- `Core-5688-446: lbmc_handle_msg returned -1.`

- `Core-5688-3675: Response received data on TCP connection. Ignoring. Origin: %s:%d`

- `Core-5688-538: NOTICE: Source "%s" retention_size_limit less than max message size. Will retain at least 1 message.`

Installation

Important: If you are upgrading from Ultra Messaging Version 4.x or earlier, Informatica recommends that you **recompile and relink** your applications to this version's libraries.

If you are upgrading from Ultra Messaging Version 5.x, Informatica recommends that you **relink** your applications to this version's libraries.

Upgrade Overview

You can upgrade Ultra Messaging from version 5.3.x to version 6.7.1 in a phased approach with the following procedure. If your 5.3.x network contains UM Gateways and you want to migrate to UM Routers, you must perform a flash cutover.

Before you install or upgrade, read these Release Notes. The Release Notes contain important information about the product installation and upgrade process. The Release Notes also contain information about known and fixed limitations.

Note: You cannot use a phased approach for migrating from the UM Gateway to the UM Router. Instead you must perform a flash cutover.

Upgrade Procedure

To upgrade Ultra Messaging from version 5.3.x to version 6.7.1, perform the following procedure:

1. If the current installation is earlier than 5.3, upgrade all applications and components except UMDS servers to version 5.3.6 or later.

2. Review settings for the Late Join or OTR per-message timeout options, if used. Note that since 5.3.x, option `otr_request_duration (receiver)` is deprecated, and the following 6.7.1 options are added:

   - `late_join_info_request_interval (receiver)`
   - `late_join_info_request_maximum (receiver)`

- `retransmit_request_message_timeout` (receiver)
- `1otr_message_caching_threshold` (receiver)
- `otr_request_message_timeout` (receiver)

3. Upgrade all lbmrd resolver daemons to 6.7.1. No configuration changes are required.

4. Set the following configuration options:
   - `compatibility_include_pre_um_6_0_behavior` to 1
   - **source** `transport_tcp_use_session_id` to 0

5. If using UMP, upgrade all umestored daemons in groupings that observe the following requirements:
   - A single source cannot specify a mixture of 5.3.x and 6.7.x umestored daemons.
   - Separate sources on the same context can specify daemons of different versions.
   - Do not start upgraded daemons with 5.3.x state and cache files.

   Note: If you neglect to set `compatibility_include_pre_um_6_0_behavior` to 1, receivers incorrectly receive messages without persistence.

6. Upgrade source and receiver applications. You can upgrade these one by one, in any order.

7. After all components are upgraded, set the following configuration options:
   - `compatibility_include_pre_um_6_0_behavior` to 0
   - **source** `transport_tcp_use_session_id` to 1

Note: During the migration period with 5.3.x sources and 6.7.1 receivers coexisting, sources receive duplicate stability notifications and receivers do not receive registration success, registration change store update, and registration change store removed events. This can occur if sources use UMP stores configured for round-robin failover behavior and a transition from a primary to a secondary store occurs due to failover.

Log Messages During Upgrade

On 5.3.x applications on the same TRD as 6.7.x applications, you might see the following log messages:

```
LBMC unknown next header 64
```

Informational. You can ignore this message. You can reduce the frequency of this message by increasing the value for context option response_tcp_deletion_timeout.

```
LBMR Topic Info Record malformed. Dropping remainder
```

Issued for every TIR that contains a TCP Session ID. You must set option `transport_tcp_use_session_id` to 0 during the interim migration period.

```
LOG Level 5: Core-5688-3387: LBMR Extended Type 0x7 incorrect (10.29.3.49:40633 len
102). [...D.....<..............1I...........(>..............store-name............
(>.......................$]. Dropping.
```

Informational. This occurs if UMP store umestored daemons are present and configured with a discoverable name. For each name advertisement, all contexts drop the packet and log this warning.

```
[WARNING]: Core-5688-516: LBMC cntl unknown next header: 55.
```

Informational. Issued once per transport session when receiving an SRI from a UMP source.

Fixed Limitations

Ultra Messaging Streaming Edition

Fixed limitations in Version 6.7.1.

Bug Number	Description
3944	Tthe lbmpong.c sample application might cause the following fatal assert: `FATAL: failed assertion [src->exbq!=NULL] at line 2155 in ../../../../src/lib/lbm/lbmsrc.c`
6186	If the function **lbm_deserialize_response()** has a NULL pointer for the second variable, the function returns an `LBM_EINVAL`. As a solution, the **lbm_deserialize_response()** function now fatally asserts if NULL is passed for the `lbm_context_t*` and/or `lbm_serialized_response_t*` arguments.
7526	If an Ultra Messaging application's context thread processing is delayed significantly, the LBT-RM or LBT-RU receiver activity might time out before the application adds a receiver socket file descriptor to the Ultra Messaging file descriptor set. This causes a memory corruption.
7945	When delivering a no source notification to a UM wildcard receiver application, it may experience a segmentation fault.
8428	The **lbm_event_dispatch()** function might invoke a user callback before the associated event queue has been shut down. As a solution, the **lbm_event_dispatch()** function now checks the event queue shutdown status before calling a user callback, but still always processes UNBLOCK events.
8517	An Ultra Messaging application using fd management type `select` might fatally assert with the following message: `FATAL: failed assertion [index<fdm->select_fd_count]`
8750	An HFX receiver with option `receiver_callback_service_time_enabled` option set to `1` might crash or operate without getting any data.
8788	Ultra Messaging Datagram Bypass Layer (DBL) still uses Myricom DBL version 1. As a solution, Ultra Messaging now uses Myricom DBL version 3.
8812	Ultra Messaging range configuration options pairs do not validate values to ensure that the low range value is less or equal to the high range value.
8856	The lbmrd process no longer requires a license to run, but the help menu still references a `-f` command line option/value, which has no effect.
8874	When referenced from an IDE, the Ultra Messaging .NET API libraries do not specify Informatica as creator.

Bug Number	Description
8879	An Ultra Messaging application using fd management type `epoll` might have file descriptors silently become unregistered.

8898	A Windows receiver using FD management type `wincompport` might crash with the following log message:
	
	`Core-5688-3839: lbm_fd_handle_events line 4463: wincport recv WSA err 0 (Not a WSA`
	`error.) from peer not a connected socket`

8919	For the LBT-RM transport, the `nak_stm_min` and `nak_tx_min` statistics might contain incorrect values, such as MAX_INT+1 or 0x100000000, due to being incorrectly initialized. As a solution, these statistics are now correctly initialized to 0.
8933	An Ultra Messaging Java application might crash when using the **UMERegistrationIdExCallbackInfo()** or **UMERecoverySequenceNumberCallbackInfo()** callback methods.
9013	Ultra Messaging unicast applications might process topic resolution data from `lbrmd` resolver daemons that they are not configured to use.
9040	When sending serialized Ultra Messaging responses via the UM router, the Ultra Messaging request application might not receive them.
9077	When you set option `resolver_multicast_incoming_address` to `0.0.0.0`, the Ultra Messaging application exits during topic resolution.

Ultra Messaging Persistence Edition

Fixed limitations in Version 6.7.1.

Bug Number	Description
5141	If you run the Java `umesrc` sample application without specifying a store, the application should exit, but does not. As a solution, the Java `umesrc` now displays an error message and exits if you do not specify a store.
6959	When a UMP receiver subscribes to a UMP source with option `ume_use_store` enabled, the application can not disable option `use_late_join`.
8140	When option `context source_includes_topic_index` is enabled, the source string delivered to the UME recovery sequence number callback does not include the topic index.
8963	If a store with receiver paced persistence enabled experiences transport-level loss, then a UMP source might fail to decrement the flight size count and block indefinitely without sending.
8995	The .NET `umesrc` sample application crashes when using the -S option to input a valid store IP and port.
9010	The .NET `umesrc` sample application sometimes crashes when the store name length equals 0.

Known Limitations

Ultra Messaging Streaming Edition Limitations

Known limitations in Version 6.7.1.

Bug Number	Description
3358	When using the LBT-RDMA transport with Java applications, a segfault can occur if you kill a receiver with Ctrl-C. As a workaround, use the JVM option, -Xrs.
3883	When using Automatic Monitoring with `ud_acceleration` and the epoll file descriptor option, UMS may leave a monitoring thread running after context deletion. Informatica is investigating this problem.
4667	Multitransport Threads do not support persistent UMP stores or UMQ queues.
6553	You cannot use Unicode PCRE characters in wildcard receiver patterns on any system that communicates with a HP-UX or AIX system.
6828, 6830, 6831	You cannot use Network Address Translation (NAT) in any scenario, including with the use of `lbmrd` or with the UM Router.
7762	When using Event Queues with the Java API on Mac OS X kernel 9.4, core dumps have occurred. Mac OS X kernel versions before 9.4 have not produced this behavior.
7763	You cannot send messages larger than 65,535 bytes over the LBT-IPC transport when you set option `ordered_delivery` to 0 (zero) unless you set `transport_lbtipc_behavior` to `receiver_paced`.
7764	If you use the current version of VMS (3.2.8), UMS 4.1 issues the following warning: `LOG Level 5: LBT-RDMA: VMS Logger Message (Error): vmss_create_store: 196[E] vms_listen: rdma_bind_addr failed (r=-1)`. This warning indicates that `rdma_bind` failed for ethernet interfaces, which is expected behavior. Currently, VMS attempts `rdma_bind` on all interfaces. When released, VMS version 3.2.9 will only run `rdma_bind` on infiniband-capable interfaces.
7769	When starting UM JMS applications, Core-5688-27 warnings about deprecated configuration options may be logged. You can ignore these warnings.
7992	The LBT-SMX transport does not support Topic Sequence Number Information (TSNI) messages. Thus, if LBT-SMX traffic routes through one or more UM Routers, and the original LBT-SMX source does not send messages regularly, remote receivers do not detect and notify the application of topic-level tail loss. Also, UM might not deliver midstream topic-level loss notifications in a timely manner. Remote receivers may also experience repeated transport disconnects and reconnects, and may miss Beginning Of Session (BOS) messages for the remote transport that carries data from the originating SMX source. Remote receivers may also experience head loss, similar to what would occur if the remote UM Router had started after the originating SMX source starts sending. When configuring SMX sources to send through a UM Router, ensure receiving applications do not rely upon these missing TSNI-related behaviors.
8042	It is possible for a thread deadlock to occur in the Java HotSpot Virtual Machine when initializing direct byte buffers. To avoid this bug, upgrade to Java 1.6.0_18 or later. For more information see http://bugs.sun.com/bugdatabase/view_bug.do?bug_id=6791815.

Bug Number	Description
8266	With Ultra Messaging on the AIX platform, you might encounter library linking problems due to an older version of libcrypto.a in the Ultra Messaging core package. To avoid this, set the LIBPATH in such a way that it takes the system `libcrypto.a` ahead of the Ultra Messaging `libcrypto.a`.
8727	You cannot use `lbm_rcv_retrieve_transport_stats()` to retrieve transport statistics from receivers with SMX sources. Instead, to retrieve these statistics use Automatic Monitoring.
8735	In AIX systems, you cannot send messages with a zero-length payload.
8744	If the `lbmrd` configuration file does not specify the version attribute within the `<lbmrd>` element, the daemon quits immediately without an error message. To resolve this issue, set the `<lbmrd>` element to `<lbmrd version="1.0">`.
8794	Configuring sources with LBT-RU, source-side filtering, and adaptive batching might cause a crash.
8820	Setting *receiver transport_tcp_activity_method* to SO_KEEPALIVE without setting *receiver transport_tcp_activity_timeout* to a value other than the default value of `0` causes a receiver create failure. This triggers an immediate `s_entry->topic.rcv!=NULL` fatal assert. Also, any other configuration that causes a receiver create to fail triggers an `s_entry->topic.rcv!=NULL` fatal assert.
8855	Although the lbmrd daemon no longer requires a license to run, the help menu contains a reference to a license being a valid command line option/value. The lbmrd ignores any value supplied for the license.
9030	You cannot set transport options in-line for lbmmon using a UM XML configuration file. Instead, use a Plain Text configuration file to set these options.
9176	You cannot configure configuration option `resolver_domain_id_active_propagation_timeout` to different values for different applications that are in the same Topic Resolution Domain (TRD).

Ultra Messaging Persistence Edition Limitations

Known limitations in Version 6.7.1.

Bug Number	Description
2982	Receivers using event queues and Spectrum with UMP can experience a SIGSEGV while shutting down if events still exist on the event queue when the application deletes the event queue. As a workaround, use LBM_EVQ_BLOCK when dispatching event queues. During application shutdown, call **lbm_evq_unblock()** after deleting receivers associated with the event queue, but before deleting any context objects. When the dispatch thread exits, you can continue with context deletion. Informatica is working on a solution to this problem.
4543	When running a store on a Solaris machine, you may experience registration failures after a few minutes. The store repeatedly reports the error, `[WARNING]: wait returned error 4 [select: (22) Invalid argument]`. Changing *fd_management_type* to `devpoll` prevents this problem. Informatica is investigating this problem.
5841	A UMP store daemon, umestored, may shut down unexpectedly if you enable proxy sources and you have configured the daemon with a restrictive port range, (*transport_lbtrm_multicast_address_low* - *transport_lbtrm_multicast_address_high*, *transport_tcp_port_low* - *transport_tcp_port_high*). Informatica recommends that you use a wide port range (at least 1000 ports) in your UM configuration file if you enable proxy sources for umestored. Informatica is investigating this problem.
6843	An overly aggressive configuration on the source can cause the source to declare the store unresponsive while the source processes stability acknowledgements or confirmed delivery notifications or both. Using "strong RegIDs" prevents the source from sending messages until the store's `source-activity-timeout` expires on the store. After the activity timeout expires, the source can reregister.
7014	Java applications that create multiple receivers for the same topic in the same context may shut down unexpectedly when calling **Dispose()** if the topic is in a persistent data stream. Informatica recommends that you either avoid concurrent calls to **Dispose()** or use a single receiver for each topic and use application code to deliver messages to different callbacks.
7937	With liveness detection enabled for a UMP source and receiver; the receiver sends liveness keepalives to the source regardless of whether or not the receiver successfully registered with the Store.
8599	You cannot configure a store with `port="0"`.
8728	You cannot use receiver liveness detection for sources running on a SPARC system.
8755	For message consumption acknowledgements, you must not enable both acknowledgement batching and explicit acknowledgements simultaneously. However, if you do enable both, Ultra Messaging does not inhibit this configuration, and you see unexpected behavior.

Bug Number	Description
8870	When using UMP with Windows, if you terminate a umestored process that was started from a command line window, it might corrupt data that is being written when the process is terminated. This does not apply to umestoreds, which runs as a service. To avoid this problem, ensure that sources are quiescent when stopping the Windows umestored process.

8884	When using UMP with disk repositories, you might see one or both of the following log messages:
	- `Store-5688-5480: NOTICE: store "%s" topic "%s" source SesnID 0x`
	  `%x RegID %u duplicate sqn %x%s; dropping duplicate received via`
	  `retransmission.`
	- `Core-7049-1: NOTICE: Initiating proactive retransmissions for`
	  `UME source on topic "%s" starting at sequence number 0x%x.`
	To prevent these, set option repository-disk-async-buffer-length to at least 1000000 (1MB).

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