Hewlett Packard Enterprise

HPE Network Node Manager i

Software Version: 10.20
for the Windows® and Linux® operating systems

Release Notes

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The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
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About This Document

> **Note:** Obtain the latest copy of this document from here:
>
> https://softwaresupport.hpe.com/km/KM02208848

This document is an overview of the changes made to Network Node Manager i (NNMi). It contains important information that is not included in books or Help.

Support Matrix

For information about the installation requirements and compatibility with other products, see the Network Node Manager i Support Matrix.

The support matrix may be updated between releases, and so is only available at the HPE Support web site:

https://softwaresupport.hpe.com/km/KM02208847

The support matrix includes the following information:

- **Requirements**
  - Hardware
  - Operating System
  - Web Browsers
  - Virtualization Products
  - High-Availability Products
- **Compatibility**
  - Languages
  - HPE Software Integrations
  - HPE Software Coexistence
- **Performance, Sizing, and Other Recommendations**

What's New in This Release

NNMi includes the supplementary add-in components (also known as iSPIs) along with the core NNMi software. This section lists all the new features added to NNMi.

Feature Updates

Use of Federal Information Processing Standard (FIPS) 140-2-Validated Cryptographic Modules

The NNMi Premium (NNMi, NNM iSPI Performance for Metrics, and NNM iSPI Performance for QA) can be configured to use FIPS 140-2-validated cryptographic modules. For more information, see the *NNMi 10.20 Hardening Guide*.

A new command-line tool—nnmkeytool.ovpl—enables you to manage certificates when NNMi is configured to use the FIPS 140-2-validated cryptographic modules. For more information about nnmkeytool.ovpl, see the Reference Pages.

New Look and Feel

The NNMi now has a new login screen and updated user interface.

Platform and Web Browser Updates

The table below shows a summary of changes made to the supported platforms and web browsers for NNMi.

For a detailed list of supported platforms, see the *NNMi Support Matrix*.

NNMi 10.20 has added support for the following platforms and browsers:

Operating Systems	SUSE Enterprise Linux 12
Browsers	Safari 9.x on Mac OS X client
	Firefox ESR 45.x

NNMi 10.20 has dropped support for the following platforms and browsers:

Virtualization Platform	Microsoft Hyper-V 2008 R2
Operating Systems	Windows Server 2008 R2
Browsers	Firefox ESR 38.x
	Internet Explorer 10
	Safari 8.x

Installation

You can find steps to install all the constituent products of NNMi in the following documents:

Product	Document	Available On
NNMi	*Interactive Installation and Upgrade Guide*	• Product media • Manuals web site

Upgrade Notes

NNMi

- Read the *NNMi Interactive Installation and Upgrade Guide* for supported paths for upgrading to NNMi 10.20.

- NNMi 10.20 introduces a Public Key Cryptography Standards (PKCS) #12 repository to store certificates. When you upgrade an older version of NNMi to the version 10.20, the PKCS #12 file-based certificate management does not immediately come into effect and NNMi continues to use the JKS repository for certificate management.

  See the *NNMi Deployment Reference* for more information.

- Upgrading in the Global Network Management (GNM) environment

  In a GNM environment, always upgrade the global manager first, and then upgrade regional managers. In the interval when the global manager is already upgraded to NNMi 10.20 and regional managers are yet to be upgraded to NNMi 10.20, the NNMi management servers can continue to function as expected. However, you must upgrade all the NNMi management servers in a GNM environment to NNMi 10.20 at the earliest.

- The JMX Console support UI is now disabled by default for new NNMi installations. HPE recommends that, after upgrading to NNMi10.20 from an older version, you disable the JMX Console feature to improve product security. See the *NNMi Hardening Guide* for more information.

Deployment Reference

The *HPE Network Node Manager i Software Deployment References* is a web-only document providing advanced deployment, configuration, and maintenance. To obtain a copy of the most current version, go to https://softwaresupport.hpe.com/km/KM02208853.

Licensing

The NNMi installer activates an instant-on 60-day/250-node license. This license also temporarily enables the NNMi Ultimate features for the 60-day trial period.

To check the validity of your NNMi licenses, in the NNMi console click **Help → System Information**, and then click **View Licensing Information**. Compare the Capacity count with the Consumption count to see how much unused capacity is remaining.

In the documentation, any feature marked *NNMi Advanced* also applies to NNMi Premium and NNMi Ultimate. Likewise, anything marked as *NNMi Premium* also applies to NNMi Ultimate. Each of these is a super-set of the preceding one in the following order: NNMi Advanced, NNMi Premium, and NNMi Ultimate. Any feature marked *NNM iSPI Performance for Metrics* also applies to NNMi Premium. Some items marked *iSPI NET* apply to NNMi Premium (Trap Analytics and Visio Map Export); all items marked "iSPI NET" apply to NNMi Ultimate.

> **Note:** NNMi uses a node-based licensing scheme (that is, you can monitor a limited number of managed nodes with each NNMi license key).
>
> Each device with a Device Profile of `vmwareVM` is equivalent to 1/10th node.
>
> All other devices are equivalent to one discovered node.

Advanced

> **Note:** In these Release Notes and the online help, any feature marked NNMi Advanced also applies to NNMi Premium and NNMi Ultimate. Likewise, anything marked as "NNMi Premium" also applies to NNMi Ultimate. Each of these is a superset of the preceding one in the following order: NNMi, NNMi Advanced, NNMi Premium, and NNMi Ultimate. Any feature marked NNM iSPI Performance for Metrics also applies to NNMi Premium. Some items marked iSPI NET apply to NNMi Premium (Trap Analytics and Visio Map Export); all items marked iSPI NET apply to NNMi Ultimate.

An NNMi Advanced license enables the following features:

- All features licensed by the base NNMi license.
- IPv6 Discovery and Monitoring
- Monitoring of router redundancy groups (HSRP, VRRP).
- Support for port aggregation protocols (for example, PaGP) with results displayed in the Link Aggregation tab of the Interface form.
- HPE Route Analytics Management Software (RAMS) integration for RAMS traps and path information from RAMS, enhancing the path displayed in Path View.
- Extension of path visualization (for example, Equal Cost Multi-Path). When multiple paths are possible, the user interface provides for selection of specific paths for opening an NNM iSPI Performance for Metrics path health report.
- MPLS WAN Clouds (RAMS) view from the Inventory workspace, including map views of the MPLS WAN cloud; see *Using Route Analytics Management Software (RAMS) with NNMi Advanced* in the NNMi help.

- VMware ESXi and virtual machine management

- Global Network Management. (The global manager requires an NNMi Advanced license; regional managers do not.)

NNMi Premium

An NNMi Premium license enables the following features:

- All NNMi Advanced features.

- The SNMP Trap Analytics feature of iSPI NET.

- The Visio Export feature of iSPI NET.

- The NNMi Developer Toolkit. See the SDK documentation and examples located in the %NnmInstallDir%\doc folder (Windows) or $NnmInstallDir/doc directory (Linux).

- HPE Network Node Manager iSPI Performance for Metrics. This software requires a separate installation. See the NNM iSPI Performance for Metrics documentation for details.

- HPE Network Node Manager iSPI Performance for Quality Assurance. This software requires a separate installation. See the NNM iSPI Performance for Quality Assurance documentation for details.

See the help topic Purchase HPE Network Node Manager i Smart Plug-ins and More for more information.

NNMi Ultimate

An NNMi Ultimate license enables the following features:

- All NNMi Premium features.

- **The Diagnostics feature of iSPI NET.** This feature requires a separate installation of an iSPI NET Diagnostics Server or an HPE Operations Orchestration server. See the *HPE NNM iSPI Network Engineering Toolset Planning and Installation Guide* for more information.

- **HPE Network Node Manager iSPI Performance for Traffic.** This software requires a separate installation. See the NNM iSPI Performance for Traffic documentation for details.

- **HPE Network Node Manager iSPI for IP Multicast.** This software requires a separate installation. See the NNM iSPI for IP Multicast documentation for details.

- **HPE Network Node Manager iSPI for IP Telephony.** This software requires a separate installation. See the NNM iSPI for IP Telephony documentation for details.

- **HPE Network Node Manager iSPI for MPLS.** This software requires a separate installation. See the NNM iSPI for IP Multicast documentation for details.

See the help topic *Purchase HPE Network Node Manager i Smart Plug-ins and More* for more information.

Notes and Limitations

NNMi contains open source and third-party software components that are listed in the *NNMi Open Source and Third Party Software License Agreements* document. Do not independently apply any patches or updates released by these open source communities and third parties. HPE does not support environments where such components are updated by patches that are not released and certified by HPE.

For more information about open defects, visit HPE Software Support Online, or contact your HPE Support representative directly.

NNMi: Known Problems and Limitations

VMware Management

- If you disable an ESXi VMNIC (using ESXi tools), and then ultimately unplug the cable on the VMNIC, the NNMi console continues to show the VMNIC s *disabled* (and not *unknown*).

  Workaround. Restart the ESXi host.

- Missing LAG information in VMware devices—-An ESXi server configured with distributed vSwitch with Link Aggregation Group or Link Aggregation Control Protocol (LAG/LACP) will not show the correct connection information. LAG or LACP information cannot be retrieved via the IEEE8023-LAB-MIB. Thus, the LAG information is determined by the access switch connected to the ESXi host and not from the ESXi host itself.

- VM node reconciliation problem between tenants—-This problem appears only if all of the following conditions are true:

  - NNMi discovers a Virtual Machine (VM) through two different discovery methods. Once the VM is discovered using a Web Agent, and then the same VM is discovered again using an SNMP Agent.

  - The two instances of the VM are assigned to two different tenants during the discovery process, which is possible when:

    - One VM instance is auto-discovered when its ESXi server is seeded and the ESXi server is configured for one tenant.

    - The other VM instance is initially discovered when its IP address is seeded and this seed object is configured to be assigned a different tenant.

  As a result, two instances of the same VM appear in the NNMi inventory.

  When you assign the Web Agent-discovered VM instance to the tenant where the SNMP Agent-discovered VM instance belongs (or vice versa), the VM instance that is assigned to the new tenant replaces the VM instance that already resided in that tenant.

  Workaround. When discovering VMs, assign the ESXi server and its VMs to the same tenant first, and then move VM instances to tenants of your choice. This enables NNMi to merge the VM data collected from multiple agents before the VM is assigned to a different tenant.

- VM name and host name during initial discovery—When the initial discovery continues, it is possible that the VM name and the host name of a VM are set to the Partition ID of the VM. Once the discovery of the VM completes, the correct VM name and host name are set.

- VMware SNMP agent fails to return vMotion details—VMware ESXi server 5.x may stop responding to SNMP requests from NNMi. As a result, NNMi may not receive the information necessary to detect the vMotion that enabled VMs to move from one ESXi server to another. When this occurs, NNMi is unable to detect that a VM has moved to a different ESXi server.

  To verify that a VMware ESXi SNMP agent is returning valid information, you can issue the following command on the NNMi management server:

  nnmsnmpwalk.ovpl *<ESXi_SERVER_NAME>* **.1.3.6.1.4.1.6876.2.1.1 .1.3.6.1.4.1.6876.2.4.1.7**

  This command queries the SNMP agent on the ESXi server for two private MIB objects, which the ESXi server should correctly respond to with appropriate information. If the response is "`No MIB objects contained under subtree`," the SNMP agent is not returning information necessary for NNMi to detect movement of VMs.

  Workaround. Restarting the SNMP Agent on the VMware ESXi server may resolve the problem. If not, rebooting the ESXi server should resolve the problem. Also, make sure that your ESXi server has installed the latest software updates provided by VMware.

  The periodic configuration poll of the ESXi server by NNMi, usually executed every 24 hours, will also detect the current state of ESXi servers and will enable NNMi to update the correct location of all VMs that might have moved during the past 24 hours. A manual configuration poll of the ESXi server can also be performed to achieve the same refresh of VM status and location.

Domain Name System (DNS) Configuration Known Problems

- Spiral Discovery depends on a well-configured Domain Name System (DNS) to convert discovered IP Addresses to hostnames. An improperly configured name server results in significant performance degradation. See **Help → Help for Administrators** and view the topic **Discovering Your Network → Prerequisites for Discovery**.

- For Linux NNMi servers that do not have a DNS server configured and include only "IP-to-Hostname" mappings in the server's `/etc/hosts` file, additional configuration is needed. If the `/etc/hosts` file has entries such as the following:

  `1.1.1.1 testnode`

  `2.2.2.2 testnode`

  `3.3.3.3 testnode`

  `4.4.4.4 testnode`

  for the node "testnode" to be discovered as a single non-SNMP node with four IP addresses, edit `the /etc/host.conf` file to include the following line:

  `multi on`

  This will ensure that all IP addresses will be returned for the single node.

IPv6 Known Problems and Limitations

- Unsupported IPv6 features; the following are not available in NNMi:

  - IPv6-only management server

  - IPv6 Network Path View (Smart Path)

- IPv6 Subnet Connection Rules

- IPv6 Ping Sweep for auto-discovery

- IPv6 Address Fault monitoring through SNMP (not available for IPv4 Addresses either)

- IPv6 Link Local Address are not supported for fault monitoring, as discovery seeds, or as Auto-Discovery hints

Device Support Known Limitations

Device support known limitations can be found in the *HPE Network Node Manager i Software (NNMi) Device Support Matrix*.

Integration Known Problems

- (BSM / UCDMB Topology Integration) Integration module synchronizes the NNMi Interface attribute `ifIndex` with the `InterfaceIndex` attribute of Interfaces in BSM/UCMDB. The SNMP standard allows for Long numeric values for `ifIndex` that NNMi supports. BSM/UCMDB, however, does not yet allow for values longer than what is allowed for an Integer (2147483647). As such, some Interface indexes are truncated when they are synchronized to BSM/UCMDB. A common example of where NNMi uses values that exceed the smaller Integer limit are in the case of ESXi Host virtual interfaces. When comparing interface index values with these very large index values, you may find that they are truncated to smaller values in BSM/UCMDB. The correct index value is the one found in NNMi.

- (BSM Integration) If you are an NNMi or BSM administrator and are using NNMi Visualizations within HPE Business Service Management (BSM), do not include the Path View component in the MyBSM portal component gallery. This component is not enabled.

- (Northbound Integration) Northbound integration is disabled under the NNMi Community edition license. After a full license is installed, northbound integration can be re-enabled by reconfiguring a northbound destination.

- (Netcool Integration) The NNMi-provided Netcool rules found in nnmi.include.rules use column attributes that may be overwritten or cleared by other rules deployed at run time. If some attributes of Netcool traps received from NNMi have missing or incorrect data, this may be an area to consider for troubleshooting. It may be helpful to include details by specifying "details($*)" in nnmi.include.rules in order to verify the final value of certain attributes and variables once received. The NNMi Netcool probe rules are designed to operate within the framework of the Netcool Knowledge Library rule set. The NNMi rules store key NNMi incident information in unused alarm columns to enable "right click" tools to be launched from Webtop or the Web GUI. "Compatibility" rules that are distributed with the Netcool Knowledge Library might overwrite these values and should be checked if the "right click" tools fail to launch because of missing data. See rules defined in $NC_RULES_HOME/include-compat. The columns to check include @LocalNodeAlias, @LocalSecObj, @LocalPriObj, and @LocalRootObj, @RemoteNodeAlias, @RemotePriObj, @RemoteSecObj, and @RemoteRootObj.

Internet Explorer Browser Known Problems

- The `telnet://` and `ssh://` URLs are not enabled by default with Internet Explorer. See the Configuring the Telnet and SSH Protocols for Use by NNMi chapter in the Deployment Reference for instructions on how to enable the telnet and ssh protocols, which requires a registry change on each web browser client. Without this registry edit, selecting the **Actions → Node Access → Telnet...** (from client) or **Secure Shell...** (from client) menu item results in a `The webpage cannot be displayed` message.

- When using Internet Explorer, browser settings determine whether the name of an NNMi view or form displays in the title bar. To configure Internet Explorer to display view and form titles:

  a. In Internet Explorer browser, click Tools, and then click Internet Options.

  b. Navigate to the Security tab, Trusted Sites, Custom Level, Miscellaneous section.

  c. Disable the Allow websites to open windows without address or status bars attribute.

- Internet Explorer tracks long running JavaScript operations, and displays a "This page contains a script which is taking an unusually long time to finish" message if a maximum number of JavaScript statements is exceeded. Complex map operations can exceed this maximum default of 5,000,000. To adjust the maximum time, the HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer\Styles\MaxScriptStatements windows registry value must be modified. You can set it to 0xFFFFFFFF for infinity, however this is not recommended. For more information, see Microsoft Knowledge Base article http://support.microsoft.com/kb/175500.

- When launching one application from another that is in a different domain, Internet Explorer blocks the single sign-on session cookie. To fix this problem, add the application servers to the Trusted Sites zone for the web browser:

  a. In Internet Explorer browser, click Tools, and then click Internet Options.

  b. Navigate to the Security tab.

  c. Select the Trusted sites icon, and then click Sites.

  d. In the Trusted sites dialog box, add each application server the websites list.

- A known problem with memory growth exists in Internet Explorer when using the NNMi console. It might be necessary to periodically restart the Web browser if it is using too much memory.

- If Integration URLs are rendered inside a <frame> tag on a page that uses the Internet Explorer "Quirks mode", a JavaScript error occurs. In Internet Explorer, URLs should not be launched in Quirks mode. Quirks Document mode is not standards compliant and NNMi does not support it at this time.

  This situation might become an issue if an NNMi form or view is placed in an HTML document with other content, such as within a <frame> tag. The <DOCTYPE> tag at the top of the HTML document should be chosen to enable standards document mode. For example, the following DOCTYPE should not be used in a web page containing a frame that references an NNMi Integration URL:

  ```
  <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
  ```

  A better choice would be to use a strict DOCTYPE such as:

  ```
  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
  ```

- The Internet Explorer Developer Tools are useful for seeing and changing the browser and document mode.

- Internet Explorer sets a limit to the number of rows that can be shown in table views. A user cannot scroll to see all possible rows.

  Workaround. Filter the table to show fewer rows. In practice this limit is about 30,000 rows, although it varies with font size.

Other Limitations

- If NNMi services running inside ovjboss start up slowly, the nnmaction process might stop shortly after it starts up. This is because nnmaction depends on certain event services in the NNMi ovjoss server, which continue to start up after ovjboss has completed its startup. The event services must be fully initialized for nnmaction to function normally. After nnmaction starts up, it monitors the event services, and if the event services are not fully initialized after a certain period of time, the nnmaction process exits. To resolve this

issue, run the following from the command line to restart the nnmaction process: ovstart -c nnmaction

- The standby node in an NNMi cluster can remain stuck in the standby state while it is trying to receive transaction logs from the active node. This can occur when the active node has recently generated a new database backup that took a long time to create, send to standby, or both. The standby has already acknowledged receipt of database transactions (through the continuous database updates sent through a separate socket), and the corresponding transaction log files, which are pending, have already been deleted from disk.

    Workaround. Run the nnmcluster –dbsync operation.

- The NNMi console might time out and report an error if you try to delete a node having a large number of interfaces. Before deleting the node, you must first unmanage the node regardless of method for deletion. After you successfully unmanage the node, delete the node using the NNMi console. Alternately, use the nnmnodedelete.ovpl script to delete nodes having a large number of interfaces. For more information, see the nnmnodedelete.ovpl reference page or UNIX manpage.

- Large table views sorted on certain attributes may contain duplicate rows after paging

- Path View or Smart Path does not work in a multi-tenant environment.

- If an SNMP agent for a node is unreliable, the node component data discovered might differ between NNMi discoveries. For example, in rare cases, the SNMP agent might respond using data from the vendor-specific MIB during initial discovery and then use the standard MIB for a subsequent query. When a Node Component is re-discovered due to unreliable SNMP data, note the following: ∘Previous performance data for that Node Component might be lost.

- If SNMP Agent information that is used to identify the Node Component changes, it can appear as if a Node Component was removed or added.

- In NNMi map views, the web browser's zoom controls (CTRL-+ (plus) and CTRL-- (minus)) do not work properly. These keystrokes zoom the HTML text and not the icons themselves. Instead, use the map's keyboard accelerators (plus (+), minus (-), and equals (=) keys) or toolbar buttons to zoom.

- Redirection of .ovpl scripts on Windows using the implicit file association might not generate an output file. For example:

nnmstatuspoll.ovpl -node mynode > out.log

If you are not able to view the output file, run the command explicitly from Perl in a command window:

"%NnmInstallDir%\nonOV\perl\a\bin\perl.exe" "%NnmInstallDir%\bin\nnmstatuspoll.ovpl" -node mynode > out.log

A second option is to fix your Windows Registry:

a. Back up the Windows Registry.

b. Start the Windows Registry Editor (regedit.exe).

c. Locate and then click the following key in the registry:
   HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Policies\Explorer

d. On the Edit menu, click **Add Value**, and then add the following registry value:

   ∘ Value name: InheritConsoleHandles

   ∘ Data type: REG_DWORD

   ∘ Radix: Decimal

   ∘ Value data: 1

e. Quit the Windows Registry Editor.

- If devices do not respond with required SNMP MIB values, NNMi discovery might not find nodes, Layer 2 connections, or VLANs. See Supported Network Devices in the *HPE Network Node Manager i Software Device Support Matrix*.

- If the NNMi management server has a firewall blocking incoming HTTP requests, you cannot start the NNMi console remotely. The Linux firewall is enabled by default. You can either disable the firewall completely, or more specifically add other ports:

  161:udp, 162:udp, *<HTTPPORT>*:tcp

  where *<HTTPPORT>* is the NNMi web server port as defined by the `jboss.http.port` value in the `/var/opt/OV/conf/nnm/props/nms-local.properties` file.

- If using LDAP to access your environment's directory services, you must log on to the NNMi console using the same case sensitivity of users as reported by the directory service. When the case sensitivity differs between what is returned from the directory service and the name with which you logged on, you cannot assign incidents to your user name and the My Incidents view does not work. Use **Actions > Assign Incidents** to view the list of valid user names, including the required case for each.

- NNMi application failover on Windows systems:

  - Application failover on the Windows platform can have some intermittent issues with Symantec Endpoint Protection (SEP) software that affect NNMi cluster operations. When the Standby node is attempting to receive the database backup, this operation sometimes fails because SEP is not releasing a file lock in a timely manner. The database file is automatically retransmitted on any failure, and this problem eventually clears itself.

  - When application failover is configured for Windows, system reboots or other issues might cause the psql command to fail, generating dialog boxes to the Windows desktop and the event viewer. These dialog boxes do not affect operation and can be ignored.

- When you perform an online backup of NNM, the database password is included in the backup. If you change the database password using the `nnmchangeembdddbpw.ovpl` script after a backup is completed; then restore NNMi from the backup that includes the outdated password, the NNMi database fails to start. To restore your NNMi database, use a database backup that includes the new password.

- Attempting to delete a Custom Node Collection or Custom Poller Policy with a large number of Custom Polled Instances can fail. When the delete is attempted, the NNMi console shows the "busy circle" icon for a few minutes, and then an error dialog indicates a batch update failure. This case is more likely to happen when collecting data from a MIB table where there are multiple instances being polled for a given node. It is highly recommended that you filter only the instances that you want to poll to help minimize this issue and the load on NNMi.

  Workaround.

  a. If you are not able to delete the Custom Node Collection, try to delete each Custom Poller Policy on the Custom Node Collection individually.

     For each Custom Poller Policy that fails to delete: a.If the policy has a MIB Filter value, change its value to a pattern that does not match any MIB filter variable value. Check the Custom Node Collection table to ensure that all nodes for that Custom Poller Policy have completed discovery. All Custom Polled Instances for this Custom Poller Policy should be removed.

  b. If the Custom Poller Policy does not have a MIB filter value, change the Custom Poller Policy's Active State to Inactive. This action should cause all Custom Polled Instances associated with the Custom Poller Policy to be deleted. If it does not, edit the associated Node Group to remove nodes from the group. This causes NNMi to delete the associated Custom Node Collections and their Custom Polled Instances.

It should now be possible to delete the policy successfully.

c. When all Custom Poller Policies for a Custom Node Collection are deleted, delete the Custom Node Collection.

- If you are browsing between multiple NNMi installations, browsing to a second NNMi installation logs you off from the previous NNMi installation when you return to the first system. To fix this problem, do the following:

   a. Open the following file:

   Windows: %NnmDataDir%\shared\nnm\conf\props\nms-ui.properties

   Linux: /var/opt/OV/shared/nnm/conf/props/nms-ui.properties

   b. Edit the file in one of the following ways:

      ○ Disable Single Sign-On by setting com.hp.nms.ui.sso.isEnabled="false".

      ○ Configure Single Sign-On by ensuring that the com.hp.nms.ui.sso.initString and domain parameters are the same across all systems. Both systems must also have clocks that are in sync, and the domains of each system's FQDN must match and be configured in com.hp.nms.ui.sso.protectedDomains of nms-ui.properties.

   c. Run **nnmsso.ovpl -reload**.

- *(Windows only)* Anti-virus and backup software can interfere with NNMi operation if this software locks files while NNMi is running. Any application that locks files should be configured to exclude the following NNMi database directory on Windows: C:\ProgramData\HP\HP BTO Software\databases.

- The Query Password field of a RAMS configuration is only valid when imported into the same NNMi installation on the same system. If imported into a different system, the Query Password must be re-entered.

- Incorrect browser proxy settings with a non-DNS hostname can prevent a user from logging on to the NNMi console. For example, if the NNMi server's FQDN is not resolvable in DNS, and the user wants to use an FQDN on the box, a user could add an entry such as 192.168.0.100 myhost.example.com to local system hosts file. This hostname is not resolvable by the DNS server. If the browser is configured with HTTP proxy, the browser ignores the hosts file for NNMi hostname resolution, and uses the proxy for NNMi hostname resolution. Because DNS cannot resolve the NNMi hostname, the NNMi console logon fails.

   To resolve this problem, the user should either disable the proxy setting or add exceptions to the browser proxy settings. To add exceptions to the browser proxy settings, do the following:

   Internet Explorer:

   a. On the Internet **Options → Connections** tab, click **LAN Settings**.

   b. If the Proxy Server is configured, click Advanced, and then add the non-DNS NNMi hostname into the Proxy Settings Exceptions list.

   Firefox:

   a. Click **Tools → Options**.

   b. In the Options dialog box, select the Advanced pane.

   c. On the Network tab, under Connection, click Settings. If a proxy is configured, add the non-DNS NNMI hostname into the No Proxy for list.

- Nodes with down Interfaces might have a Status of No Status under the following conditions:

   - If the active IP Address that responds to SNMP communication is on a down Interface, it is excluded from the list of candidate Management IP Addresses.

- If the hint or seed address that was used did respond to SNMP, the result is a node with valid system information and Device Profile, but no SNMP Agent.

  To resolve the problem use the Configuration Poll option from the Actions menu.

- When using the **Actions → Custom Attributes** menu items from a Node or Interface form, saving the form can overwrite Custom Attributes that have been added.

  Workaround. Close the form instead of using Save and Close or use the **Actions → Custom Attributes** menu items only from a table view.

- (NNM Performance iSPIs) It is important for you to synchronize the NNMi management server clock and the NPS server clock. This ensures that the analysis panes that retrieve data from the NPS server yield accurate results. If you experience blank analysis panes, check that your clocks are synchronized between the two servers. NPS (Network Performance Server) is the database server installed with any of the NNM Performance iSPI products.

Potential Installation Issues

- In addition to the web server port, the NNMi management server uses several ports for process communication as documented in the NNMi 10.20 and *Well-Known Ports* appendix of the *Deployment Reference*. Before installing NNMi, verify that these ports are not in use.

- Installation on Windows using Terminal Services:

  NNMi installation only works if you are on the machine console. If you use remote logon technology, such as Remote Desktop Connection, verify that you are accessing the Windows console and not a secondary connection.

- Some Linux installations might have a version of PostgreSQL installed and running by default. In this case, disable the default PostgreSQL instance before installing NNMi. NNMi does not support multiple instances of PostgreSQL on the same server. The easiest way to determine whether an existing PostgreSQL instance running is by using the **ps –ef | grep postgres** command. PostgreSQL can be disabled with **chkconfig posgresql off**.

- NNMi supports single sign-on (for use with NNM iSPIs and some integrated products).

  This technology requires that the NNMi management server be accessed with the official fully-qualified domain name (FQDN). The official FQDN is the hostname used to enable single sign-on between NNMi and NNM iSPIs. The FQDN must be a resolvable DNS name.

  If the domain name of the installation system is a short domain such as "mycompany" without any dot, you must change a configuration file to prevent automatic sign out from the NNMi console.

  For more information, see the *Using Single Sign-On with NNMi* chapter of the *Deployment Reference*.

- (Windows only) Do not use non-English characters in the path name of the installation directory.

- If you have NNM iSPIs installed on the NNMi management server, and plan to remove NNMi and NNM iSPIs, uninstall the NNM iSPIs before uninstalling NNMi. Otherwise, when you reinstall NNMi, the NNM iSPIs no longer work until you reinstall each one.

  Note: NNM iSPI Performance for Metrics is an exception to the above uninstall requirement.

- NNMi creates a self-signed certificate during installation. This certificate enables HTTPS access to the NNMi console without additional configuration. Because it is a self-signed certificate, your browser does not automatically trust it, resulting in security prompts when using the NNMi console. ◦With Firefox, you can choose to permanently trust the certificate, and you will not be prompted again.

  With Internet Explorer, you will be prompted multiple times. There are two ways to prevent these prompts:

- Import the self-signed certificate into each user's browser.

- Replace the self-signed certificate with a CA-signed certificate that all users' browsers are configured to trust. For more information, see the *Working with Certificates for NNMi* chapter of the *Deployment Reference*.

- The "Reinstall from media" (Linux) or "Repair" (Windows) option available through the uninstaller or Control Panel does not work and is not supported.

- (Linux only) Setting the /opt or /var/opt directory with inherited permissions might cause problems if the inherited permissions are too restrictive.

  The inherited permissions are created by enabling the set-groupId bit on the directory itself, for example the "2" in the chmod 2755 command.

  An example of an inherited permission that is too restrictive is "2750". This permission strips world read-access. Some NNMi processes run as non-root user (for example the database and the action process). These processes need read access to files below /opt/OV and /var/opt/OV. If the inherited directory permission strips world read, these processes fail.

- (Linux only) If the NNMi public key import or a product install fails with the following error:

  ```
  rpmdb: Lock table is out of available locker entries

  rpmdb: Unknown locker ID: 56cd

  error: db4 error(22) from db->close: Invalid argument

  error: cannot open Packages index using db3 - Cannot allocate memory (12)

  error: cannot open Packages database in /var/lib/rpm

  error: pk.pub: import failed.
  ```

  Complete the following steps:

  a. Run the following command to save a copy of the rpm database:

     tar cvzf /var/tmp/rpmdbtar.gz /var/lib/rpm

     rm /var/lib/rpm/__db.00*

     rpm –rebuilddb

  b. To validate that you corrected the issue, run the following commands:

     rpm –q –a

     rpm –import pk.pub

  c. If the results of running the rpm –q –a command lists all packages without error, you can remove the /var/tmp/rpmdbtar.gz . If not, restore the rpm database from the rpmdbtar.gz file.

Mozilla Firefox Browser Known Problems

- The telnet:// and ssh:// URLs are not enabled by default with Firefox. See the Configuring the Telnet and SSH Protocols for Use by NNMi chapter in the Deployment Reference for instructions on how to enable the telnet and ssh protocols, which requires configuring a telnet application, an ssh application, or both on each web client.

- By default, Firefox opens windows in a new tab instead of a new window. This behavior can cause NNMi to open windows that do not pop to the foreground. To change the default setting, under Tabs in the Options dialog box, do the following:

- Set New pages should be opened in: to a new window.

- Select When I open a link in a new tab, switch to it immediately.

  These settings affects web pages that use "_blank" as a target, such as some help content.

- By default, Firefox limits the number of pop-up windows to 20. To adjust this limit, do the following:

  a. Type about:config in the Firefox address bar.

  b. Scroll down to dom.popup_maximum, and then double-click to modify the value.

  c. Restart Firefox for this change to take effect.

- After opening and closing more than 50 forms in a single session, Firefox might start blocking pop-up windows, even when popups are enabled, which results in JavaScript errors.

  Workaround. Increase dom.popup_maximum or restart the browser. A suggested value in this case is a number greater than 500.

- Firefox tracks long running JavaScript operations and displays a "Warning: Unresponsive script" message if that timeout is exceeded. Complex map operations can exceed this maximum default of 5. To adjust the maximum time, do the following:

  a. Type about:config in the Firefox address bar.

  b. Scroll down to dom.max_script_run_time, and then double-click to modify the value. The value is in seconds. You can set it to 0 for infinity, however this is not recommended.

  c. Restart Firefox for this change to take effect.

- Firefox enables the use of JavaScript by default. Disabling JavaScript requires a privacy extension. When signing in to the NNMi Console, you will see an error in the browser if JavaScript has been disabled. If you see this error, go to Firefox Add-ons page and click on Extensions to see if there is an extension that is disabling JavaScript. If so, this extension needs to be disabled in order to allow JavaScript in the browser.

- Firefox can incorrectly indicate that a request is still in progress while using the MIB Browser or Line Graphs, even though the request is complete. You will see "Transferring data from <NNMi Server>" in the Firefox status bar, where <NNMi Server> is your NNMi management server. For more information, see Bugzilla defect #383811 at https://bugzilla.mozilla.org/show_bug.cgi?id=383811.

- Using the "F5" refresh key causes a corrupt display of the form. To refresh a form, use the Refresh toolbar button on the form.

- If you have previously created a User Account and later delete and recreate it, the Firefox auto-complete feature fills in the password field for you, without notifying the user interface, causing the create to fail.

  Workaround. Change the password twice, or turn off form completion in Firefox.

Non-English Locale Known Problems

- NNMi localizes "Drop-down Choice" Code Values (such as Incident Category and Incident Family) at database creation time using the locale of the server. Unlike most other content, if accessed from a client under a different supported locale, the values remain in the locale of the server set at the time of database creation, which is typically installation time. The same is true for any user created "Drop-down Choice" Code Values. Other drop-down choices that are Enumeration Values (such as Incident Severity) are locale-sensitive and appear in the locale of the web browser for supported locales.

- (Windows only) On the Windows platform, the NNMi processes run under the Windows Service Manager (WSM) process. If the system has not been configured so that the WSM is in the same locale, these strings are loaded into the database as English strings. When setting the locale to a supported locale, you must also navigate to the **Control Panel** → **Region and Language** →**Administrative tab** → **Change**

system locale, and then select the Current system locale option. This option requires a system reboot, after which all services (including WSM) are restarted in the new locale. After the WSM is in the desired locale, you can install NNMi.

- For English Internet Explorer to browse an Asian language NNMi management server, the client needs to install the "East Asian Language" on the system. Without this change, tooltips for Priority and other table values appear as squares. You can install the "East Asian Language" from the Control Panel → Regional and Language Options → Language tab. Select Install files for East Asian language. This problem only happens with Internet Explorer. Users see similar problems when browsing to any Asian language web site.

- When displaying the value for MIB variables of type OCTET STRING, NNMi uses the textual conventions defined in the MIB. In the absence of textual conventions, the data is interpreted based on any character encodings defined by the com.hp.nnm.sourceEncoding property defined in the nms-jboss.properties file. If this property is not defined, the multi-byte characters will be interpreted with the UTF-8 character encoding. For more information, see "Configuring Character Set Encoding Settings for NNMi" in the Deployment Reference.

- When launching NNMi URLs with Asian strings such as a Node Group Map with a Japanese language Node Group name parameter, the browser settings might need to be changed. For Firefox, input "about:config" in the address bar; find "network.standard-url.encode-utf8"; change the value to be "true". For Internet Explorer: "Turn on sending URLs as UTF-8"; see Microsoft document at support.microsoft.com/kb/925261 for details.

- The Autopass Licensing GUI (nnmlicensing.ovpl <ProductName> -gui) is only localized for Japanese. In all other locales, including Chinese and Korean, only English text is displayed.

- (Windows only) Note that when changing passwords from the Windows command shell, under certain code pages such as 850 and 866, localized (non-ASCII) characters may not be read correctly from the console resulting in a saved password that is invalid. The work-around is to avoid non-ASCII characters when changing passwords from the Windows command shell or use an alternate code page such as 1251 or 1252. Passwords entered in the NNMi UI Console are unaffected by this problem

- (Windows only) The default code page for the cmd command on Windows (e.g., code page 850 or 866) may not display all characters properly for localized European languages. This may affect the localized message output when using NNMi commands. The Windows chcp command can be used to check the current code page and select a better code page for the locale (e.g., code page 1252 for French, German, and Spanish; 1251 for Russian). The default code page for Chinese, Japanese, and Korean works fine.

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Feedback on Release Notes (Network Node Manager i 10.20)

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