HP Network Automation Software

For the Windows®, Linux, and Solaris operating systems

Software Version: 9.22.01

Support Matrix

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Acknowledgements

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This guide's title page contains the following identifying information:

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HP Network Automation Support Matrix

This document provides an overview of the system requirements and supported platforms for HP Network Automation Software (NA) version 9.22. It contains the following topics:

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▶   This document is updated as new information becomes available. To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

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For more information, see Documentation Updates on page 3.

Hardware and Operating System Requirements

Before installing NA, verify that your NA core server meets the following minimum requirements.

▶ The NA core server must have a static IP address.

⚑ If you are using an external database, for the database server hardware and operating system requirements, see the database documentation.

Supported Hardware

Table 1 lists the physical hardware NA supports.

Table 1   NA-Supported Hardware

Processor	Supported Operating System Types	Notes
Intel® 64-bit (x86-64) AMD 64-bit (AMD64)	Windows Linux	• Minimum of 2.5 GHz • 1 physical CPU with 6 cores • NA does not support the Intel Itanium® processor family.
Oracle SPARC64 VI or later (M-Series) Oracle SPARC T4 or later (T-Series)	Oracle Solaris	• Minimum of 2.5 GHz • 1 physical CPU with 6 cores • For co-resident NA and HP Network Node Manager i Software (NNMi), use an M-Series processor.

Supported Virtual Servers

Table 2 lists the virtual servers NA supports.

Table 2   NA-Supported Virtual Servers

Virtual Server	Supported Operating System Types	Notes
VMware: • ESX Server 3.5 • ESX 4.0 or later minor version • ESXi 4.1 or later minor version • ESXi 5.0 or later minor version	• Host OS: — Windows — Linux • Guest OS: Any of the operating systems listed in Table 7, NA-Supported Operating Systems	• The virtual environment must meet the x86-64 or AMD64 hardware requirements listed in Table 1, NA-Supported Hardware. • NA supports live migration of the NA core server using Vmotion.
Microsoft® Hyper-V R2	• Host OS: Windows Server 2008 R2 x64 • Guest OS: Any of the Windows operating systems listed in Table 7, NA-Supported Operating Systems	
Oracle Solaris Zones	Oracle Solaris	

If you are running NA in a virtual environment, review the follow guidelines:

- Ensure that the NA environment meets the requirements detailed in Network Requirements on page 12.

- Because NA can be network intensive, many virtual machines sharing a virtual switch and network interface card could result in unexpected behavior, including time-outs and failed tasks.

- Each virtual environment is different and could function differently under loads with shared VM guests.

- On a virtual server, it is recommended that the Disk I/O be split. The virtual server must have two arrays:

  — One array for the host operating system

  — One array for the virtual machines

- If you plan to use virtual machines for both the NA core server and the database server, ensure that they are running on different guests. It is recommended to host the database virtual machine on a different array to avoid conflicting I/O on the array. Verify that the database is supported in a virtual environment.

- With ESX and an NA database running on Oracle, the maximum number of active NA cores in a Horizontal Scalability environment is five.

  — With Hyper-V, Solaris Zones, or SQL Server, the maximum number of active NA cores in a Horizontal Scalability environment is two.

  — When configuring NA on virtual machines in a Multimaster Distributed System environment, the maximum number of NA cores is two.

- Some virtual guests time drift, which can be an issue and should be corrected. Synchronizing the guests to an external time source can solve this issue.

- Each NA core server guest system must be configured with a set reservation for the CPU and memory requirements described in CPU, RAM, Swap Space, and Disk Space Requirements on page 10.

  — Configure the set reservation as the minimum requirements for the NA core server guest system.

  — Ensure that the resource pool containing the NA core server guest system has adequate resources to consistently deliver the CPU and memory reservations to the NA core server guest system.

Performance Issues

To counter performance issues while running NA in a virtual environment, do the following:

- Increase hardware resources on the physical host.

- Ensure that resources are dedicated to the NA core server guest system.

- Decrease the number of guests running simultaneously.

- Add a network interface card dedicated to NA to the virtual server.

After any configuration change to the NA core server guest system, restart all NA services.

A large number of concurrent tasks increases NA resource demand. If performance issues arise, reduce the number of concurrent tasks or provide more resources to the NA virtual server. (This suggestion also applies to physical servers.)

Troubleshooting and Support

HP Support will endeavor to support NA in a virtual environment, and HP does not require customers to recreate and troubleshoot every product issue in a non-virtual environment. However, HP reserves the right to request that customers diagnose certain issues in a native, certified operating system environment without the virtual image. HP will only make this request when there is strong indication to believe that the virtual environment is a contributing factor to the issue.

Maximum Supported Managed Environment

NA 9.20 has been tested at scale for several NA deployment tiers. For each tier, the number of tasks for that tier ran to completion within a 24 hour period for the associated hardware environment described in CPU, RAM, Swap Space, and Disk Space Requirements on page 10.

With the exception of Microsoft SQL Server running on a Windows operating system, all tests were run on a RedHat Linux operating system. All tests were run with the NA core servers and database servers in the same physical location, resulting in near zero latency. Large scale tests were run with the NA core servers on both physical and virtual hardware using ESX.

Table 3 describes the tested managed environment for each tier.

- The rows in the *Input: Managed Environment* section define the test environment for each tier.

- The rows in the *Output: Deployment Architecture* section define the tested NA deployment architecture for each tier.

- The row in the *Configuration Environment* section points to the configuration requirements for each managed environment size.

To select the appropriate tier for your environment, follow these steps:

1   For each row in the *Input: Managed Environment* section of Table 3, determine the current value for your managed environment, and then add an amount that estimates the growth of your network over the next two years.

2   For each row in the *Input: Managed Environment* section of Table 3, identify the managed environment size (column) that contains the values determined in step 1.

3   If the input values point to different managed environment sizes, implement the largest size.

For example, a managed environment with 13K tasks per day fits into the medium environment size.

Table 3   Managed Environment Size

Factor	Small	Medium	Large
Input: Managed Environment			
Number of Managed Devices	Up to 3k	Up to 10k	Up to 50k
Number of Tasks Per Day[a]	Up to 12k	Up to 45k	Up to 200k
Output: Deployment Architecture			
Minimum Number of NA Cores	1 NA core	1 NA core	1 NA core per 10k managed devices, connected to a single database with NA Horizontal Scalability
Database	- Size <250 GB[b]: Embedded MySQL - Size >250 GB: Remote Oracle or Microsoft SQL Server	Remote Oracle or Microsoft SQL Server	Remote Oracle
Configuration Environment			
System Requirements	Table 4 on page 10	Table 5 on page 11	Table 6 on page 11

a.   This number includes both scheduled tasks and ad hoc tasks resulting from detected configuration changes. Scheduled tasks were distributed to start throughout the day.

b.   For information about predicting database size, see Approximating Database Size (MySQL only) on page 9.

Approximating Database Size (MySQL only)

For MySQL, the size of the NA database can be approximated as follows:

2 * (average device configuration size) * (number of configuration records)

The average device configuration size must be determined specifically for the managed devices in your network.

The number of configuration records can be estimated by using of the following approaches:

- The average number of device configurations changed every day multiplied by the number of days in the data retention period:

  (average device configuration changes per day) * (days in retention period)

  For example, for a network with 3000 devices, five percent of which are updated daily, and a one year retention period, the expected number of configuration records is 54,750. The calculation is as follows:

  (5% * 3000) * 365 = 54,750

- The number of devices multiplied by the average number of device configuration changes during the data retention period:

  (number of devices) * (average device configuration changes for the retention period)

  For example, for a network with 3000 devices, each of which is updated once every three weeks, and a one year (52 week) retention period, the expected number of configuration records is 52,000. The calculation is as follows:

  3000 * (52/3) = 52,000

CPU, RAM, Swap Space, and Disk Space Requirements

The tables in this section describe the supported hardware environment for each of the tested managed environment tiers defined in Maximum Supported Managed Environment on page 8.

To determine the system requirements for your environment, see the table associated with the tier you selected in Table 3. This section includes the following information:

- Table 4, Small Tier System Configuration Requirements
- Table 5, Medium Tier System Configuration Requirements
- Table 6, Large Tier System Configuration Requirements

For additional information about sizing and configuring the database server, consult the database manufacturer's documentation.

Table 4   Small Tier System Configuration Requirements

Server	CPU	Memory	Swap Space	Disk Space
Separate Application Server	1 physical CPU with 6 cores	16 GB RAM	16 GB[a]	40 GB
Separate Database Server (Oracle or SQL Server only)	2 physical CPUs with 12 cores	16 GB RAM	16 GB	512 GB, Fibre Channel hard disk drive
Combined Application Server and Database Server (MySQL only)	1 physical CPU with 6 cores	32 GB RAM	16 GB	512 GB, Fibre Channel hard disk drive

a. NA on a Solaris system requires a large amount of swap space because of the way the `fork()` system call works. For example, forking a 24 GB process allocates 24 GB in the swap file, which guarantees space to swap out the new process if necessary. If the 24 GB is not available in swap, the `fork()` system call fails.

Table 5   Medium Tier System Configuration Requirements

Server	CPU	Memory	Swap Space	Disk Space
Separate Application Server	2 physical CPUs with 12 cores	32 GB RAM	16 GB[a]	256 GB
Separate Database Server	• Oracle: 2 physical CPUs with 12 cores • SQL Server: 2 physical CPUs with 8 cores	32 GB RAM	16 GB	• Oracle: 600 GB, Fibre Channel hard disk drive • SQL Server: 400 GB, Fibre Channel hard disk drive

a. NA on a Solaris system requires a large amount of swap space because of the way the `fork()` system call works. For example, forking a 24 GB process allocates 24 GB in the swap file, which guarantees space to swap out the new process if necessary. If the 24 GB is not available in swap, the `fork()` system call fails.

Table 6   Large Tier System Configuration Requirements

Server	CPU	Memory	Swap Space	Disk Space
Separate Application Server	2 physical CPUs with 8 cores per NA server	32 GB RAM per NA server	16 GB per NA server[a]	256 GB per NA server
Separate Database Server	2 physical CPUs with 12 cores	48 GB RAM	16 GB	Depends on managed device count: • .6 TB for 10k devices • .9 TB for 20k devices • 1.2 TB for 30k devices • 1.5 TB for 40k devices • 1.7 TB for 50k devices

a. NA on a Solaris system requires a large amount of swap space because of the way the `fork()` system call works. For example, forking a 24 GB process allocates 24 GB in the swap file, which guarantees space to swap out the new process if necessary. If the 24 GB is not available in swap, the `fork()` system call fails.

Network Requirements

When the NA core server and the NA database server are different systems, the following requirements apply:

- The servers should be in the same data center.

- The connection between the servers should be at least 1 Gb/s Fast Ethernet, full duplex.

- The speed of the network interface cards (NICs) on the NA core server must be at least 1 Gb/s.

Port Utilization

NA communicates with devices using a combination of protocols and ports. If you use a given protocol, NA requires access to the corresponding port. Specifically, if NA communicates with devices protected by firewalls, these ports must be open, or you must use an alternative means of communication, such as an NA Satellite server. For information about allocating ports, see "Ports" in the *NA Administration Guide*.

Operating Systems

Table 7 lists the supported operating systems for the NA core and the NA satellite.

▶ As of version 9.20, the NA core runs on 64-bit architecture only. For information about upgrading from a 32-bit architecture, see "Upgrading to NA 9.20 from a Different System" or "Upgrading to NA 9.20 on the Same System" in the *NA Installation and Upgrade Guide*.

Table 7   NA-Supported Operating Systems

Operating System	NA Core Supported Versions	NA Satellite Supported Versions
Windows Server 2008:		
• x64 Datacenter Edition, SP2	X	None
• R2 x64 Datacenter Edition, SP1	X	
• x64 Enterprise Edition, SP2	X	
• R2 x64 Enterprise Edition, SP1	X	
• x64 Standard Edition, SP2	X	
• R2 x64 Standard Edition, SP1	X	
Note: RSA device authentication is not yet available on Windows Server 2008. If you run NA on a Windows operating system and require RSA device authentication, you cannot install or upgrade to NA 9.20 at this time.		
Linux: **Note**: See Linux: Support for Expect Scripts on page 14.		
• Red Hat Enterprise Linux Server AS 4.0 or later minor version		X
• Red Hat Enterprise Linux Server 5.4 or later	5.4 through 5.9	5.4 through 5.6 only
• Red Hat Enterprise Linux Server 6.0, 6.1, 6.2, 6.4 or 6.5 **Note**: For version 6.4, upgrade the GNU C library (glibc) to version 2.12-1.132 or later.	X	
• SUSE Linux Enterprise Server 9		X
• SUSE Linux Enterprise Server 11 SP1	X	
• SUSE Linux Enterprise Server 11 SP2	X	
Tip: Red Hat does not support direct upgrades from Red Hat Enterprise Linux Server 5.x to 6.0.		

Table 7   NA-Supported Operating Systems (cont'd)

Operating System	NA Core Supported Versions	NA Satellite Supported Versions
Solaris:		
• Oracle Solaris 10 SPARC	X	X

Note:

- Before installing NA on a Solaris platform, reconfigure the Syslog server to not listen for remote Syslog messages.
- NA on a Solaris system requires a large amount of swap space because of the way the `fork()` system call works. For example, forking a 24 GB process allocates 24 GB in the swap file, which guarantees space to swap out the new process if necessary. If the 24 GB is not available in swap, the `fork()` system call fails.

Linux: Support for Expect Scripts

To run Expect scripts on Linux, the following 32-bit libraries must be installed on the NA core server:

- gtk2.i686
- libXtst.i686

Additionally, create symbolic links for the following 64-bit libraries:

```
ln -s /usr/lib64/libcurl.so<.X> /usr/lib64/libcurl.so.3
ln -s /usr/lib64/libssl.so<.X> /usr/lib64/libssl.so.6
ln -s /usr/lib64/libcrypto.so<.X> /usr/lib64/libcrypto.so.6
ln -s /usr/lib64/libexpat.so<.X> /usr/lib64/libexpat.so.0
```

Replace *<.X>* with the extension for the actual file in the `/usr/lib64` directory.

Tuning Settings

Java Virtual Machine Configuration

For all managed environment tiers, the recommended Java virtual machine (JVM) configuration is:

- Initial Java heap size: at least 8 GB (8192)
- Maximum Java heap size: the same value as the initial Java heap size
- Young generation size: one-third of the initial Java heap size

For information about how to configure the NA JVM, see "Configuring the Java Virtual Machine" in the *NA Administration Guide*.

Maximum Concurrent Tasks

Table 8 lists the recommended configuration for maximum concurrent tasks depending on the managed environment tier.

Table 8   Recommended Setting for Maximum Concurrent Tasks

Managed Environment Size	Maximum Concurrent Tasks
Small	20
Medium	65
Large	65 on each NA core

For information about how to configure the maximum concurrent tasks value, see "Tuning the NA Management Engine" in the *NA Administration Guide*.

MySQL

It is recommended to configure MySQL to use an unlimited number of threads. For more information, see "Configuring MySQL for NA" in the *NA Administration Guide*.

Oracle

It is recommended to configure the maximum number of processes, sessions, and transactions for the Oracle database relative to the maximum number of concurrent tasks for NA. For more information, see "Configuring Oracle for NA" in the *NA Administration Guide*.

SQL Server

At this time, there is no recommended tuning for Microsoft SQL Server with NA.

Supported Databases

See the appropriate section for your environment:

Databases for Standalone NA Core

The NA database can be installed on any supported platform. Table 9 describes the supported databases for a standalone NA Core environment.

Table 9   Standalone NA Core - Supported Databases

Database Version	Supported NA Versions	Notes
Oracle 10g R2 (10.2.0.2, 10.2.0.4, or 10.2.0.5) Standard or Enterprise Edition	9.2x	64-bit Oracle is supported.
Oracle 11g R1 (11.1.0.7) Standard or Enterprise Edition	9.2x	
Oracle 11g R2 (11.2.0.1 or 11.2.0.2) Standard or Enterprise Edition	9.20 through 9.21	
Oracle 11g R2 (11.2.0.3 or 11.2.0.4) Standard or Enterprise Edition	9.20.01 or later	
Oracle Real Application Clusters (RAC) on Oracle 11g R2 (11.2.0.1, 11.2.0.2 , 11.2.0.3, or 11.2.0.4) Enterprise Edition	9.2x	
Microsoft SQL Server 2005 Standard or Enterprise Edition (SP2 or higher)	9.2x	64-bit Microsoft SQL Server is supported. For 9.22 or later, NA supports the use of a SQL Server cluster and SQL Server named instances only for the following configurations:
Microsoft SQL Server 2008 Standard or Enterprise Edition	9.20 through 9.21	
Microsoft SQL Server 2008 Standard or Enterprise Edition SP3 Cumulative Update 4	9.22 or later	• 64-bit SQL Server Enterprise Edition 2008 SP3 Cumulative Update 4 (or later service pack) running on 64-bit Windows Server 2008 R2 Enterprise Edition SP1 (or later service pack)
Microsoft SQL Server 2008 R2 Standard or Enterprise Edition	9.20.01 or 9.21	
Microsoft SQL Server 2008 R2 Standard or Enterprise Edition with one of the following patch levels: • SQL Server 2008 R2 SP1 Cumulative Update 6 • SQL Server 2008 R2 SP2	9.22 or later	• 64-bit SQL Server Enterprise Edition 2008 R2 SP2 (or later service pack) running on 64-bit Windows Server 2008 R2 Enterprise Edition SP1 (or later service pack)
Microsoft SQL Server 2012 Standard or Enterprise Edition	9.22.01 or later	
MySQL 5.0.58	9.2x	The supported version of MySQL ships with NA and runs on all NA-supported operating systems.

It is recommended to run the NA core and the NA database on separate physical machines. In addition, the database server should be dedicated to NA, rather than serving multiple applications.

Databases for Multimaster Distributed System

Table 10 describes the supported databases for a Multimaster Distributed System environment.

Table 10 Multimaster Distributed System - Supported Databases

Database Version	Supported NA Versions	Limitations
Oracle 10g R2 (10.2.0.2, 10.2.0.4, or 10.2.0.5) Enterprise Edition	9.2x	No more than five NA cores can be configured together.
Oracle 11g R1 (11.1.0.7) Enterprise Edition	9.2x	
Oracle 11g R2 (11.2.0.1 or 11.2.0.2) Enterprise Edition	9.20 through 9.21	
Oracle 11g R2 (11.2.0.3 or 11.2.0.4) Enterprise Edition	9.20.01 or later	
Microsoft SQL Server Standard or Enterprise Edition 2005 (SP2 or higher)	9.2x	No more than two NA cores can be configured together. The maximum number of managed devices should not exceed 6,500. NA does not support the use of Microsoft SQL Server Named Instances.
Microsoft SQL Server Standard or Enterprise Edition 2008	9.20 through 9.21	
Microsoft SQL Server 2008 Standard or Enterprise Edition SP3 Cumulative Update 4	9.22 or later	
Microsoft SQL Server 2012 Standard or Enterprise Edition	9.22.01 or later	
MySQL	None	MySQL is not supported for Multimaster Distributed System environments.

For information about configuring a Multimaster Distributed System environment, see the *NA Multimaster Distributed System on Oracle Guide* or the *NA Multimaster Distributed System on SQL Server Guide*.

Databases for Horizontal Scalability

Table 11 describes the supported databases for a Horizontal Scalability environment.

Table 11   Horizontal Scalability - Supported Databases

Database Version	Supported NA Versions	Limitations
Oracle 10g R2 (10.2.0.2, 10.2.0.4, or 10.2.0.5) Standard or Enterprise Edition	9.2x	No more than five HP Network Automation cores can be configured together with a single database.
Oracle 11g R1 (11.1.0.7) Standard or Enterprise Edition	9.2x	
Oracle 11g R2 (11.2.0.1 or 11.2.0.2) Standard or Enterprise Edition	9.20 through 9.21	
Oracle 11g R2 (11.2.0.3 or 11.2.0.4) Standard or Enterprise Edition	9.20.01 or later	
Oracle Real Application Clusters (RAC) on Oracle 11g R2 (11.2.0.1, 11.2.0.2, 11.2.0.3, or 11.2.0.4) Enterprise Edition	9.2x	
Microsoft SQL Server Standard and Enterprise Edition 2005 (SP2 or higher)	9.2x	No more than five HP Network Automation cores can be configured together with a single database. For 9.22 or later, NA supports the use of a SQL Server cluster and SQL Server named instances only for the following configurations:
Microsoft SQL Server 2008 Standard or Enterprise Edition	9.20 through 9.21	
Microsoft SQL Server 2008 Standard or Enterprise Edition SP3 Cumulative Update 4	9.22 or later	• 64-bit SQL Server Enterprise Edition 2008 SP3 Cumulative Update 4 (or later service pack) running on 64-bit Windows Server 2008 R2 Enterprise Edition SP1 (or later service pack)
Microsoft SQL Server 2008 R2 Standard or Enterprise Edition	9.20.01 or 9.21	
Microsoft SQL Server 2008 R2 Standard or Enterprise Edition with one of the following patch levels: • SQL Server 2008 R2 SP1 Cumulative Update 6 • SQL Server 2008 R2 SP2	9.22 or later	• 64-bit SQL Server Enterprise Edition 2008 R2 SP2 (or later service pack) running on 64-bit Windows Server 2008 R2 Enterprise Edition SP1 (or later service pack)
Microsoft SQL Server 2012 Standard or Enterprise Edition	9.22.01 or later	
MySQL	None	MySQL is not supported for Horizontal Scalability environments.

For information about configuring a Horizontal Scalability environment, see the *NA Horizontal Scalability Guide*.

Disaster Recovery

NA has been tested with Oracle GoldenGate configured with an Oracle database.

For more information, see the *NA Disaster Recovery Configuration Guide*, available from the HP Product Manuals web site at **h20230.www2.hp.com/selfsolve/manuals**. Use your HP Passport account to access this site, or register a new HP Passport identifier.

Authentication

Table 12 lists the authentication components that have been tested with NA.

Table 12   NA-Supported Authentication Components

Authentication Type	NA Console	NA Command-Line Interface
Microsoft Active Directory on Windows Server 2008 with Domain and Forest function level: Windows 2000	X	X
Cisco Secure Access Control System version 3.1 for TACACS and RADIUS	X	X
Cisco Secure Access Control System version 5.1 for TACACS and RADIUS (recommended)	X	X
OpenLDAP version 2.4.23	X	X
Public Key Infrastructure (PKI) user authentication	X	For NA proxy sessions initiated from the NA console
On the NA core server, RSA Authentication Manager version 6.1 with SecurID Software Tokens version 3.x and SoftID version 3.0.7 or 4.1 (needed for the Windows operating system only)	X	
On the NA core server, RSA Authentication Manager version 7.1 with SecurID Software Tokens version 4.1 and SoftID version 4.1 (needed for the Windows operating system only) (recommended)	X	

> ▶ RSA device authentication is not yet available on Windows Server 2008. If you run NA on a Windows operating system and require RSA device authentication, you cannot install or upgrade to NA 9.20 or later at this time.

Satellite Configuration

NA 9.20 delivers the version gw-37.0.0.0.12.7-2 of the gateway software. This version corresponds to the gateway software shipped with HP Server Automation (SA) 7.50 and 7.60.

Satellite configurations use SA tunnels. Sharing Gateways between SA and NA is supported in SA 7.50 and NA 9.20.

To run an NA and SA Satellite co-residency environment, you will need two CPUs, 4 GB RAM, and 128 GB disk space. You can only manage 1,500 servers and 5,000 network nodes. For information about configuring a Satellite environment, see the *NA Satellite Guide*.

Java API

The Java API has been tested with the following operating systems:

- Windows Server 2008 R2
- Windows Server 2003
- Windows Server 2000, SP2
- Windows 2000 Professional, SP2
- Red Hat Enterprise Linux Server 5.2
- Red Hat Enterprise Linux Server AS (update 2 and 3)
- Oracle Solaris 10

Integration and Coexistence with Other Products

Coexistence

The following product can co-exist on the same system as the NA version 9.22 core server:

- HP Network Node Manager i Software (NNMi) version 9.23

It is recommended that NA and NNMi each run on a dedicated server.

Integrations

Table 13 lists the products have additional functionality available through an integration with NA version 9.22. Unless otherwise stated, patched versions of NA also integrate with patched or unpatched versions of the products listed here.

Table 13   Supported Integrations with NA

Integrating Product	Versions	Notes
HP Business Service Automation Essentials (BSAE)	- 2.01 - 9.10 - 9.11	All versions require the NA-provided hotfix for QCCR1B99473 applied to the BSAE system.
HP Live Network Connector (LNc)	- 3.11.01 or later	The latest HP Live Network Connector is recommended.
HP Network Node Manager i Software (NNMi)	- 9.23	Documented in the *HP Network Node Manager i Software—HP Network Automation Integration Guide* version 9.23 or later.
HP Operations Orchestration Software (HP OO)	- 9.00 - 9.02 - 9.03	
HP Server Automation Software (SA)	- 9.13	

Web Browsers

General Web Browser Requirements

- Disable all pop-up window blockers for the browser.
- Enable cookies for the browser.
- Enable JavaScript (active scripting) for the browser.
- Install Adobe$^®$ Flash version 9.x or later (for proper display of the device selector). For information about disabling the use of Flash, see the *NA Administration Guide*, available from the HP Product Manuals web site at **h20230.www2.hp.com/selfsolve/manuals**. Use your HP Passport account to access this site, or register a new HP Passport identifier

Supported Web Browsers

- Microsoft Internet Explorer (32-bit and 64-bit) version 8 (not running in Compatibility View mode)
- Microsoft Internet Explorer (32-bit and 64-bit) version 9 (not running in Compatibility View mode)
- Microsoft Internet Explorer (32-bit and 64-bit) version 10
- Mozilla Firefox 10.x, 17.x, or 24.x ESR

  The Firefox Extended Support Release (ESR) browser is available from: **http://www.mozilla.org/en-US/firefox/organizations/all.html**

  To preserve the Firefox extended support release version, disable automatic updating of the browser:

  a   In Firefox, click **Firefox** > **Options**.

  b   In the **Options** dialog box, select the **Advanced** pane, and the select the **Update** tab.

  c   Under Firefox updates, select **Check for updates**.

  d   Click **OK**.

  When accepting Firefox updates, do not update beyond the supported version.

Internationalization and Localization Support

NA 9.22 can run on an operating system running under the following character sets:

- GB2312 for Simplified Chinese
- Shift-JIS for Japanese
- EUC-KR for Korean

▶ To switch the locale of an English Windows Server platform to Asian languages, the double-byte character set (DBCS) support must first be installed.

NA accepts a local language in the following places:

- Comment fields
- Description fields
- Custom data labels
- Custom data fields
- Most name and text fields, such as device location and vendor

You can search on single and multi-byte character sets, as long as the field being searched accepts them. You can also import and export configuration policies that contain single and multi-byte character sets.

▶ On Windows systems, NA does not support installation using directory paths with localized characters. The path name for the NA installation directory can contain English characters only.

Before using Internet Explorer to access the NA console on an NA core server that is configured to support an Asian Language, install the East Asian Language with the following procedure:

1 In the Control Panel, select **Regional and Language Options**.

2 On the Languages tab, select **Install files for East Asian Languages**, and then follow the instructions.

Oracle Localization Considerations

NA supports UTF-8 non-English Oracle locales.

When using NA globalization support with Oracle, specify the appropriate database character set when creating a new Oracle database. In addition, if the language you select is double-byte encoded, for example Chinese, Korean, or Japanese, you might also want to set the NLS_LENGTH_SEMANTICS initialization parameter to CHAR, so that one DBCS character is counted as "one" instead of "two."

SQL Server Localization Considerations

During NA installation, you are prompted to select a Collation Type when configuring a new SQL Server database.

SQL Server collation dictates the character set that is stored in the database. For example, if you select a Chinese collation, you can only enter Chinese characters, not Japanese, Korean, and so on. You can always enter Latin characters regardless of the collation type.

For SQL Server, NA supports the following collations:

- Chinese_PRC_CI_AS
- Japanese_CI_AS
- Korean_Wansung_CI_AS
- SQL_Latin1_ General_CP1_CI_AS

For more information about collations, see the documentation for your database.

MySQL Localization Considerations

NA in any of the localized languages is supported with MySQL for an English language MySQL database server only. The use of a non-English MySQL database server installation is not supported.

For MySQL, NA supports the following collations:

- euckr
- gb2312
- latin1
- sjis
- utf8

For more information about collations, see the documentation for your database.

Additional Applications

You might need access to the following optional applications:

- Adobe Reader version 6.0 or later to view the NA documentation.
- Microsoft Excel 2000 or later to view Summary Reports.
- ActivePerl 5.8.x (for Windows)
- Perl 5.8.x (for Solaris and Linux)
- Perl Net::SSH::Expect module (for using the Opsware::NAS::Connect module with SSH), Linux and Solaris only

> SSH connections to the NA Perl API require the Net::SSH::Expect module. Due to limitations of ActiveState ActivePerl on Windows, the NA Perl API does not support SSH connections from Windows systems. As a workaround, install the NA client on a supported Linux or Solaris system, and run the NA Perl API from that system.

HP Network Automation Supported Devices Matrix

To access the *NA Supported Devices Matrix*, view the *Supported Devices- NA 7.x and later* document on the HP Live Network web site:

https://hpln.hp.com/node/19/contentfiles?dir=2258

(under Driver Packs > Documentation)

Access to this page requires an HP Live Network user account.

We appreciate your feedback!

If an email client is configured on this system, by default an email window opens when you click *here*.

If no email client is available, copy the information below to a new message in a web mail client, and then send this message to **ovdoc-nsm@hp.com**.

Product name and version: NA 9.22.01

Document title: *NA Support Matrix, November 2014*

Feedback: