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APM System Requirements and Support Matrixes

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Chapter 1: Introduction

The Application Performance Management (APM) System Requirements and Support Matrixes document contains system requirement, support matrix, and software compatibility information for the APM platform and the various HPE components and software that work with APM.

The information in this document can be used to aid in:

- Planning APM system architecture
- Establishing hardware, operating system and other software requirements required to run APM and its components
- Understanding compatibility among the various components of APM

This document contains information relating to all major licensed components of APM, including End User Management and System Availability Management.

Note: HPE does not support server, database, browser, or other software versions that have been declared EOL (end-of-life) by their manufacturer.

Chapter 2: APM System Requirements

This section contains:

HPE APM Servers

Computer/ Processor	APM requires that all CPU cores are 2.4 GHz or higher. **Tip:** As APM performance is dependent upon processor speed, it is recommended to get the fastest possible processor speed to ensure proper performance.

Operating System	**Windows:** • Windows Server 2012 Standard/Datacenter Edition (64-bit) • Windows Server 2012 R2 Standard/Datacenter Edition (64-bit) • Windows Server 2008 Enterprise Edition SP2 or later (64-bit) • Windows Server 2008 Standard Edition SP2 or later (64-bit) • Windows Server 2008 R2 Enterprise Edition SP1 or later (64-bit) • Windows Server 2008 R2 Standard Edition SP1 or later (64-bit) • Windows Server 2008 R2 Datacenter Edition SP1 or later (64-bit) **Note:** User Access Control (UAC) must be disabled during the installation process. If you are running Windows Server 2008 SP2, User Access Control (UAC) must always be disabled. **Linux:** • Red Hat Enterprise Linux 7.x (recommended), 6.x (6.4, 6.5, 6.7 recommended) (Intel x64 64-bit) • Oracle Linux 6.x (recommended 6.4 or 6.5) Later updates to Red Hat Enterprise Linux Version 7 and Oracle Linux Version 6, when released, will be supported, but may require an APM patch. Check the Application Performance Management (BAC / BSM /APM) Support and News Forum (https://community.hpe.com/t5/Application-Perf-Mgmt-BAC-BSM/APM-9-30-Documentation-Updates/m-p/6898535#M67725) for information. APM requires that your Linux deployment contain specific RPM files. For details, see "Required Linux RPM Files" on the next page.
Domain Name	Each APM server must have a resolvable Fully Qualified Domain Name (FQDN). To verify, run the commands **hostname** and **nslookup**. If either command returns an FQDN, your domain name is supported.
Web Server	**Windows:** • Microsoft Internet Information Services (IIS) 7.0, 7.5, 8.0, 8.5 • Apache HTTP Server - requires use of Apache HTTP Server version adapted by HPE for APM and installed during the APM server installation **Linux:** Apache HTTP Server (adapted by HPE for APM and installed during the APM server installation)

Coexistence with other HPE Components	Coexistence of APM servers with the following components has been tested and is supported: • System Health: Coexistence is supported on Typical Deployment or Gateway Server, as long as the hardware resources assigned to each application comply with the application's environment specifications. Note that coexistence of System Health and SiteScope on the same server is not supported. • SiteScope: Coexistence is supported on Typical Deployment, Gateway Server, or Data Processing Server as long as the hardware resources assigned to each application comply with the application's environment specifications. • Data Flow Probe: Coexistence is supported on Typical Deployment or Gateway Server.
Disk Space	Minimum: 40 GB

Required Linux RPM Files

For Oracle Linux and Red Hat Enterprise Linux OS versions 7.x or 6.x, the following RPM packages are required when working with APM :

• glibc	• libXext
• glibc-common	• libXtst
• nss-softokn-freebl	• compat-libstdc++-33
• libXau	• libXrender
• libxcb	• libgcc
• libX11	• openssl098e
• compat-expat1	• rpm-devel

Note: Before installing APM on Linux OS 7.x or 6.x, run the **rpm_installer.sh** utility. It is located in the **LinuxSetup > rhel_oel_installation_fix** directory. This utility installs the Linux RPM packages automatically.

Memory and CPU Requirements

The following table lists the memory and CPU requirements according to some of the deployment scenarios available for APM . To get the most accurate requirement information for your deployment, use the capacity calculator. You can access the capacity calculator on the SSO site:

https://softwaresupport.hpe.com/km/KM02225445

Certified Deployment	Server Type	Memory (GB)	CPU Cores	Minimum Virtual Memory/ Swap Space (GB)
APM Basic	One machine	8	4	8
APM Advanced	Gateway	8	8	8
APM Advanced	DPS	19	8	8
APM Full	Gateway	10	8	8
APM Full	DPS	24	8	8

HPE APM Databases

Hardware Requirements

The following table describes the hardware (CPU and memory) requirements recommended for the HPE APM Oracle or Microsoft SQL database server:

Deployment	Number of Processors	Physical Memory
Standard	2 CPU cores	Minimum: 2 GB RAM Recommended: 4 GB RAM
Large	Minimum 4 CPU cores	Minimum: 4 GB RAM Recommended: 8 GB RAM and up

For details on the criteria for standard and large deployments of HPE APM , see the *HPE Application Performance Management Database Guide PDF*.

Software Requirements - Oracle Server

The following table lists the Oracle servers supported for working with HPE APM.

Database Release - Version	System Type
Oracle 12c RAC Enterprise Edition	64-bit
Oracle 12c Enterprise Edition	64-bit
Oracle 11.2 (11g R2) RAC Enterprise Edition	64-bit
Oracle 11.2 (11g R2) Enterprise Edition	64-bit

Note:

- We strongly recommend that you apply the latest critical Oracle patches for your operating system. For details, consult the Oracle documentation.
- Consult the Oracle documentation for supported platforms.
- The Oracle Partitioning option must be enabled.

Examples of Tested Deployments - Oracle Server

The following table details the deployment environments that were tested by HPE.

Database Release		
Version	**System Type**	**Operating System**
Oracle 12c RAC Enterprise Edition	64-bit	Red Hat Enterprise Linux 6.5
Oracle 12c Enterprise Edition	64-bit	Windows 2008 R2 Enterprise Edition
Oracle 11.2 (11g R2) RAC Enterprise Edition	64-bit	Red Hat Enterprise Linux 6/5
Oracle 11.2 (11g R2) Enterprise Edition	64-bit	Red Hat Enterprise Linux 6.5/5

Software Requirements - Microsoft SQL Server

The following table describes the Microsoft SQL servers supported for working with APM:

Database Release		
Version	**System Type**	**Service Pack**
Microsoft SQL Server 2014 Enterprise Edition - with failover clustering	64-bit	—
Microsoft SQL Server 2014 Enterprise Edition	64-bit	—
Microsoft SQL Server 2014 Developer Edition	64-bit	—
Microsoft SQL Server 2012 Enterprise Edition - with failover clustering	64-bit	1, 2
Microsoft SQL Server 2012 Enterprise Edition	64-bit	1, 2
Microsoft SQL Server 2012 Developer Edition	64-bit	1, 2
Microsoft SQL Server 2008 R2 Enterprise Edition - with failover clustering	64-bit	1, 2
Microsoft SQL Server 2008 R2 Enterprise Edition	64-bit	1, 2
Microsoft SQL Server 2008 Enterprise Edition	32-bit	2, 3
Microsoft SQL Server 2008 Enterprise Edition	64-bit	2, 3

Note:

- Only supported service packs should be installed. Patches newer than the installed service pack are also supported.

- Consult the Microsoft SQL Server documentation for supported platforms.
- Failover clustering is supported with all APM databases. To configure failover clustering with APM, in the Setup and Database Configuration Utility, enter the cluster server name as the host name. No extra configuration is required.

Examples of Tested Deployments - Microsoft SQL Server

The following table details the deployment environments that were tested by HPE.

Database Release			
Version	**System Type**	**Service Pack**	**Operating System**
Microsoft SQL Server 2012 Enterprise Edition - with failover clustering	64-bit	Service Pack 1	Windows 2012 Enterprise Edition (64-bit)
Microsoft SQL Server 2008 R2 Enterprise Edition	64-bit	Service Pack 1, Service Pack 2	Windows 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2008 Enterprise Edition	32-bit	Service Pack 3	Windows 2008 Enterprise Edition Service Pack 2

Client Requirements for Viewing APM

Display	Minimum: color palette setting of at least 256 colors Recommended: color palette setting of 32,000 colors
Resolution	1600x900 or higher (recommended) 1280x1024 (supported)

Supported Browsers	• Microsoft Internet Explorer (IE) 11.0:
	  • Without Compatibility View mode
	  • Without Enterprise mode
	• Mozilla Firefox 45.x ESR
	• Google Chrome with the latest available version - for Application Health only.
	Note:
	• Firefox 45 ESR requires Java 8 update 66.
	• The browser must be set to accept third-party cookies and allow session cookies.
	• The browser must be set to enable JavaScript execution.
	• The browser must allow pop-ups from the APM application.
	• Internet Explorer users must set browser caching to automatically check for newer versions of stored pages.
	• We recommend using the 64 bit version of the browser.

Flash Player	Adobe Flash 18.0.0.194. Later patches to this version may be supported, but may require a APM patch.
Fonts	The following fonts must be installed on client systems: • MS Gothic for Japanese locales • Gulim for Korean locales • SimSun for simplified Chinese locales • Arial for all other locales

Java Runtime Environment	• Version 7 update 80 • Version 8 update 73 (recommended) Later updates to version 8.x, when released, will be supported, but may require a APM patch. Check the Application Performance Management (BAC / BSM / APM) Support and News Forum (http://h30499.www3.hp.com/t5/Application-Perf-Mgmt-BAC-BSM/bd-p/itrc-875) for information. **Note:** You may not be able to view all APM applets with an earlier version of Java and you will need to download the latest version from the Java download site (http://www.java.com/en/download/manual.jsp) and install it. You may also have to disable earlier versions after download. To verify/manage running Java versions in Internet Explorer: Select **Tools > Internet Options > Programs > Manage add-ons > Toolbars and Extensions**, and locate the **Oracle** section. After making any changes, close and reopen the browser. For details about how to verify the Java version in Mozilla Firefox, see the Mozilla Firefox documentation. **Note:** The following configuration is not supported due to Oracle's known bug in Java 7 update 72: APM configured with CAC and client certificate authentication where the client side Java is enabled with Java TLS 1.2 protocol and Java 7 update 72. For more information regarding this Oracle bug, see https://bugs.openjdk.java.net/browse/JDK-8062032 **Workaround:** Disable Java TLS 1.2 protocol in Java options on the client and server sides.

Java Applet

In this version of APM, Application Health provides an HTML 5 alternative to dashboard, selected reports, and EUM admin. EUM admin supports creating new applications, assigning new scripts, and managing downtime events.

Server Environment Settings

Time settings	All APM servers and database servers must have the same settings for the following: • Time zone • Daylight Saving Time configuration • Java DST • Time
Name resolution	The APM servers must be able to resolve the names of the machines with which they must communicate. These include all the APM servers, database servers, and data collectors.
TCP	**Windows:** It is highly recommended that you make the following change in your registry: For registry key MACHINE\SYSTEM\CurrentControlSet\Services\Tcpip\Parameters, create a new key TcpTimedWaitDelay (DWORD) and set the (Decimal) value to 60. If this is not done, there may be a problem with exhausting the available TCP resources because the time delay default value may be too long. **Tip:** It is recommended that you back up the registry before making any changes to it.
Linux Resource Limits	Resource limits (open files and max user processes) on Linux machines must be set to 30000 or higher. To verify the current resource limit settings on your Linux machine, run the command: **ulimit -a**. If the values returned are lower than 30000 for either open files or max user processes, change the settings to 30000 by executing the appropriate command: To set open files: **ulimit -n 30000** To set max user processes: **ulimit -u 30000** **Note:** Running the command **ulimit –n 30000** affects the current session only. However, this change is lost after rebooting the system. To keep the new limits after rebooting the system, save the new resource limits in the following configuration files: • **/etc/security/limits.conf** Add or update the following lines with the appropriate resource limits: *** soft nofile 30000** *** hard nofile 30000** • **/etc/profile** Add or update the following line at the end of the file: **ulimit -n 30000**

HPE APM on Virtual Platforms

The following general limitations and recommendations are applicable to an installation on a virtual machine:

- The following virtualization platforms are supported:
  - VMware ESX 3.x, 4.x, ESXi 5.x, 6.x
  - Microsoft Hyper-V 2008 R2
- Performance of APM on a virtual machine can be expected to be slower than in a regular installation.
- APM capacities and performance will vary according to the various server resources, such as CPU, memory, and network bandwidth, allocated to APM components.
- A Gigabit network card should be used.
- If you plan to run a database server containing HPE APM databases on a virtual machine, check with your database vendor for their support policies and performance implications.

Note: For details on data collector or other component requirements for installing on a virtual machine, refer to that component's documentation.

IPv6 Support

- **APM** - All management information in APM that represents an IP address can be either an IPv4 or IPv6 address, and the data is processed, stored, and displayed correctly in the product. APM can be installed on dual-stack servers, but the network transport between many APM components is limited to IPv4 routing and does not yet support IPv6 addresses.
- **Real User Monitor (RUM)** - RUM can manage the IT infrastructure over IPv6 routing. RUM can monitor real-user network traffic in IPv6 networks.
- **SiteScope** - Various SiteScope monitors can connect to managed servers over IPv6.

For additional information, see the following. For Real User Monitor, see "Limitations in Monitoring IPv6 Traffic with Real User Monitor" in the APM Application Administration Guide. For SiteScope, see "Enable SiteScope to Prefer IP Version 6 Addresses" in the Using SiteScope Guide.

Chapter 3: Component Support and Compatibility

This section contains:

Business Process Monitor Matrixes

Business Process Monitor 9.30 System Support Matrix

For complete BPM support information, see the BPM Deployment Guide and Release Notes.

Operating System	BPM	VuGen
Red Hat Enterprise Linux (RHEL) 7.2 (64 bit)	✓	
Red Hat Enterprise Linux (RHEL) 6.6 (64 bit)	✓	
Oracle Enterprise Linux (OEL) 7.0 UEK (Unbreakable Enterprise Kernel) (64 bit)	✓	
Oracle Enterprise Linux (OEL) 6.5 UEK (Unbreakable Enterprise Kernel) (64 bit)	✓	
Microsoft Windows Server 2012 R2 (64 bit) Standard and Data Center Edition	✓	✓
Microsoft Windows Server 2008 R2 SP1 (64 bit) Standard and Enterprise	✓	✓
Microsoft Windows 10.0	✓	✓
Microsoft Windows 8.1	✓	✓
Microsoft Windows 7 SP1 (64 bit)	✓	✓

Business Process Monitor Compatibility Matrix

All BPM versions since 9.13 are compatible with Business Service Management (BSM) 9.1x and 9.2x, and Application Performance Management (APM) 9.30.

Note: BSM 9.01 is not supported.

Unified Functional Testing (UFT)

Version of UFT	BPM 9.30	BPM 9.26	BPM 9.25	BPM 9.24	BPM 9.23	BPM 9.22
12.53	✓ (recommended)	✗	✗	✗	✗	✗
12.51	✓	✓	✗	✗	✗	✗
12.50	✓	✓	✗	✗	✗	✗
12.02	✓	✓	✓	✗	✗	✗
12.01	✓	✓	✓	✓	✗	✗

LoadRunner Compatibility Matrix

Version of LoadRunner	BPM 9.30	BPM 9.26	BPM 9.25	BPM 9.24	BPM 9.23	BPM 9.22
12.53 (including 12.53 patch 4)	✓ (recommended)	✗	✗	✗	✗	✗
12.51	✓	✓	✗	✗	✗	✗
12.50	✓	✓	✗	✗	✗	✗
12.02	✓	✓	✓	✗	✗	✗
12.01	✓	✓	✓	✓	✗	✗

Business Process Monitor Protocol Support Matrix

The following table describes the BPM 9.30 supported protocols.

Protocol	Windows	Linux
.NET	✓	✗
Ajax - Click and Script	✓	✗
C VUser	✓	✓
Citrix	✓	✗
COM/DCOM	✓	✗

Protocol	Windows	Linux
DNS (Domain Name Resolution)	✓	✓
Flex	✓	✗
FTP (File Transfer Protocol)	✓	✓
IMAP	✓	✓
JAVA over HTTP	✓	✗
JAVA Record\Replay	✓	✗
Java Vuser	✓	✗
LDAP (Listing Directory Service)	✓	✓
MAPI (Microsoft Exchange)	✓	✗
Mobile Application (HTML/HTTP)	✓	✓
MMS (Media Player)	✓	✗
MMS (Multimedia messaging Service)	✓	✗
ODBC	✓	✓
Oracle (2-tier)	✓	✓
Oracle NCA	✓	✓
Oracle - Web	✓	✓
POP 3 (Post Office Protocol)	✓	✓
RDP	✓	✗
RTE (Remote Terminal Emulator)	✓	✗
SAP Click and Script	✓	✗
SAP GUI	✓	✗
SAP Web	✓	✓
Selenium (as a Junit test)	✓	✓
Siebel – Web	✓	✓
Silverlight	✓	✗
SMTP (Simple Mail Protocol)	✓	✓
SOAP (Web Services)	✓	✗
TruClient - Mobile Web	✓	✗

Protocol	Windows	Linux
TruClient - Native Mobile	✓	✗
TruClient Web (includes Internet Explorer, Firefox, and Chromium)	✓	✗
Web (HTTP/HTML)	✓	✓
Windows Sockets	✓	✓

Note:

- *TruClient Internet Explorer* and *TruClient Firefox* have been replaced with *TruClient Web*, which also supports Chromium. If you have Internet Explorer or Firefox scripts created with earlier versions of TruClient, we recommend that you convert them to TruClient Web scripts to be able to use the latest technology. In TruClient Web you can choose which browser to use for each script. LoadRunner has a "TC Batch Conversion" tool (integrated in VuGen) which can convert old scripts to TruClient Web. For details, see the LoadRunner documentation.
- Some of the protocols require the installation of additional software components and therefore are platform dependent.
- BPM also supports all the protocols available through add-ins for the supported versions of QTP and UFT.
- BPM does not support multiple iterations for a single transaction run, whether set via internal scripting logic using loops, or in script **Run Time Settings > Run Logic > Number of Iterations**.

BPM Compatibility with VuGen

The recommended version of VuGen for BPM 9.30 is VuGen 12.53.

If you have an earlier version of HPE Virtual User Generator (VuGen) installed, you need to uninstall it before installing the current version. VuGen can be installed on the same machine as BPM, provided that it is installed after BPM has been installed.

If you need to uninstall BPM, run VuGen **Repair the Installation** before reinstalling BPM.

If you need to repair or reinstall VuGen, you will also need to uninstall BPM and install it again before VuGen has been repaired or reinstalled.

If you are using TruClient global function library, the library must be located on a shared location accessible by all machines on which the script is going to run (VuGen or BPM).

Note: LoadRunner Java protocols require JDK 8 installed on the BPM server.

Set the **JAVA_HOME** system parameter to the JDK 8 path, or for each individual script set the replay setting parameter to the JDK 8 path.

Java protocols include Java Record\Replay, Java Over HTTP, Java Vuser, Oracle – Web, and Oracle NCA.

BPM/VuGen - Citrix Compatibility Matrix

LoadRunner 12.53 / BPM 9.30 (Citrix ICA with Receiver for Windows)

Supported Client Version	Supported Server
12.x	Citrix XenApp 5.5, 5.6, 6.0, 6.5, 7.0, 7.5
13.x	Citrix XenDesktop 7.0
14.x	Citrix XenDesktop 7.5
14.1.200	Citrix XenDesktop 7.6
	Citrix Access Gateway (with Receiver 13.x and above)

SiteScope Matrixes

SiteScope Compatibility Matrix

Compatibility Matrix	HPE APM 9.30	HP BSM 9.26	HP BSM 9.2x
SiteScope 11.3x	✓ [1]	✓	✓
SiteScope 11.24	✓ [1]	✓	✓
SiteScope 11.1x	No	✓	✓

[1]Recommended

SiteScope 11.33 System Support Matrix

SiteScope – Operating Systems	**Windows**	• Microsoft Windows Server 2008 R2 SP1 Standard/Enterprise/Datacenter Edition (64-bit) • Microsoft Windows Server 2012 Standard/Datacenter Edition (64-bit) • Microsoft Windows Server 2012 R2 Standard/Datacenter Edition (64-bit) **Note:** • Installing SiteScope on a 32-bit Windows operating system, or as a 32-bit application on a 64-bit Windows operating system is no longer supported. SiteScope can only be installed and run as a 64-bit application. • Using VMware and Hyper-V virtual machines is supported for all the supported operating systems. • For better performance and stability, especially in a highly-loaded SiteScope environment, it is recommended that you use physical hardware. • For VMware, VMware tools must be installed on the guest operating system.

	Linux	• *Oracle Linux 6.0-6.5, 7.0 (64-bit) • *CentOS 6.2, 7.0, 7.2 (64-bit) • Red Hat ES/AS Linux 5.5-5.8, 6.0-6.7, 7.0, 7.1, 7.2 (64-bit) **Note:** • *This environment must be manually configured before installing SiteScope. For details, see the SiteScope Deployment Guide. • Red Hat Linux 9 with Native POSIX Threading Library (NPTL) is not supported. • To be able to monitor CPU and memory usage on SiteScope or a remote server running on a Red Hat Linux environment, the **sysstat** package must be installed on the SiteScope server and on all remote servers being monitored (it is not included out-of-the-box). • When SiteScope is installed on Red Hat Linux, the SiteScope Server Health monitor requires valid output of sar -W and sar -B commands for the SwapIns/sec, SwapOuts/sec, PageIns/sec, and PageOuts/sec counters. If these commands do not work, no errors are thrown and these counters are shown as **n/a**. To enable them to run, edit the crontab by adding the command "/usr/local/lib/sa/sadc -" to run once a day.
	Solaris	Running SiteScope on a Solaris platform was deprecated and the Solaris Installer is no longer available.

System Health Support

APM 9.30 uses System Health for APM 9.30.

System Health for APM 9.30 will work with APM 9.30.

The supported operating systems for System Health are the same as those of APM.

Minimum system hardware requirements for System Health are the same as those for SiteScope 11.23:

- Computer/Processor: 1 core / 2000 MHZ minimum
- Memory: 2 GB minimum
- Free hard disk space: 10 GB

Real User Monitor Matrixes

Real User Monitor 9.30 System Support Matrix

Real User Monitor Sniffer Probe – Operating Systems	**Windows**	Microsoft Windows Server 2012 (64-bit) Standard Edition Microsoft Windows Server 2012 R2 (64-bit) Standard Edition Microsoft Windows Server 2008 R2 (64-bit) Standard and Enterprise editions Microsoft Windows Server 2008 R2 SP1 (64-bit) Standard and Enterprise editions
	Linux	Red Hat Enterprise Linux Version 7.x 64-bit version Red Hat Enterprise Linux Version 6.x 64-bit version
Real User Monitor Client Monitor Probe – Operating Systems	**Windows**	Microsoft Windows Server 2012 (64-bit) Standard Edition Microsoft Windows Server 2012 R2 (64-bit) Standard Edition Microsoft Windows Server 2008 SP2 (64-bit) Standard and Enterprise Editions Microsoft Windows Server 2008 R2 (64-bit) Standard and Enterprise Editions Microsoft Windows Server 2008 R2 SP1 (64-bit) Standard and Enterprise Editions
Real User Monitor Engine – Operating Systems	**Windows**	Microsoft Windows Server 2012 (64-bit) Standard Edition Microsoft Windows Server 2012 R2 (64-bit) Standard Edition Microsoft Windows Server 2008 SP2 (64-bit) Standard and Enterprise editions Microsoft Windows Server 2008 R2 (64-bit) Standard and Enterprise editions Microsoft Windows Server 2008 R2 SP1 (64-bit) Standard and Enterprise editions

Real User Monitor Supported Virtualized Environments

	Brand	Version
Real User Monitor 9.30 Probe	VMware	ESX 5.x ESXi 6.0
Real User Monitor 9.30 Engine	VMware	ESX 5.x ESXi 6.0

Real User Monitor Compatibility Matrix

Compatibility Matrix	APM 9.30	BSM 9.26	BSM 9.25	BSM 9.24	BSM 9.23	BSM 9.22	BSM 9.21	BSM 9.20
RUM 9.30	✓	✓	✓	✓	✓	X	X	X
RUM 9.26	X	✓	✓	✓	✓	✓	✓	✓
RUM 9.25	X	X	✓	✓	✓	✓	✓	✓
RUM 9.24	X	X	X	✓	✓	✓	✓	✓
RUM 9.23	X	X	X	X	✓	✓	✓	✓
RUM 9.22	X	X	X	X	X	✓	✓	✓
RUM 9.21	X	X	X	X	X	X	✓	✓
RUM 9.20	X	X	X	X	X	X	X	✓

Note: Most RUM features require that the BSM/APM and RUM versions are aligned.

RUM Probe-RUM Engine Compatibility

- **RUM Sniffer Probe.** The RUM Sniffer Probe version must be the same as the RUM Engine version.
- **RUM Client Monitor Probe.** The RUM Client Monitor Probe version must be the same as the RUM Engine version.

RUM Protocol Support

For a list of the RUM supported protocols, see "Supporting Specific Protocols" in the Real User Monitor Administration Guide.

Data Flow Probe Requirements

Data Flow Probe Compatibility

Data Flow Probe support for any given APM release is limited to use of the version of the Probe that is associated with the version of APM you are using.

For major/minor releases (for example, 9.00 or 9.20), you can download this file from the Software Updates page.

For minor-minor patch releases (for example, 9.23), you download this file from the HPE Software Support site. Make sure to select the latest probe that is associated with the APM patch you are installing. To do so, go to the HPE Software Support web site (https://softwaresupport.hpe.com) and sign in. Click **Search** and select the relevant product, version , and operating system (for example, **Application Performance Management (BAC) > 9.30 > Windows**). Under Document Type, select **Patches**. Perform a search and make sure to select the latest probe associated with the APM version.

Software Updates and Software Patches can be accessed from the HPE Software Support web site (https://softwaresupport.hpe.com).

Data Flow Probe 10.22 System Support Matrixes

Hardware Requirements

Computer/processor

Recommended: The latest generation of Intel/AMD processors (Intel Xeon CPUs or compatible) and the fastest possible processor speed.

CPU Cores:

Deployment	Minimum	Recommended
Small	4 Core	8 Cores
Standard	4 Cores	8 Cores
Enterprise	8 Cores	24 Cores

Memory

	Windows		Linux	
Deployment	**Minimum**	**Recommended**	**Minimum**	**Recommended**
Small	4 GB	8 GB	4 GB	8 GB
Standard	8 GB	16 GB	4 GB	8 GB
Enterprise	12 GB	24 GB	8 GB	16 GB

Memory swap file	**Windows:** The virtual memory for Windows should be at least 1.5 times the size of the physical memory. **Linux:** The Linux swap file size should be equal in size to the physical memory.
Free hard disk space	**Small/Standard:** 100 GB (**Note:** 75 out of 100 GB disk space is required for scan files storage) **Enterprise:** 300 GB (**Note:** 225 out of 300 GB disk space is required for scan files storage)
Display	**Windows/Linux:** Color palette setting of at least 256 colors (recommended: 32,000 colors)

Software Requirements

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows 2012 R2	Standard/Datacenter editions, 64-bit	Yes	
x86-64	Windows 2012	Standard/Datacenter editions, 64-bit	Yes	
x86-64	Windows 2008	SP2, Standard/Enterprise editions, 64-bit	Yes	
x86-64	Windows 2008	R2 and R2 SP1, Standard/Enterprise editions, 64-bit	Yes	Yes
x86-64	Red Hat Linux 5.10 and 5.11	Enterprise/Advanced, 64-bit	Yes	
x86-64	Red Hat Linux 6.2, 6.3, 6.4, 6.5, 6.6, 7.0, and 7.1	64-bit	Yes	
x86-64	Oracle Enterprise Linux with Red Hat Compatible Kernel v6.3, v6.4, v6.5, v6.6, v7.0, and v7.1	Enterprise/Advanced 64-bit	Yes	

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Oracle Enterprise Linux with Oracle Unbreakable Enterprise Kernel v6.3, v6.4, v6.5, v6.6, v7.0, and v7.1	Enterprise/Advanced 64-bit	Yes	
x86-64	Windows 2008	SP2, Standard/Enterprise editions, 32-bit	No	
x86	Windows 2003	SP2 and R2 SP2, Standard/Enterprise editions, 32-bit or 64-bit	No	
	Windows 7	Professional/Enterprise	No	
	Windows 2000		No	

- Windows Server 2003 is no longer supported as of UCMDB 10.00.
- As of UCMDB 10.00, the Data Flow Probe only supports 64-bit platforms.
- For Linux platforms, only integrations are supported, not discovery. For details, see the How to Run Module/Job-based Discovery section in the HP Universal CMDB Data Flow Management Guide.

Supported Databases

Database	Version and Edition	Recommended	Comments
PostgreSQL	9.2.2, Enterprise		This database comes bundled with the Probe installer.

Virtual Environment Requirements

Platform	OS Version and Edition	Supported	Recommended
VMware ESXi 6.0	Windows Server 2012 Standard/DataCenter R2, 64-bit	Yes	Yes
VMware ESXi 5.5	Windows Server 2012 Standard/DataCenter R2, 64-bit	Yes	Yes

Platform	OS Version and Edition	Supported	Recommended
VMware ESXi 5.0, 5.0 update 1, 5.1	• Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit	Yes	Yes
VMware ESX 4.0, 4.1	• Windows 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit • Red Hat Linux 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit	Yes	
Microsoft Hyper-V Server 2012, 2012 R2	• Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit	Yes	
Microsoft Hyper-V Server 2008 R2 SP1	• Windows 2008 Standard/Enterprise editions SP2, R2 and R2 SP1, 64-bit • Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit • Red Hat Enterprise Linux Server 6.x, 64-bit	Yes	
Oracle VM 3.2	See Oracle VM 3.2 Release Notes	Yes	Yes
VMware ESX 3.5 or earlier	All platforms	No	
VMware ESXi 4.1 and earlier	All platforms	No	
Xen Hypervisor 3.x	All platforms	No	

Passive Discovery Integration

HPE Real User Monitor (HPE RUM) version 9.20 or later must be installed on a separate server, and must be running and configured to integrate with a Data Flow Probe to run passive Just-In-Time discovery.

The HPE RUM Installation can be downloaded from the HPE Software Support Online Portal (https://softwaresupport.hpe.com/). Search for **Real User Monitor** under **Application Performance Management (BAC)**.

UCMDB Support Matrixes

APM-CMS Synchronization Integration Matrix

BSM / APM version	Integration Type	HPE UCMDB (CMS) version
BSM 9.2x	Population synchronization from HPE UCMDB (CMS) to BSM	Later than 9.01
BSM 9.22 or later	Push synchronization from HPE UCMDB (CMS) to BSM	10.01 CUP 5 and up
BSM 9.2x	Population synchronization from BSM to HPE UCMDB (CMS)	Later than 9.01
APM 9.30	Push synchronization from APM to UCMDB	10.01 or later

APM-APM Synchronization Matrix

Target BSM / APM version	Synchronization Type	Source BSM Version
BSM 9.2x	Population from source to target	Later than BSM 9.01 BSM 9.2x or later
APM 9.3x	Supports population from source to target	BSM 9.2x or later
	Supports push sync to source	BSM 9.22 or later

UCMDB Content Pack Support in APM 9.30

CP 18
Default CP bundled with APM 9.30

Diagnostics Compatibility with APM 9.30

Diagnostics 9.26 IP1 is compatible with APM 9.30

You can find further information about supported Diagnostics integrations in the HPE Integrations Catalog (https://softwaresupport.hpe.com/group/softwaresupport/search-result/-/facetsearch/document/KM01663677).

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Feedback on APM System Requirements and Support Matrixes (Application Performance Management 9.30)

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