



# **HPE eIUM Platform Support Guide**

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# Notices

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# Preface

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This chapter provides information on the intended audience of the document, document history, related documents, typological conventions, and the definitions and abbreviations used.

## About this guide

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This document describes the HPE eIUM platform support.

## Audience

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This guide is intended for eIUM users and developers in general.

## Document history

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The following table lists the publication history of this document.

<b>Edition</b>	<b>Version</b>	<b>Publication date</b>
First Edition	9.0	April 2017
Second Edition	9.0 Feature Pack 1	December 2017
Third Edition	9.0 Feature Pack 2	December 2018
Fourth Edition	10.3	April 2020
Fifth Edition	10.4	June 2020
Sixth Edition	10.5	December 2020

## Related documents

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See the following documents (including this document) for further information.

<b>Document title</b>	<b>Description</b>
HPE eIUM Release Notes	Provides release-specific topics, for example, new features, software and hardware requirements, and known problems and workarounds.
HPE eIUM Platform Support Guide	Describes eIUM platform support and software requirements.

Document title	Description
HPE eIUM Overview Guide	<p>Provides a general overview of eIUM, explains key concepts, and introduces the most important GUIs of the solution, including:</p> <ul style="list-style-type: none"> <li>• Batch mediation</li> <li>• Active mediation</li> <li>• Session Server</li> <li>• Launchpad</li> <li>• Operations Console</li> <li>• Common Codec Framework</li> <li>• eIUM Studio</li> <li>• Reference Data Manager</li> <li>• Deployment scenarios</li> </ul>
HPE eIUM Foundation Guide	<p>Provides eIUM concepts and design guidelines, including:</p> <ul style="list-style-type: none"> <li>• Using the eIUM Launchpad</li> <li>• Collectors and collector components</li> <li>• Designing and configuring an eIUM deployment</li> <li>• CDR detection and error handling</li> <li>• File services and Data Delivery Agent</li> <li>• Using NMEs and the NME Schema Editor</li> <li>• Managing eIUM with OpenView</li> </ul>
HPE eIUM Installation Guide	<p>Provides installation-related topics, including:</p> <ul style="list-style-type: none"> <li>• System requirements and installation prerequisites</li> <li>• eIUM installation and activation instructions</li> <li>• MySQL database installation and activation instructions</li> <li>• eIUM upgrade instructions</li> <li>• How to activate additional components</li> <li>• Securing eIUM</li> <li>• Deactivating and uninstalling eIUM</li> </ul>
HPE eIUM Administrator's Guide	<p>Provides configuration and administrative guidelines, including:</p> <ul style="list-style-type: none"> <li>• eIUM Studio and Operations Console access, using eIUM commands, and the eIUM Console</li> <li>• Creating and managing collectors and other servers</li> <li>• Managing host systems and the configuration server</li> <li>• Managing users and security</li> <li>• Correcting CDRs with the CDR Editor</li> <li>• Backing up your deployment</li> <li>• Maintaining and troubleshooting eIUM</li> <li>• Tuning for performance</li> <li>• Administrative functions related to the Operations Console</li> </ul>

Document title	Description
HPE eIUM Operations Console User Guide	Provides Operations Console usage information (also including information regarding the help system embedded in the web application), such as an orientation to the interface, and deployment monitoring capabilities, including coverage of: <ul style="list-style-type: none"> <li>• Processes and groups</li> <li>• Thresholds and alarms</li> <li>• Measurement jobs</li> <li>• Statistics and derived counters</li> <li>• Template wizard</li> <li>• Advanced panel</li> </ul>
HPE eIUM Studio User Guide	Provides usage information related to the eIUM Studio application, in terms of using: <ul style="list-style-type: none"> <li>• The Common Codec Framework (CCF) to structure and transform your data</li> <li>• The ConfigEditor to work with eIUM configuration</li> <li>• Templates in the ConfigEditor</li> <li>• Deployment and Rules visualization</li> <li>• The BPMN2 file workflow designer</li> </ul>
HPE eIUM Virtualization User Guide	Describes virtualization and Cloud Interconnect Server usage in eIUM.
HPE eIUM Template Reference	Describes collector and Session Server templates pre-configured to read from particular data sources. The templates can be used to create collectors and Session Servers quickly.
HPE eIUM Command Reference	Provides available eIUM commands, all possible arguments/options, and sample usage.
HPE eIUM Real-Time Guide	Describes the Session Server and the Real-Time Charging Manager based on the Session Server.
HPE eIUM Load Balancer Guide	Describes how to configure and set up the eIUM Load Balancers.
HPE eIUM Containerization Guide	Describes the containerized standalone HPE eIUM deployment.
HPE eIUM Containerization Security Design Specification for Standalone Servers	Describes the security architecture of a containerized HPE eIUM deployment, and gives guidance on how to secure the service API interfaces.

## Conventions

Unless otherwise stated, this document uses the following typographical conventions.

<code>Courier Text</code>	It is used for filenames and their contents, computer inputs or outputs, program codes, and so on.
<i>Italicized text</i>	It is used for labels, parameters, emphasized text, and replaceable text.
<b>bold text</b>	It is used to indicate navigation options in the interfaces; for example, the text appearing in buttons and menu items.

&lt;angle brackets&gt;

It is used to indicate generic variable names that must be substituted by real values or strings.

**Style conventions**

Unless otherwise stated, this document uses the following style conventions for procedures:

- *Before you begin*—Describes prerequisites of the procedure.
- *About this task*—Provides background information on the procedure.
- *Procedure*—Lists procedure steps in sequence.
- A paragraph after a procedure step in the *Procedure* section states one of the following information:
  - Additional information on the procedure step.
  - Examples on how to operate the procedure step.
  - Results after the procedure step is performed.
- *Results*—Result to achieve after the steps in the *Procedure* section are completed.
- *What to do next*—What to do after the procedure is completed.
- *Example*—Provides an example, or use case reference on the procedure.

## Abbreviations

The following table lists the abbreviations used in the HPE eLUM documentation.

**Table 1: Abbreviations**

3GPP	3rd Generation Partnership Project
AAA	authentication, authorization, and accounting
CATA	HPE Comprehensive Applications Threat Analysis
CDR	call data record
CIS	Cloud Interconnect Server
CLI	command line interface
CSV	comma-separated value
eLUM	enhanced Interactive Unified Mediation
ETSI	European Telecommunications Standards Institute
EPS	Evolved Packet System
E-UTRAN	Evolved Universal Terrestrial Radio Access Network
FCS	File Collection Service
FDS	File Distribution Service
FTP	File Transfer Protocol
GGSN	Gateway GPRS Support Node
GPRS	General Packet Radio Service
gRPC	General RPC
GWT	Google Web Toolkit



HTTP	HyperText Transfer Protocol
I18N	Internationalization
IaaS	Infrastructure as a Service
IDE	Integrated Development Environment
IMDB	In-memory Database
IMEI	International Mobile Equipment Identity
IMS	IP Multimedia core network Subsystem
IMSI	International Mobile Subscriber Identity
IPDR	Internet Protocol Data Record
IUM	Internet Usage Manager (the former name of eIUM)
JDK	Java Development Kit
JMS	Java Messaging Service
JMX	Java Management Extensions
JNDI	Java Naming and Directory Interface
K8s	Kubernetes
KPI	Key Performance Indicator
LB	Load Balancer
LDAP	Lightweight Directory Access Protocol
LTE	Long Term Evolution
MAP	Mobile Application Part
MSC	Mobile Application Part
MSISDN	Mobile Subscriber Integrated Services Digital Network-Number
mTLS	Mutual TLS authentication
MVNO	Mobile Virtual Network Operator
NME	Normalized Metered Event
OA&M	operations, administration, and management
OCF	Online Charging Function
OCS	Online Charging System
OFCS	Offline Charging System
Or-Vnfm	An interface between Orchestrator and VNF Manager
PaaS	Platform as a Service
PCEF	Policy and Charging Enforcement Function
PCM	Promotion and Campaign Management
P-GW	PDN Gateway
PoC	Push-to-talk over Cellular

POJO	Plain Old Java Object
PS	Packet-Switched
PS	Policy Server
PSTN	Public Switched Telephone Network
P-GW	PDN Gateway
QoE	quality of experience
QoS	quality of service
RDBMS	Relational Database Management System
RDM	Reference Data Manager
RDS	Reference Data Service
RTC	Real-Time Charging
SBCF	Session Based Charging Function
SDK	Software Development Kit
SGSN	Serving GPRS Support Node
SIP	Session Initiation Protocol
SLRE	Stateless Rating Engine
SMPP	Short Message Peer-to-Peer
SMS	Short Message Service
SMSC	Short Message Service Center
SMTP	Simple Mail Transfer Protocol
SNAP	Subscriber Network Application Policy
SNMP	Simple Network Management Protocol
SOAP	Simple Object Access Protocol
SQL	Structured Query Language
SSH	Secure Shell
TLS	Transport Layer Security
UDR	usage data record
UI	user interface
UPM	Unified Policy Manager
VEM	VoltDB Enterprise Manager
VNF	Virtual Network Function
VNFD	Virtual Network Function Descriptor
VNFM	Virtual Network Function Manager
WLAN	wireless local area network
WS	Web Service

WSDL	Web Services Description Language
XDR	external data representation
XFD	XML Format Definition

# Chapter 1

## eIUM platform support

The following topics list HPE eIUM supported software, data sources, and applications for the respective product versions.

- eIUM 10.5 (eIUM and CIS)
- eIUM 10.4 (eIUM and CIS)
- eIUM 10.3 (eIUM and CIS)
- eIUM 9.0 Feature Pack 2 (eIUM and CIS)
- eIUM 9.0 Feature Pack 1
- eIUM 9.0
- eIUM 8.3

### 1.1 10.5 software requirements

The following table lists the operating systems and third-party software required for eIUM host systems.

**Table 2: eIUM 10.5 software requirements**

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Bare Metal	RHEL 7	Oracle JDK 11.x	MySQL 8.0.16	Oracle TimesTen 11.2.2.8, 18.1	Apache DS 2.0	Internet Explorer 11 or higher
VmWare ESXi 6.x	RHEL 8	OpenJDK 11.x	Oracle 12.1, 12.2, 18c, 19c	VoltDB 9.3.2	OpenLDAP	FireFox 69 or higher
KVM	CentOS 7			Couchbase 6.0, 6.5	Microsoft AD (primary LDAP server only)	Chrome 77 or higher
Docker 17.06	Oracle Linux 7.6 (UEK)					

The following are the virtualization platforms that are supported by eIUM Cloud Interconnect Server (CIS).

**Table 3: eIUM 10.5 CIS support matrix - OpenStack**

OpenStack Version	Compute API	Identity API	Image AP	Network API	Volume API
RedHat OpenStack 16 (Train)	v2.1	v3	v2	v2	v3

The following are the **RFCs** that are supported by eIUM:

- **Diameter:** RFC 6733.
- **RADIUS:** RFC 2865, RFC 2866, RFC 2868, RFC 3579, RFC 6911, RFC 5176, RFC 5580, RFC 2548 (partial), RFC 6929 (CCF, partial), RFC 5997.
- **HTTP:** RFC 7231 for HTTP/1.1, and RFC 7540 for HTTP/2.

## 1.2 10.4 software requirements

The following table lists the operating systems and third-party software required for eIUM host systems.

**Table 4: eIUM 10.4 software requirements**

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Bare Metal	RHEL 7	Oracle JDK 11.x	MySQL 8.0.16	Oracle TimesTen 11.2.2.8	Apache DS 2.0, OpenLDAP	Internet Explorer 11 or higher
VmWare ESXi 6.0	RHEL 8	OpenJDK 11.x	Oracle 12.1, 12.2, 18c	VoltDB 9.3	Microsoft AD	FireFox 69 or higher
VmWare ESXi 6.x	CentOS 7			Couchbase 6.0, 6.5		Chrome 77 or higher
KVM	Oracle Linux 7.6 (UEK)					
Docker 17.06						

The following are the virtualization platforms that are supported by eIUM Cloud Interconnect Server (CIS).

**Table 5: eIUM 10.4 CIS support matrix - OpenStack**

OpenStack Version	Compute API	Identity API	Image AP	Network API	Volume API
RedHat OpenStack 13 (Queens)	v2.1	v3	v2	v2	v3

The following are the **RFCs** that are supported by eIUM:

- **Diameter:** RFC6733.
- **RADIUS:** RFC 2865, RFC 2866, RFC 2868, RFC 3579, RFC 6911, RFC 5176, RFC 5580, RFC 2548 (partial), RFC 6929 (CCF, partial).
- **HTTP:** RFC 7231 for HTTP/1.1, and RFC 7540 for HTTP/2.

## 1.3 10.3 software requirements

The following table lists the operating systems and third-party software required for eIUM host systems.

**Table 6: eIUM 10.3 software requirements**

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Bare Metal	RHEL 7	Oracle JDK 11.x	MySQL 8.0.16	Oracle TimesTen 11.2.2.8	Apache DS 2.0	Internet Explorer 11 or higher
VmWare ESXi 6.0	RHEL 8	OpenJDK 11.x	Oracle 12.1, 12.2, 18c	VoltDB 9.3	OpenLDAP	FireFox 69 or higher
VmWare ESXi 6.x	CentOS 7			Couchbase 6.0, 6.5	Microsoft AD	Chrome 77 or higher
KVM	Oracle Linux 7.6 (UEK)					
Docker 17.06						

The following are the virtualization platforms that are supported by eIUM Cloud Interconnect Server (CIS).

**Table 7: eIUM 10.3 CIS support matrix - OpenStack**

OpenStack Version	Compute API	Identity API	Image AP	Network API	Volume API
RedHat OpenStack 13 (Queens)	v2.1	v3	v2	v2	v3

The following are the **RFCs** that are supported by eIUM:

- **Diameter:** RFC6733.
- **RADIUS:** RFC 2865, RFC 2866, RFC 2868, RFC 3579, RFC 6911, RFC 5176, RFC 5580, RFC 2548 (partial), RFC 6929 (CCF, partial).
- **HTTP:** RFC 7231 for HTTP/1.1, and RFC 7540 for HTTP/2.

## 1.4 9.0 Feature Pack 2 software requirements

The following table lists the operating systems and third-party software required for eIUM host systems.

**Table 8: eIUM 9.0 Feature Pack 2 software requirements**

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Bare Metal	RHEL 7, RHEL 6, CentOS 7	Oracle J2SE SDK is required. The Java™ Runtime Environment (JRE) is not sufficient. You must Install the Oracle Java™ SDK.  Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher  Obtain Oracle Java™ SDK and Oracle Java™  Patches from: <a href="#">Oracle Java™</a>	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8  VoltDB 7.7  Couchbase 4.6	Apache DS 2.0, OpenLDAP	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher
VmWare ESXi 6.x	RHEL 7, RHEL 6, CentOS 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>1</sup>  VoltDB 7.7  Couchbase 4.6	Apache DS 2.0, OpenLDAP	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher
KVM	RHEL 7, RHEL 6, CentOS 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>2</sup>  VoltDB 7.7  Couchbase 4.6	Apache DS 2.0, OpenLDAP	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher

<sup>1</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

<sup>2</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Docker 17.06	RHEL 7, CentOS 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>3</sup>  VoltDB 7.7  Couchbase 4.6	Apache DS 2.0, OpenLDAP	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher

The following are the virtualization platforms that are supported by eIUM Cloud Interconnect Server (CIS).

**Table 9: eIUM 9.0 Feature Pack 2 CIS support matrix - OpenStack**

OpenStack Version	Compute API	Identity API	Image AP	Network API	Volume API
RedHat OpenStack 10 (Newton)	v2.1	v2, v3	v2	v2	v2, v3
RedHat OpenStack 12 (Pike)	v2.1	v2, v3	v2	v2	v2, v3
RedHat OpenStack 13 (Queens)	v2.1	v3	v2	v2	v3

**Docker:**

- Docker 17.06
- Docker 17.06 Swarm Mode

**vSphere:**

- vSphere 6.5

The following are the **RFCs** that are supported by eIUM:

- **Diameter:** RFC6733.
- **RADIUS:** RFC 2865, RFC 2866, RFC 2868, RFC 3579, RFC 6911, RFC 5176, RFC 5580, RFC 2548 (partial).
- **HTTP:** RFC 7231 for HTTP/1.1, and RFC 7540 for HTTP/2.

## 1.5 9.0 Feature Pack 1 software requirements

The following table lists the operating systems and third-party software required for eIUM host systems.

<sup>3</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.



**Table 10: eIUM 9.0 Feature Pack 1 software requirements**

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Bare Metal	RHEL 7, RHEL 6, CentOS 7	<p>Oracle J2SE SDK is required. The Java™ Runtime Environment (JRE) is not sufficient. You must Install the Oracle Java™ SDK.</p> <p>Oracle JDK 1.8 Update 102 or higher</p> <p>Open JDK 1.8.0.161 or higher</p> <p>Obtain Oracle Java™ SDK and Oracle Java™</p> <p>Patches from: <a href="#">Oracle Java™</a></p>	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8  VoltDB 7.7	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher
VmWare ESXi 6.x	RHEL 7, RHEL 6, CentOS 7	<p>Oracle JDK 1.8 Update 102 or higher</p> <p>Open JDK 1.8.0.161 or higher</p>	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>4</sup>  VoltDB 7.7	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher

<sup>4</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
RedHat OpenStack 8 (Liberty)	RHEL 7, RHEL 6, CentOS 7	Oracle JDK 1.8 Update 102 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>5</sup>  VoltDB 7.7	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher
RedHat OpenStack 9 (Mitaka)		Open JDK 1.8.0.161 or higher				
RedHat OpenStack 10 (Newton)						
Helion OpenStack 3.X (Liberty)						
Helion OpenStack 4.0 (Mitaka)						
Helion Carrier Grade (Mitaka) 4.0						
Docker 17.06 CE	RHEL 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>6</sup>  VoltDB 7.7	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher

## 1.6 9.0 software requirements

The following table lists the operating systems and third-party software required for eLUM host systems.

<sup>5</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

<sup>6</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

**Table 11: eIUM 9.0 software requirements**

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
Bare Metal	RHEL 7, RHEL 6, CentOS 7	Oracle J2SE SDK is required. The Java™ Runtime Environment (JRE) is not sufficient. You must Install the Oracle Java™ SDK.  Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher  Obtain Oracle Java™ SDK and Oracle Java™  Patches from: <a href="#">Oracle Java™</a>	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8  VoltDB 6.4	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher
VmWare ESXi 6.x	RHEL 7, RHEL 6, CentOS 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>7</sup>  VoltDB 6.4	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher

<sup>7</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

Platform/ Hypervisor	Operating system	Java™ version	Internal database	Real-Time database	Security LDAP server	Web browser
RedHat OpenStack 8 (Liberty)  RedHat OpenStack 9 (Mitaka)  Helion OpenStack 3.X (Liberty)  Helion OpenStack 4.0 (Mitaka)  Helion Carrier Grade (Mitaka) 4.0	RHEL 7, RHEL 6, CentOS 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>8</sup>  VoltDB 6.4	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher
Docker 1.13	RHEL 7	Oracle JDK 1.8 Update 102 or higher  Open JDK 1.8.0.161 or higher	MySQL 5.7  Oracle 12.1, 12.2, 18c	Oracle TimesTen 11.2.2.8 <sup>9</sup>  VoltDB 6.4	Apache DS 2.0, Microsoft Active Directory, OpenLDAP, Directory Server	Internet Explorer 11 or higher FireFox 51 or higher, Chrome 56 or higher

## 1.7 8.3 software requirements

The following table lists the operating systems and third-party software required for eLUM host systems.

<sup>8</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

<sup>9</sup> Oracle TimesTen support is limited on a virtualized environment. Please check with an Oracle sales representative before using Oracle TimesTen on VmWare or OpenStack.

**Table 12: eIUM 8.3 software requirements**

Operating system	Patch version	Java™ version	Database	Web server	FTP server	Web browser	LDAP server
Windows Server 2012 x64 Platforms  Windows 2008 x86 32/64-bit Platforms	N/A	Oracle J2SE SDK is required. The Java™ Runtime Environment (JRE) is not sufficient. You must install the Oracle Java™ SDK.  Oracle JDK 1.7.0_65 and higher  Oracle JDK 1.8.0_40 and higher  Obtain Oracle Java™ SDK and Oracle Java™ Patches from: <a href="#">Oracle Java™</a>	MySQL 5.7  ORACLE 11g  ORACLE 12c	MS IIS, Apache, or other web server  (A web server is needed if the IORURL is not hosted by the eIUM configuration server.)	MS IIS or other FTP server  (An FTP server is needed if the IORURL uses the FTP protocol)	Internet Explorer 10 and higher, Mozilla 31 and higher, Chrome 35 and higher	Microsoft Active Directory, ApacheDS, OpenLDAP, and RedHat Directory Server  (applies only for installation of the eIUM security module)

Operating system	Patch version	Java™ version	Database	Web server	FTP server	Web browser	LDAP server
<p><b>HP-UX and Solaris will no longer be supported after Dec 2017</b></p> <p>HP-UX 11i v3 (11.31) IA64 architecture</p>	<p>hp.com/HP-UX patches for HP Java™ are available at <a href="#">HP Java™</a>.</p>	<p>HP Java™ J2SE SDK is required. The Java™ Runtime Environment (JRE) is not sufficient. You must install the HP Java™ SDK.</p> <p>HP Java™ JDK 1.7.0_05 and higher</p> <p>HP Java™ JDK 1.8.0_02 and higher</p> <p>Obtain HP Java™ SDK and HP Java™ Patches from: <a href="#">HP Java™</a></p>	<p>MySQL 5.1 (default, included)</p> <p>ORACLE 11g</p> <p>ORACLE 12c</p>	<p>HP-UX native, Apache or other web server.</p> <p>(A web server is needed if the IORURL is not hosted by the eIUM configuration server.)</p>	<p>HP-UX native FTP server</p> <p>(An FTP server is needed if the IORURL uses the FTP protocol)</p>	<p>Mozilla browser 31 or higher.</p>	<p>Microsoft Active Directory, ApacheDS, OpenLDAP, and RedHat Directory Server</p> <p>(applies only for installation of the eIUM security module)</p>

Operating system	Patch version	Java™ version	Database	Web server	FTP server	Web browser	LDAP server
<p>RHEL 5, 6, and 7 x86 32/64-bit Platforms</p> <p>CentOS 7On Linux only, this release requires version libstdc++.so.5 or later of the library libstdc++.</p> <p>AMD Opteron™ 64 bit Intel® Xeon® 64 bit</p>	N/A	<p>Oracle J2SE SDK is required. The Java™ Runtime Environment (JRE) is not sufficient. You must Install the Oracle Java™ SDK.</p> <p>Oracle JDK 1.7.0_65 and higher</p> <p>Oracle JDK 1.8.0_40 and higher</p> <p>Obtain Oracle Java™ SDK and Oracle Java™ Patches from: <a href="#">Oracle Java™</a></p>	<p>MySQL 5.7</p> <p>ORACLE 11g</p> <p>ORACLE 12c</p> <p>TimesTen version 11.2.2.7.8 is supported, both in 32- and 64-bit versions</p> <p>VoltDB 4.6 (8.3) and VoltDB 5.8 (8.3FP01) 64-bit Linux-based operating system, such as Red Hat (RHEL) version 6.3 or later (VoltDB 4.6 usage requires installation of 8.3, 5.8 is only for 8.3FP01)</p>	<p>Linux native, Apache, or other web server</p> <p>(A web server is needed if the IORURL is not hosted by the eIUM configuration server)</p>	<p>Linux native FTP server</p> <p>(An FTP server is needed if the IORURL uses the FTP protocol)</p>	<p>Mozilla 31 or higher, Chrome 35 or higher</p>	<p>Microsoft Active Directory, ApacheDS, OpenLDAP, and RedHat Directory Server</p> <p>(applies only for installation of the eIUM security module)</p>
<p>VMWare: ESXi 5ESXi 4</p> <p>Linux: RHEL 5, RHEL 6, RHEL 7</p>	N/A	<p>Oracle JDK 1.7.0_65 and higher</p> <p>Oracle JDK 1.8.0_40 and higher</p>	<p>MySQL 5.7</p> <p>ORACLE 11g (as other Red Hat)</p> <p>ORACLE 12c</p>	<p>Linux native, Apache, or other web server (as other Red Hat)</p>	<p>Linux native FTP server (as other Red Hat)</p>	<p>Internet Explorer 10 and higher, Mozilla 31 or higher, Chrome 35 or higher</p>	<p>Microsoft Active Directory, ApacheDS, OpenLDAP, and RedHat Directory Server</p> <p>(applies only for installation of the eIUM security module)</p>