
hp OSS Mediation



Unified Mediation Bus

Version 1.0

Release Notes

Edition: 1.0

**For the Operating Systems:
Linux (RHEL 6.5)
Windows® (for Adapters development toolkit)**

September 2015

© Copyright 2015 Hewlett-Packard Development Company, L.P.

Legal Notices

Warranty

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

License Requirement and U.S. Government Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notices

© Copyright 2015 Hewlett-Packard Development Company, L.P.

Trademark Notices

Adobe®, Acrobat® and PostScript® are trademarks of Adobe Systems Incorporated.

Java™ is a trademark of Oracle and/or its affiliates.

Microsoft®, Internet Explorer, Windows®, Windows Server®, and Windows NT® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

Firefox® is a registered trademark of the Mozilla Foundation.

Google Chrome® is a trademark of Google Inc.

Oracle® is a registered U.S. trademark of Oracle Corporation, Redwood City, California.

UNIX® is a registered trademark of The Open Group.

X/Open® is a registered trademark, and the X device is a trademark of X/Open Company Ltd. in the UK and other countries.

Red Hat® is a registered trademark of the Red Hat Company.

Linux® is a registered trademark of Linus Torvalds in the U.S. and other countries.

Neo4j is a trademark of Neo Technology.

Hazelcast™ is a trademark of Hazelcast Inc.

Apache Kafka™ is a trademark of the Apache Software Foundation.

Apache ZooKeeper™ is a trademark of the Apache Software Foundation.

Contents

Preface	6
Chapter 1	9
1.1 Main features provided by this release	11
1.1.1 UMB framework.....	11
1.1.2 UMB Server	11
1.1.3 UMB Adapter Development Kit.....	11
1.1.4 Adapters	11
1.1.5 12	
1.1.6 UMB documentation.....	12
Chapter 2.....	13
Fixed Problems	13
Chapter 3.....	14
Known Problems	14

Figures

Figure 1 - Unified Mediation Bus architecture overview.....	10
---	----

Tables

Table 1 - Software versions 7

Table 2 - Known Problems 14

Preface

These Release Notes describe critical information related to the HP Unified Mediation Bus product.

Product Name: Unified Mediation Bus

Product Version: 1.0

Kit Version: V1.0

Please note that this is the first version of the Unified Mediation Bus. Read this document before installing or using this Software.

Intended Audience

Here are some recommendations based on possible reader profiles:

- Solution Developers
- Solution Integrators

Software Versions

The term UNIX is used as a generic reference to the operating system, unless otherwise specified.

The software versions referred to in this document are as follows:

Product Version	Supported Operating systems
Unified Mediation Bus Server Version 1.0	<ul style="list-style-type: none">• Red Hat Enterprise Linux Server release RHEL 6.5
Unified Mediation Bus Runtime Version 1.0	<ul style="list-style-type: none">• Red Hat Enterprise Linux Server release RHEL 6.5• Windows XP / Vista 64 bits• Windows Server 2012• Windows 7 64 bits
Unified Mediation Bus Adapters Development Toolkit Version 1.0	<ul style="list-style-type: none">• Red Hat Enterprise Linux Server release RHEL 6.5• Windows XP / Vista 64 bits• Windows Server 2012• Windows 7 64 bits
Unified Mediation Bus TeMIP Adapter Version 1.0	<ul style="list-style-type: none">• HP-UX 11.31 for Itanium• Red Hat Enterprise Linux Server release RHEL 6.5
Unified Mediation Bus Exec Adapter Version 1.0	<ul style="list-style-type: none">• HP-UX 11.31 for Itanium• Red Hat Enterprise Linux Server release RHEL 6.5• Windows XP / Vista 64 bits• Windows Server 2012• Windows 7
Unified Mediation Bus OSS Analytics Foundation Adapter	<ul style="list-style-type: none">• HP-UX 11.31 for Itanium• Red Hat Enterprise Linux Server release

Product Version	Supported Operating systems
Version 1.0	RHEL 6.5 <ul style="list-style-type: none"> • Windows XP / Vista 64 bits • Windows Server 2012 • Windows 7
Unified Mediation Bus Camel Adapter Version 1.0	<ul style="list-style-type: none"> • Red Hat Enterprise Linux Server release RHEL 6.5 • Windows XP / Vista 64 bits • Windows Server 2012 • Windows 7 64 bits

Table 1 - Software versions

Typographical Conventions

Courier Font:

- Source code and examples of file contents.
- Commands that you enter on the screen.
- Pathnames
- Keyboard key names

Italic Text:

- Filenames, programs and parameters.
- The names of other documents referenced in this manual.

Bold Text:

- To introduce new terms and to emphasize important words.

Associated Documents

HP Unified Mediation Bus - Installation and Configuration Guide

HP Unified Mediation Bus - Adapter Development Guide

Support

Please visit our HP Software Support Online Web site at www.hp.com/go/hpsoftwaresupport for contact information, and details about HP Software products, services, and support.

The Software support area of the Software Web site includes the following:

- Downloadable documentation.
- Troubleshooting information.
- Patches and updates.
- Problem reporting.
- Training information.
- Support program information.

Chapter 1

Unified Mediation Bus (UMB) V1.0 is an OSS mediation product based on recent technologies from the open-source community like Kafka/Zookeeper and Hazelcast. It addresses:

- operations driven use cases that could not be addressed with the current technology based on ServiceMix, ActiveMQ, Camel and JBI
- use cases needing extremely high throughput
- use cases needing extremely high availability
- configuration tasks in highly distributed solutions

Unified Mediation Bus allows several applications to exchange Events (and by extension Alarms) with each other. It also provides a framework for executing actions remotely: alarm operations (creation, grouping, deletion etc...), trouble ticket operations, command executions (shell scripts, java, etc...), etc...

The Unified Mediation Bus product comes in replacement of the legacy “NGOSS Open Mediation” product with the aim to provide:

- better performance
- better robustness
- easier deployment
- easier Adapter Development

Unified Mediation Bus is constructed around two main technologies:

- A common registry, and remote execution service implemented with the Hazelcast® technology. Hazelcast provides both:
 - a common registry feature that centralizes configuration, status and monitoring information on all UMB Adapters that are part of the overall UMB solution
 - a distributed executor service feature that provides a framework for executing actions on UMB Adapters across the whole UMB solution
- A message broker based on the Kafka Technology. Apache Kafka / Apache ZooKeeper provide a high-performance, high-availability, reliable framework for producing and consuming collections of alarms or events across the whole UMB solution

A typical UMB solution is composed of (see figure below):

- A UMB Server product installation, usually installed on 1 or more dedicated UMB Server host(s), that contains Apache Kafka / Apache ZooKeeper
- Several UMB Adapter product installations (one for each Application connected to the UMB solution). Each application has its own dedicated UMB Adapter, usually installed on the same host as the application itself.

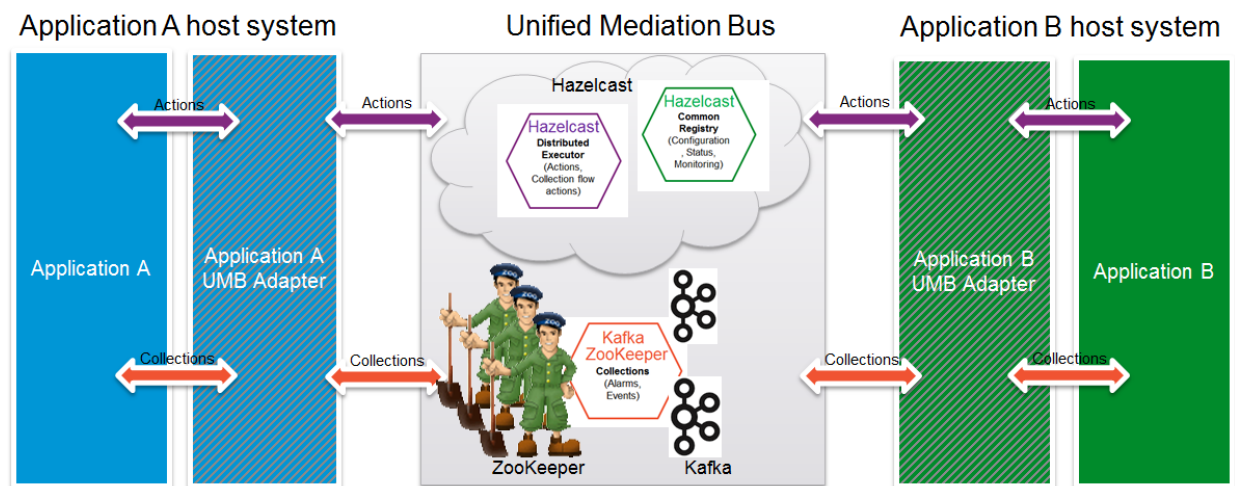


Figure 1 - Unified Mediation Bus architecture overview

The above figure shows UMB interconnecting 2 separate applications: Application A and Application B.

In the figure, Hazelcast appears as a centralized component for simplification's sake: Hazelcast is in fact distributed across both Application A and Application B UMB Adapters. Each of the UMB Adapters is a Hazelcast cluster member. Hazelcast cluster members are interconnected directly, without any centralized component. Any UMB Adapter can act as an action service provider and/or consumer:

- It provides action services for the Application that it is associated with (in our case Application A or Application B). UMB Adapters act as proxies to execute actions on Applications that they are associated with.
- It consumes action services from other UMB Adapters

On the other hand, Apache Kafka / Apache ZooKeeper are indeed a centralized component. Both Application A and Application B UMB Adapters connect to the same central component. Apache ZooKeeper provides a high performance coordination service for the "cluster" of Apache Kafka brokers. Apache ZooKeeper acts as a front-end to the Apache Kafka brokers. The Apache Kafka brokers provide the messaging service: they store collections of alarms or events (sent by Kafka producers) as Topics. Kafka consumers then retrieve the collections of alarms or events. Any UMB Adapter can act as Kafka producer and/or Kafka consumer:

- It provides collection services for the Application that it is associated with (in our case Application A or Application B). UMB Adapters act as proxies to collect alarms or events from Applications that they are associated with.
- It consumes collection services from other UMB Adapters

1.1 Main features provided by this release

The following features have been implemented for version 1.0 MR:

1.1.1 UMB framework

The UMB framework is a set of UMB libraries that are at the core of any UMB Adapter.

The main features provided are:

- The support for event (or alarms) collections, static and dynamic and external flows:
 - Static flows: flow created by the producer. May support several consumers.
 - Dynamic flows: flow created upon consumer request.
 - Non-UMB (or external) flows: allows an UMB consumer, consuming events from any Kafka topic.
- The support for action execution:
 - Execution of actions from any Adapter to any Adapter on the UMB Framework
 - Support for both synchronous and asynchronous actions
 - Support for action cancellation
 - Support for actions that return multiple replies

1.1.2 UMB Server

A UMB Server kit is delivered as part of the UMB 1.0 deliverables. The UMB Server product is only available on Linux. The installation procedure is described in the HP Unified Mediation Bus - Installation and Configuration Guide.

The UMB Server kit delivers both Apache Kafka and Apache ZooKeeper as native RPM kits ready to be installed.

1.1.3 UMB Adapter Development Kit

The UMB Adapter Development toolkit delivers a development environment allowing to develop UMB Adapters. It is made of an Eclipse plug-in used to create new Adapter projects as explained in the HP Unified Mediation Bus – Adapter Development Guide, as well as the UMB framework libraries and the associated Javadocs.

The UMB Adapter Development toolkit also contains the following UMB example Adapters: the Camel, Exec, File and Log Adapters.

1.1.4 Adapters

1.1.4.1 TeMIP Adapter

The TeMIP Adapter is an adapter that allows the collection of alarms from TeMIP operation contexts through TeMIP Web Services. It also provides a full set of actions on the Operation Context such as Alarm Creation, alarm grouping etc...

1.1.4.2 OSSAF Adapter

The OSS Analytics Foundation Adapter is an adapter that allows collecting data from Vertica DB through the OSSA Framework. Data is collected through UMB Actions that are implemented as REST requests to OSSA Framework.

This Adapter has also the capability to be installed in a JBOSS Application Server.

1.1.4.3 Exec Adapter

The Exec Adapter is an UMB adapter that allows execution of actions (script shells, or any other command) on remote hosts. The result is returned as actions reply parameters.

1.1.4.4 UMB Camel Adapter

The Camel Adapter is an adapter based on the Camel Framework. It allows developing an adapter by configuring the Camel configuration files. The Customization of the Camel Adapter is fully described in the HP Unified Mediation Bus – Adapter Development Guide.

1.1.5

1.1.6 UMB documentation

The UMB documentation includes:

- HP Unified Mediation Bus - Installation and Configuration Guide, which includes information on how to install and configure:
 - UMB Server
 - UMB Runtime
 - UMB Adapters
 - UMB Adapter Development Kit
- HP Unified Mediation Bus – Adapter Development Guide, which includes:
 - An introduction to UMB principles and the UMB Adapter Development Toolkit
 - A step by step guide of how to develop a new UMB Adapter
 - A description of UMB sample Adapters: the Camel, File, and Log Adapters
- Javadoc (delivered as part of the UMB Adapter Development Kit)

Chapter 2

Fixed Problems

This version is the first version of UMB. There is no problem fixed from previous revisions.

Chapter 3

Known Problems

This section lists problems discovered during the product test campaign and that still have to be fixed.

Reference / Severity	Component	Description	Solution/Suggested workaround
CR#13143 Medium	Packaging	Uninstall UMB kafka or Zookeeper package does not stop the service	Will be addressed in a future release
CR#13144 Low	Packaging	UMB packages change files group ownership in post-install	Will be addressed in a future release
CR#13266 Medium	Server	Kafka failed to start if installed in a root directory with path longer than 128 characters.	Consider using the default setting or a shorter installation path.
CR#13274 Medium	Server	In some rare circumstances, when the Zookeeper server is stopped, a lock file remains leading an erroneous status "zookeeper dead but subsys locked"	Remove the file /var/lock/subsys/zookeeper
CR#13287 Medium	Packaging	When installing Kafka, UMB Runtime, Zookeeper as non-root user (not recommended) on a Linux system, a repeated error message is reported: "warning: user hpossadm does not exist - using root". However the package is installed correctly.	Will be addressed in a future release
CR#13492 Medium	Server	Attempt to start Kafka server when it was already running previously and had at least one UMB adapter connected leads to a failure. In Kafka logs IllegalStateException is reported.	Will be addressed in a future release
CR#13533 Medium	Packaging	Problem building UMB Example Metrics adapter example with Java 8	Add the -Djavax.xml.accessExternalSchema=all option to the ANT_OPTS environment variable: export ANT_OPTS=-Djavax.xml.accessExternalSchema=all

Table 2 - Known Problems