



Hewlett Packard
Enterprise

HPE Network Operations Management Suite

Software Version: 2017.07
for the Windows® and Linux® operating systems

Getting Started Guide

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HPE Network Operations Management Suite 2017.07 : Get started

NOM is a complete network management solution that integrates network fault detection, performance monitoring, configuration management and compliance, as well as diagnostic and automation tools. NOM is comprised of the following individual, but integrated, products that are brought together:

Table: Product Library

| Product | Version | Description | Documentation |
|----------------------------------|---------|--|---|
| NNMi | 10.30 | NNMi provides smart network fault and availability monitoring using common network protocols such as SNMP and ICMP to help you maintain a healthy network across your organization. NNMi can discover network nodes (such as switches and routers) on an automatic and continuing basis, providing an up-to-date representation of the network topology (Layers 2 and 3). | https://softwaresupport.hpe.com/km/KM00838326 |
| NA | 10.30 | NA is an enterprise-class network device change and configuration management tool. It eliminates human error in device configuration changes while also maintaining compliance standards through a policy-based change management model. NA maintains a complete audit trail of all device changes, including a key stroke log of command line changes made through the NA telnet proxy. | https://softwaresupport.hpe.com/km/KM02852051 |
| NNM iSPI Performance for Metrics | 10.30 | The NNM iSPI Performance for Metrics provides the performance reporting foundation | https://softwaresupport.hpe.com/km/KM00838326 |

| | | | |
|---|--------------|---|--|
| | | <p>(the Network Performance Server or NPS) for NNMi. NNMi is the polling engine for both fault and performance. NNM iSPI Performance for Metrics provides the performance database with up to 13 months of data retention and the reporting tool for both predefined and custom reports. The main capabilities of NNM iSPI Performance for Metrics are:</p> <ul style="list-style-type: none"> • Historical graphs of performance data. • Performance metrics and baseline threshold monitoring. • Performance baseline reports. • Performance forecast reports | |
| <p>NNM iSPI Performance for Traffic</p> | <p>10.30</p> | <p>The NNM iSPI Performance for Traffic tracks and reports on all network traffic in an enterprise that is being collected via the industry-standard NetFlow, JFlow, SFlow, and IPFIX traffic data capture methodologies. It provides aggregated and detailed reports on the volume of traffic flowing between host servers, which can be scoped by individual router interfaces. It can characterize all applications in the system by means of powerful configurable rules and thus presents an integrated view of packet flow in the network.</p> | <p>https://softwaresupport.hpe.com/km/KM00838326</p> |

| | | | |
|-----------------------------|-------|--|---|
| NNM iSPI Performance for QA | 10.30 | The NNM iSPI Performance for QA monitors the quality of network service levels discovered by NNMi to ensure network services are performing to the desired levels. The NNM iSPI Performance for QA also provides the Intelligent Response Agent (iRA), which monitors performance of such response probes on the Windows and Linux systems that NNMi is managing. This allows for more precise source-to-destination tests and prevents additional load on critical network devices. | https://softwaresupport.hpe.com/km/KM00838326 |
| NNM iSPI for IP Multicast | 10.30 | The NNM iSPI for IP Multicast extends NNMi to be aware of IP multicast environments. It improves fault isolation for IP multicast applications by automatically discovering and displaying views of multicast nodes and interfaces and their relationships, as well as generating alarms based on events related to the multicast environment. | https://softwaresupport.hpe.com/km/KM00838326 |
| NNM iSPI for IP Telephony | 10.30 | The NNM iSPI for IP Telephony provides comprehensive fault and availability management of your business-essential IP telephony service. This iSPI provides discovery and in-depth monitoring for the critical IP telephony infrastructure, including gateways, gateway endpoints and channels, gatekeepers, and IP | https://softwaresupport.hpe.com/km/KM00838326 |

| | | | |
|-------------------|-------|---|---|
| | | phones. It also improves efficiency by giving telecom and data teams a common diagnostic and monitoring solution. The NNM iSPI for IP Telephony supports Avaya, Cisco, and Nortel IP telephony systems. | |
| NNM iSPI for MPLS | 10.30 | The NNM iSPI for MPLS monitors multiprotocol label switching (MPLS) service availability and inventory. In addition to traditional Layer 3 virtual private networks (L3 VPN), the NNM iSPI for MPLS handles core, traffic-engineered, and pseudo-wire management (L2 VPN). | https://softwaresupport.hpe.com/km/KM00838326 |
| NNM iSPI NET | 10.30 | NNM iSPI NET delivers key tools and workflow automation for network engineers and operators. It provides workflow automation from an embedded limited-use version of HPE Operations Orchestration software. The NNM iSPI NET also provides trap analytic capabilities and topology export to Microsoft Visio. Both the tools and the workflow automation save operators and engineers time when it is most valuable—during a problem—resulting in faster repairs and less downtime. | https://softwaresupport.hpe.com/km/KM00838326 |

To get started with NOM 2017.07:

1. Make sure to install (or upgrade to) NNMi 10.30, NNM iSPIs 10.30, and NA 10.30.
2. Install the following patches:

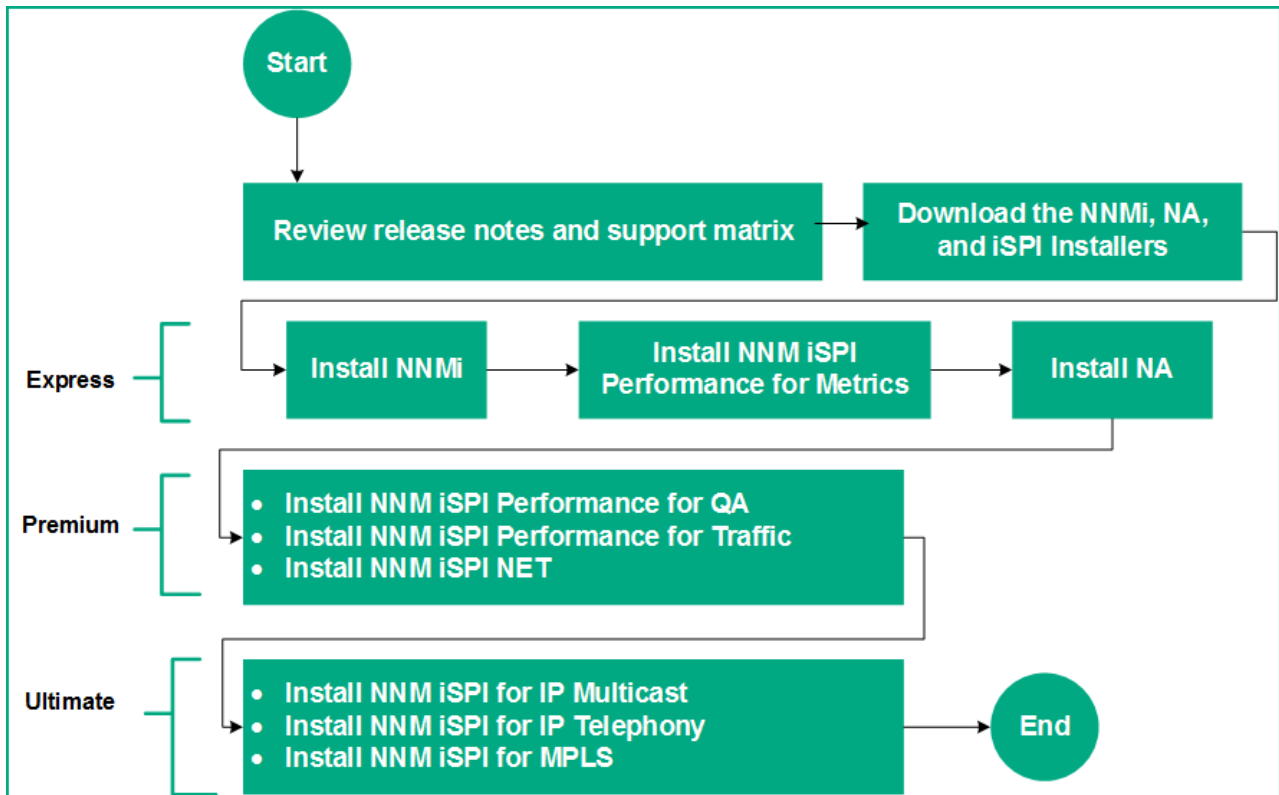
Note: These patches are prerequisite for the NOM license.

- The HPE Network Operations Management Suite License Enablement Core patch for NNMi
- The HPE Network Operations Management Suite License Enablement Core patch for the NNM iSPI Performance for Traffic

3. Obtain the NOM Express, NOM Premium, or NOM Ultimate license.
4. Apply the NOM license by following the instructions in [Manage licensing](#).

Install

The following diagram shows different steps in installing all constituent products of the NOM suite:



| Step | Description | Notes |
|------------|--|--|
| 1 Review | Review release notes and support matrix: <ul style="list-style-type: none"> • Read the NNMi and iSPI release notes • Read the NNMi and iSPI support matrix • Read the NA support matrix | <ul style="list-style-type: none"> • See the NNMi Release Notes (contains iSPI information) • See the NNMi Support Matrix (contains iSPI information) • See the NA Release Notes • See the NA Support Matrix |
| 2 Download | Download the NNMi, iSPI, and NA installers. | |
| 3 Install | <p>Express, Premium, and Ultimate</p> <p>Install NNMi, NNM iSPI Performance for Metrics, and NA</p> | <ul style="list-style-type: none"> • See the NNMi Interactive Installation and Upgrade Guide • See the NNM iSPI Performance for Metrics Interactive Installation and Upgrade Guide • See the NA Installation and Upgrade Guide |
| | <p>Premium and Ultimate only</p> | <ul style="list-style-type: none"> • See the NNM iSPI Performance for QA Interactive Installation and Upgrade Guide |

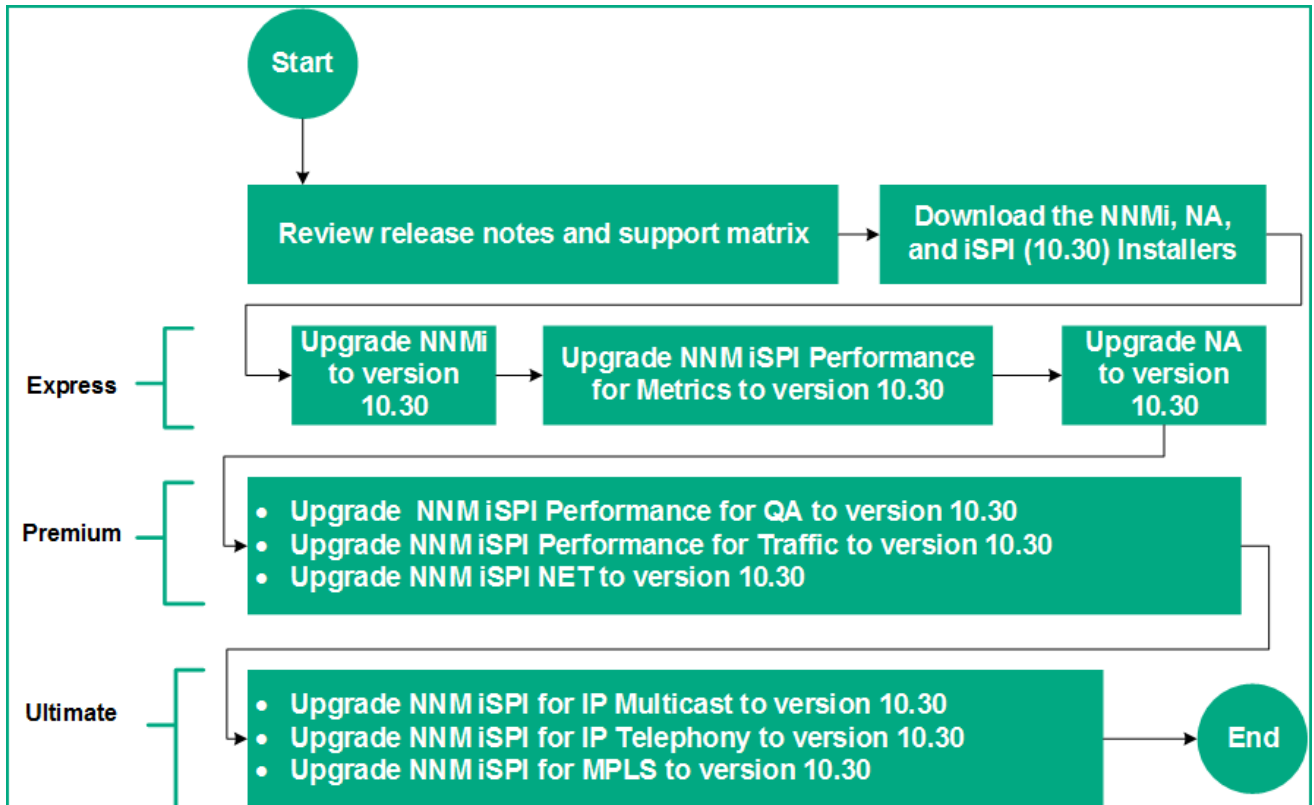
| | | |
|--|---|--|
| | <ul style="list-style-type: none"> • Install the NNM iSPI Performance for QA • Install the NNM iSPI Performance for Traffic • Install the NNM iSPI NET | <ul style="list-style-type: none"> • See the NNM iSPI Performance for Traffic Interactive Installation and Upgrade Guide • See the NNM iSPI NET Interactive Installation and Upgrade Guide |
| | <p>Ultimate only</p> <ul style="list-style-type: none"> • Install the NNM iSPI for IP Multicast • Install the NNM iSPI for IP Telephony • Install the NNM iSPI for MPLS | <ul style="list-style-type: none"> • See the NNM iSPI for IP Multicast Interactive Installation and Upgrade Guide • See the NNM iSPI for IP Telephony Interactive Installation and Upgrade Guide • See the NNM iSPI for MPLS Interactive Installation and Upgrade Guide |

Next steps

Apply the NOM license by following the instructions in [Manage licensing](#).

Upgrade

The following diagram shows different steps in upgrading an existing network management environment, which is built with NNMi, iSPIs, and NA, to NOM 2017.07:



| Step | Description | Notes |
|------------|--|--|
| 1 Review | Review release notes and support matrix: <ul style="list-style-type: none"> Read the NNMi and iSPI release notes Read the NNMi and iSPI support matrix Read the NA support matrix | <ul style="list-style-type: none"> See the NNMi Release Notes (contains iSPI information) See the NNMi Support Matrix (contains iSPI information) See the NA Release Notes See the NA Support Matrix |
| 2 Download | Download the NNMi, iSPI, and NA (10.30) installers. | |
| 3 Install | <i>Express, Premium, and Ultimate</i> Upgrade NNMi, NNM iSPI Performance for Metrics, and NA to version 10.30 | <ul style="list-style-type: none"> See the NNMi Interactive Installation and Upgrade Guide See the NNM iSPI Performance for Metrics Interactive Installation and Upgrade Guide See the NA Installation and Upgrade Guide |
| | <i>Premium and Ultimate only</i> <ul style="list-style-type: none"> Upgrade the NNM iSPI Performance for QA to version 10.30 Upgrade the NNM iSPI Performance for Traffic to version 10.30 Upgrade the NNM iSPI NET to version 10.30 | <ul style="list-style-type: none"> See the NNM iSPI Performance for QA Interactive Installation and Upgrade Guide See the NNM iSPI Performance for Traffic Interactive Installation and Upgrade Guide See the NNM iSPI NET Interactive Installation and Upgrade Guide |
| | <i>Ultimate only</i> <ul style="list-style-type: none"> Upgrade the NNM iSPI for IP Multicast to version 10.30 Upgrade the NNM iSPI for IP Telephony to version 10.30 Upgrade the NNM iSPI for MPLS to version 10.30 | <ul style="list-style-type: none"> See the NNM iSPI for IP Multicast Interactive Installation and Upgrade Guide See the NNM iSPI for IP Telephony Interactive Installation and Upgrade Guide See the NNM iSPI for MPLS Interactive Installation and Upgrade Guide |

Next steps

Apply the NOM license by following the instructions in [Manage licensing](#).

Manage licensing

NOM 2017.07 introduces a new licensing scheme for NNMi, NNM iSPIs, and NA.

Table: NOM License Types

| Products | NOM Express | NOM Premium | NOM Ultimate |
|----------------|--|---|---|
| NNMi and iSPIs | <ul style="list-style-type: none"> Discovery of network nodes and topologies Network fault monitoring Network performance monitoring with the NNM iSPI Performance for Metrics <p>Tip: The NOM Express license includes all the features of the conventional <i>Advanced</i> license, which provide the following capabilities:</p> <ul style="list-style-type: none"> 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) MPLS WAN Clouds (RAMS) view from the Inventory workspace, including map views of the MPLS WAN cloud VMware ESXi and virtual machine management Global Network Management | <ul style="list-style-type: none"> All of NOM Express Network traffic monitoring with the NNM iSPI Performance for Traffic Network diagnosis with the NNM iSPI NET | <ul style="list-style-type: none"> All of NOM Premium NNM iSPI for IP Multicast NNM iSPI for MPLS NNM iSPI for IP Telephony |
| NA | <ul style="list-style-type: none"> Discovery of network nodes and configurations Configuration change detection Network syslog detection | <ul style="list-style-type: none"> All of NOM Express Automatic configuration change and OS management | <ul style="list-style-type: none"> All of NOM Premium Policy and compliance management Entitlement for an |

| | | | |
|--|--|--|---|
| | | <ul style="list-style-type: none"> Entitlement for an HPE Operations Bridge Reporter standard license | HPE Operations Bridge Reporter standard license |
|--|--|--|---|

Apply license

To apply a license key:

Note: Prerequisites—make sure the following patches are installed:

- The HPE Network Operations Management Suite License Enablement Core patch for NNMI
- The HPE Network Operations Management Suite License Enablement Core patch for the NNM iSPI Performance for Traffic

- Obtain the license key from the HPE Software License and Downloads web site:
<https://h22244.www2.hp.com/mysoftware/index>
- Apply the license key to NNMI:
 - Log on to the NNMI management server as root or administrator.
 - Go to the `/opt/OV/bin` or `%nnminstalldir%\bin` directory.
 - Perform the following tasks:
 - Add the license key to a text file, and then save the file locally on the NNMI management server.
 - Run the following command:
nnmlicense.ovpl NNM -f <license_file>
Here, `<license_file>` is the name and the complete path to the text file that you created. The command applies the license key that is specified in the text file. Alternatively, run the following command:
nnmlicense.ovpl NNM -g
The Autopass window opens. Follow the interactive menus in the window to apply the license key.
- Apply the license key to NA:
 - Log on to the NA console as an administrator.
 - Click **Help > About Network Automation**, and then click **View License Information**.
 - Type the new license key in the box under the license expiration date, and then click **Update License**.

Use

The following table describes how you can access different NOM capabilities by accessing the standalone products from a direct URL address.

| Capability | UI access |
|------------------------------------|---|
| Network fault monitoring with NNMI | <a href="http://<NNMI_management_server>:<port>">http://<NNMI_management_server>:<port> or |

| | |
|---|---|
| | <p><code>https://<NNMi_management_server>:<port></code></p> <p>In this instance, <code><NNMi_management_server></code> is the FQDN of the NNMi management server and <code><port></code> is the port used by NNMi.</p> <p>For more information, see the NNMi documentation library.</p> |
| <p>Network performance monitoring with the NNM iSPI Performance for Metrics</p> | <p><code>http://<NPS_system>:9300</code> or <code>https://<NPS_system>:9300</code></p> <p>In this instance, <code><NPS_system></code> is the FQDN of the NPS system.</p> <p>For more information, see the NNMi documentation library.</p> |
| <p>Network configuration and compliance management with NA</p> | <p><code>http://<NA_system>:<port></code> or <code>https://<NA_system>:<port></code></p> <p>In this instance, <code><NA_system></code> is the FQDN of the NA system.</p> <p>For more information, see the NA documentation library.</p> |

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Feedback on Getting Started Guide (Network Operations Management Suite 2017.07)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to network-management-doc-feedback@hpe.com.

We appreciate your feedback!