

HP Network Node Manager i Software

For the Windows[®], HP-UX, Linux, and Solaris operating systems

Software Version: NNMi 9.23

HP Network Node Manager i Software—HP SiteScope Integration Guide

Document Release Date: May 2013
Software Release Date: May 2013



Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notice

© Copyright 2008–2013 Hewlett-Packard Development Company, L.P.

Trademark Notices

Adobe® is a trademark of Adobe Systems Incorporated.

HP-UX Release 10.20 and later and HP-UX Release 11.00 and later (in both 32 and 64-bit configurations) on all HP 9000 computers are Open Group UNIX 95 branded products.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

Oracle and Java are registered trademarks of Oracle and/or its affiliates.

UNIX® is a registered trademark of The Open Group.

Oracle Technology — Notice of Restricted Rights

Programs delivered subject to the DOD FAR Supplement are 'commercial computer software' and use, duplication, and disclosure of the programs, including documentation, shall be subject to the licensing restrictions set forth in the applicable Oracle license agreement. Otherwise, programs delivered subject to the Federal Acquisition Regulations are 'restricted computer software' and use, duplication, and disclosure of the programs, including documentation, shall be subject to the restrictions in FAR 52.227-19, Commercial Computer Software-Restricted Rights (June 1987). Oracle America, Inc., 500 Oracle Parkway, Redwood City, CA 94065.

For the full Oracle license text, see the license-agreements directory on the NNMi product DVD.

Acknowledgements

This product includes software developed by the Apache Software Foundation.
(<http://www.apache.org>)

This product includes software developed by the Indiana University Extreme! Lab.
(<http://www.extreme.indiana.edu>)

Available Product Documentation

In addition to this guide, the following documentation is available for NNMi:

- *HP Network Node Manager i Software Documentation List*—Available on the HP manuals web site. Use this file to track additions to and revisions within the NNMi documentation set for this version of NNMi. Click a link to access a document on the HP manuals web site.
- *NNMi Installation Guide*—This is an interactive document, and is available on the NNMI 9.20 product media. See the `nnmi_interactive_installation_en_README.txt` file, located on the product media, for more information.
- *HP Network Node Manager i Software Upgrade Reference*—Available on the HP manuals web site.
- *HP Network Node Manager i Software Release Notes*—Available on the product media and the NNMi management server.
- *HP Network Node Manager i Software System and Device Support Matrix*—Available on the product media and the NNMi management server.
- *HP Network Node Manager iSPI Network Engineering Toolset Planning and Installation Guide*—Available on the NNM iSPI NET diagnostics server product media.

To check for recent updates or to verify that you are using the most recent edition of a document, go to:

<http://h20230.www2.hp.com/selfsolve/manuals>

This site requires that you register for an HP Passport and sign in. To register for an HP Passport ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

Or click the **New users - please register** link on the HP Passport sign-in page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Support

Visit the HP Software Support Online web site at:

www.hp.com/go/hpsoftwaresupport

This web site provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support web site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches and associated patch documentation
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract. To register for an HP Passport user ID, go to:

<http://h20229.www2.hp.com/passport-registration.html>

To find more information about access levels, go to:

http://h20230.www2.hp.com/new_access_levels.jsp

Contents

HP NNMi–HP SiteScope Events Integration	9
About the HP NNMi–HP SiteScope Events Integration	10
Value	10
Integrated Products	10
Supported SiteScope Monitors	10
Documentation	10
Enabling the HP NNMi–HP SiteScope Events Integration	11
Using the HP NNMi–HP SiteScope Events Integration	12
SNMP Trap Formats used to Identify the SiteScope Object	13
Changing the HP NNMi–HP SiteScope Events Integration	15
Disabling the HP NNMi–HP SiteScope Events Integration	15
Troubleshooting the HP NNMi–HP SiteScope Events Integration	15
NNMi Incident Views Do Not Display SiteScopeAlertEvent Incidents	15
HP SiteScope Does Not Open Correctly from the URL in a SiteScope Incident	16
HP NNMi–HP SiteScope System Metrics Integration	16
About the HP NNMi–HP SiteScope System Metrics Integration	17
Value	17
Integrated Products	18
Supported SiteScope Monitors	18
Documentation	18
Enabling the HP NNMi–HP SiteScope System Metrics Integration	19
Using the HP NNMi–HP SiteScope System Metrics Integration	21
Changing the HP NNMi–HP SiteScope System Metrics Integration	24
Change the Connection from HP NNMi to the NPS	24
Change the Connection from HP SiteScope to HP NNMi	24
Disabling the HP NNMi–HP SiteScope System Metrics Integration	24
Disable the Connection from HP NNMi to the NPS	24
Disable the Connection from HP SiteScope to HP NNMi	25
Troubleshooting the HP NNMi–HP SiteScope System Metrics Integration	25
Verify the Integration Data Flow	26
Verify the HP NNMi Side of the Integration Configuration	27
No Report Data for Nodes in a NAT'd Environment Behind a Firewall	28
HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference	28

HP SiteScope

You can use HP SiteScope as a data collector for HP Network Node Manager i Software (HP NNMi), which is an event console used for network monitoring. HP SiteScope monitors the application side of the systems that HP NNMi is monitoring, and uses SNMP Traps to forward event data from HP SiteScope to HP NNMi. HP SiteScope can also report metrics data to HP NNMi.

For information about purchasing HP SiteScope, contact your HP sales representative.

This chapter describes the following integrations:

- [HP NNMi–HP SiteScope Events Integration](#) on page 9
- [HP NNMi–HP SiteScope System Metrics Integration](#) on page 16

For information about the NNM iSPI for IP Telephony–HP SiteScope integration, see *Configuring Integration with SiteScope* the NNM iSPI for IP Telephony help.

HP NNMi–HP SiteScope Events Integration

This section contains the following topics:

- [About the HP NNMi–HP SiteScope Events Integration](#) on page 10
- [Enabling the HP NNMi–HP SiteScope Events Integration](#) on page 11
- [Using the HP NNMi–HP SiteScope Events Integration](#) on page 12
- [SNMP Trap Formats used to Identify the SiteScope Object](#) on page 13
- [Changing the HP NNMi–HP SiteScope Events Integration](#) on page 15
- [Disabling the HP NNMi–HP SiteScope Events Integration](#) on page 15
- [Troubleshooting the HP NNMi–HP SiteScope Events Integration](#) on page 15

About the HP NNMi–HP SiteScope Events Integration

With the HP NNMi–HP SiteScope Events integration, SiteScope servers send SNMP traps to the NNMi management server when the configured SiteScope monitor alert conditions are met. HP NNMi converts the monitor alert traps into NNMi incidents. From these incidents, an NNMi console user can launch HP SiteScope in the context of that monitor. For the list of SNMP trap formats used to identify the SiteScope object sending the message to the NNMi management server, see [Table 1](#) on page 13.

Value

By providing SiteScope incident configuration in HP NNMi, the HP NNMi–HP SiteScope Events integration simplifies the process of interpreting SNMP traps regarding status of devices and applications that SiteScope monitors.

These traps are generated only for alerts configured in HP SiteScope. The integration makes these traps visible in the NNMi console as incidents. HP NNMi automatically closes these alert incidents if HP SiteScope indicates that the alert condition no longer exists (becomes normal).

Integrated Products

The information in this section applies to the following products:

- HP SiteScope



For the list of supported versions, see the *NNMi System and Device Support Matrix* located at <http://h20230.www2.hp.com/selfsolve/manuals>.

- NNMi 9.23

HP NNMi and HP SiteScope can be installed on the same computer or on different computers.

For the most recent information about supported hardware platforms and operating systems, see the support matrices for both products.

Supported SiteScope Monitors

The HP NNMi–HP SiteScope Event integration receives SNMP traps sent from the SiteScope server for any SiteScope monitor type, as configured in HP SiteScope. The SiteScope alert configuration must include the NNMi management server as the trap target.

The SiteScope trap configuration determines whether the SiteScope server or the managed host is set as the source object. If the source object is not managed in HP NNMi, the **Discard Unresolved SNMP Traps** check box setting on the **Incident Configuration** form determines how HP NNMi handles that trap. For more information, see *Handle Unresolved Incoming Traps* in the NNMi help.

Documentation

This section describes how to configure and use the integration.

For more details about the procedures performed in SiteScope, see the *HP SiteScope Using SiteScope* guide, which is included on the HP SiteScope product media.

Enabling the HP NNMi–HP SiteScope Events Integration

To enable the HP NNMi–HP SiteScope Events integration, configure one or more SiteScope monitors to send SNMP traps to HP NNMi. The high-levels steps are as follows:



The NNMi incident types are enabled by default.

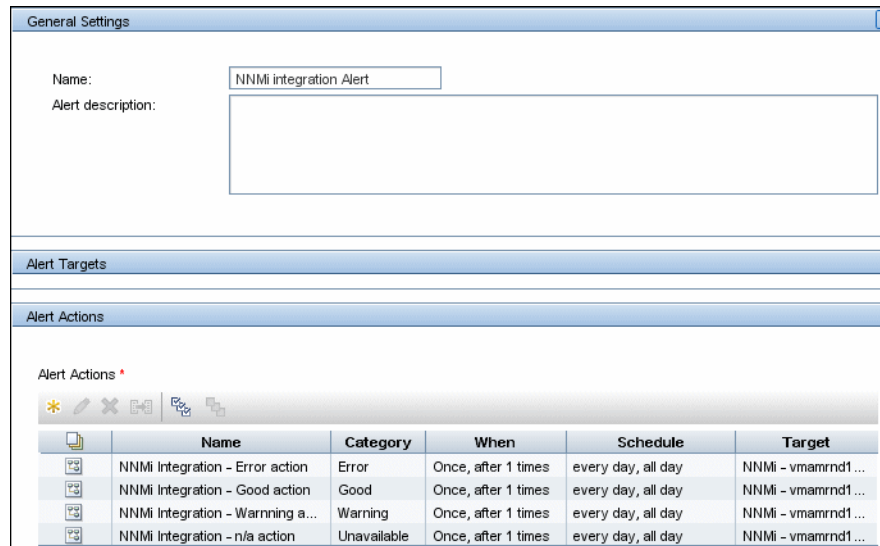
- 1 In the SiteScope user interface, create an SNMP preference to send the SiteScope event trap to the NNMi management server. In SiteScope, select **Preferences > SNMP Preferences**; use the **SNMP Preferences** page to configure both send and receive SNMP trap preferences. Create a preference for the server to which you want to report the SNMP trap using the following settings:

- a **SNMP trap ID.** Select **Enterprise-Specific SNMP trap ID**, and enter **1**.
- b **SNMP object ID.** Select **Preconfigured SNMP object IDs** and choose **HP SiteScope Event** from the list; deselect **Add System OID as a prefix to SNMP Trap**.
- c Make sure **Add System OID as a prefix to SNMP Trap** is *NOT checked*. The **Add System OID as a prefix to SNMP Trap** checkbox *should not be checked*.

Complete the other SNMP trap fields as required. For user interface details, see the *SNMP preferences* section in the *SiteScope Help*.

- 2 In the SiteScope user interface, create an alert that sets the SNMP trap preference as the alert action target. In this alert, create an alert action for each possible monitor status. See [Figure 1](#) on page 12 when completing these steps.
 - a In the SiteScope monitor tree, right-click the **SiteScope** root and select **New > Alert**.
 - b In the Alert Targets panel, select the groups, monitors, or both, to trigger this alert.
 - c In the Alert Actions panel, click **New Alert Action** and select **SNMP Trap** action type.
 - d In the **Alert Action: SNMP Trap** dialog box, configure an SNMP Trap alert action for each monitor status.
 - In the Action Type Settings panel, select **SiteScopeEvent.xml** from the **Template** list. This template contains the format and content of messages sent by SNMP to NNMi when a SNMP trap is triggered. You can copy and customize this template which is located in the `<SiteScope root directory>\templates.snmp` file.
 - In the Status Trigger panel, select an SNMP trap status.
 - Repeat [step c](#) for each monitor status in the Status Trigger panel (Error, Warning, Good, and Unavailable).

Figure 1 Configuring an SNMP Trap Alert Action for Each Monitor Status



- When an alert is triggered in SiteScope as a result of a monitor status change, the alert reports an SNMP trap to the NNMi management server. NNMi reads the SNMP trap, translates the attributes, and displays the SiteScope event data in NNMi's **Incident Browsing** workspace.

Using the HP NNMi–HP SiteScope Events Integration

HP NNMi defines two incident types for the SiteScope monitor alert traps:

- SiteScopeAlertEvent1 converts SNMPv1-format traps to NNMi incidents.
- SiteScopeAlertEvent2 converts SNMPv2c-format traps to NNMi incidents.

The configuration of these incident types is identical. The SiteScope SNMP trap preference determines whether HP SiteScope sends SNMPv1- or SNMPv2c-format traps to HP NNMi.

Within the incident configuration, incident severity is set as follows:

- The default incident status is CRITICAL, which maps to SiteScope event severity of ERROR, NOTAVAILABLE, or NODATA.
- Incident enrichment sets the incident status to WARNING when the SiteScope event severity is WARNING.
- Incident enrichment sets the incident status to NORMAL when the SiteScope event severity is GOOD.

Each SiteScopeAlertEvent trap contains a URL for launching SiteScope in the context of that monitor. This URL is available in the .1.3.6.1.4.1.11.15.1.2.1.4 custom incident attribute (CIA) on the **Custom Attributes** tab of the **Incident** form. The URL passes encrypted credentials for logging on to SiteScope as the Integration Viewer user.

For each SiteScopeAlertEvent incident, HP NNMi performs pairwise handling on the SiteScopeAlertEvent traps by comparing data included in the traps' payloads. Each trap contains an event key varbind (OID .1.3.6.1.4.1.11.15.1.3.1.7). If a trap also contains an event close key pattern varbind (OID .1.3.6.1.4.1.11.15.1.3.1.8), HP NNMi compares the value of the event close key pattern varbind with that of the event key varbind in existing incidents. HP NNMi closes the matching existing incidents and

correlates them under the incoming trap. HP NNMi adds the `cia.reasonClosed` CIA and a correlation note to each of the closed incidents. Additionally, HP NNMi automatically closes each `SiteScopeAlertEvent` incident of `NORMAL` status.

The SiteScope SNMP traps appear in the System and Applications family.

For more information about the contents of the `SiteScopeAlertEvent` trap, the `HP-SITESCOPE-MIB`, which is delivered with HP NNMi.

SNMP Trap Formats used to Identify the SiteScope Object

Table 1 shows a list of SNMP trap formats used to identify the SiteScope object sending the message to the NNMi management server. This enables an NNMi console user to launch SiteScope in the context of that monitor.

The SNMP trap formats are stored in the `SiteScopeEvent.xml` file, which is located in the `<SiteScope root directory>\templates.snmp` folder.

Table 1 SNMP Trap Format for SiteScope Objects Sent to NNMi

Field Name	Object ID (OID)	Description	Values
Enterprise OID	.1.3.6.1.4.1.11.15.1	SiteScope root Object ID	.1.3.6.1.4.1.11.15.1
Trap OID	.1.3.6.1.4.1.11.15.1.0	SNMP Trap Object ID	(OID) For V1: [1.3.6.1.4.1.11.15.1.4.0.1] For V2: [1.3.6.1.4.1.11.15.1.4.1]
SiteScope Host	.1.3.6.1.4.1.11.15.1.1.2	IP address or host name of the SiteScope server	(IpAddress) [16.55.244.182] or (OctetString) [sisserver.mydomain]
Provider (Collector)	.1.3.6.1.4.1.11.15.1.1.3	SiteScope application name	(OctetString) SiteScope
Monitor Name	.1.3.6.1.4.1.11.15.1.2.1.1	SiteScope monitor name	(OctetString) [Memory monitor on myhost.mydomain]
Monitor Type	.1.3.6.1.4.1.11.15.1.2.1.2	SiteScope monitor type	(OctetString) [Memory Monitor]
Monitor ID	.1.3.6.1.4.1.11.15.1.2.1.3	Monitor unique ID	(OctetString) [067e6162-3b6f-4ae2-a171-2470b63dff00]

Table 1 SNMP Trap Format for SiteScope Objects Sent to NNMi (cont'd)

Field Name	Object ID (OID)	Description	Values
Monitor Drill-Down URL Secured	.1.3.6.1.4.1.11.15.1.2.1.4	URL that opens SiteScope in context of the alerted monitor, without silent log on information. This permits configuration by integration instance level. To get drill down URL with user credentials, change the reference value from monitorDrilldownUrlSecured to monitorDrilldownUrl.	(OctetString) http://sisserver:8080/SiteScope/servlet/Main?activeid=__SiteScopeRoot__&activerighttop=dashboard&view=new&dashboard_view=Details&dashboard_model=true&dashb
Monitor Target Host	.1.3.6.1.4.1.11.15.1.2.1.5	Monitor target host	(IpAddress) [16.55.244.182] or (OctetString) [myhost.mydomain]
Monitor Target IP	.1.3.6.1.4.1.11.15.1.2.1.6	Monitor target IP address	(IpAddress) [16.55.244.182]
Monitor Full Name	.1.3.6.1.4.1.11.15.1.2.1.7	SiteScope monitor name including full path from the root	(OctetString) [Memory monitor on myhost.mydomain]
Title	.1.3.6.1.4.1.11.15.1.3.1.1	SiteScope Event Title	(OctetString) [Alert 'Memory Alert' was triggered on monitor 'Memory monitor on myhost.mydomain' due to a status change]
Event Source	.1.3.6.1.4.1.11.15.1.3.1.2	Source of the event (alert or metric)	(OctetString)
Severity	.1.3.6.1.4.1.11.15.1.3.1.3	SiteScope event severity	(Integer) [0,1,2,3] For [unavailable, good, warning, error]
Event Time	.1.3.6.1.4.1.11.15.1.3.1.4	Original event time in milliseconds	(TimeTicks) 1287316779
Value	.1.3.6.1.4.1.11.15.1.3.1.5	(Not for alerts flow)	(OctetString) [running] or [25] or [n/a] - for alerts

Table 1 SNMP Trap Format for SiteScope Objects Sent to NNMi (cont'd)

Field Name	Object ID (OID)	Description	Values
Event Description	.1.3.6.1.4.1.11.15.1.3.1.6	Description of fired event	(OctetString)
Event Key	.1.3.6.1.4.1.11.15.1.3.1.7	Key of the event	(OctetString) [sisserver:067e6162-3b6f-4ae2-a171-2470b63dff00:Memory]
Event Close Key Pattern	.1.3.6.1.4.1.11.15.1.3.1.8	Key to identify paring events	[sisserver:067e6162-3b6f-4ae2-a171-2470b63dff00]

Changing the HP NNMi–HP SiteScope Events Integration

To change the HP NNMi–HP SiteScope Events integration, do any of the following:

- In the NNMi console, edit the incident configurations for the SiteScopeAlertEvent1 and SiteScopeAlertEvent2 SNMP traps.
- In the SiteScope user interface, change the monitor alert configurations.

Disabling the HP NNMi–HP SiteScope Events Integration

To disable the HP NNMi–HP SiteScope Events integration, do one or both of the following:

- In the NNMi console, clear the **Enabled** check box on the SiteScopeAlertEvent1 and SiteScopeAlertEvent2 **SNMP Trap Configuration** forms.
- In the SiteScope user interface, do one of the following:
 - Remove monitors and groups from the alert action target.
 - Disable or delete the SNMP trap alert associated with the SiteScope monitors.

Troubleshooting the HP NNMi–HP SiteScope Events Integration

This section contains the following topics:

- [NNMi Incident Views Do Not Display SiteScopeAlertEvent Incidents](#) on page 15
- [HP SiteScope Does Not Open Correctly from the URL in a SiteScope Incident](#) on page 16

NNMi Incident Views Do Not Display SiteScopeAlertEvent Incidents

If the NNMi incident views do not contain all of the expected SiteScopeAlertEvent incidents, follow these steps:

- 1 In the NNMi console, check the SiteScopeAlertEvent1 and SiteScopeAlertEvent2 incident configurations:
 - Verify that the SiteScopeAlertEvent1 and SiteScopeAlertEvent2 incident types are enabled.
 - If interface or node settings are configured, verify that they are not blocking expected SiteScope traps.

- 2 In the NNMi console, check the filter for the incident view.
Compare the current filter with the SiteScopeAlertEvent1 and SiteScopeAlertEvent2 incident configurations. Verify that the filter does not block these incident types.
- 3 If the **Discard Unresolved SNMP Traps** check box on the **Incident Configuration** form is selected, verify that the nodes associated with SiteScope monitors are in the NNMi topology.
The SiteScope trap configuration determines whether the SiteScope server or the managed host is set as the source object.
- 4 In the SiteScope user interface, verify the configuration of the SNMP trap preference for the HP SiteScope event trap.
- 5 In the SiteScope user interface, verify that each expected monitor alert sets the SNMP trap preference as the alert action target.
- 6 In the SiteScope user interface, send a test trap to HP NNMi.

HP SiteScope Does Not Open Correctly from the URL in a SiteScope Incident

If HP SiteScope does not correctly launch from the URL in the .1.3.6.1.4.1.11.15.1.2.1.4 CIA on the **Custom Attributes** tab of the **Incident** form, follow these steps:

- 1 Verify access to the SiteScope user interface:
 - a In a new browser window, open the SiteScope user interface directly.
If the SiteScope user interface does not work correctly, verify that the browser configuration matches the requirements described in the *HP SiteScope Release Notes*.
 - b Copy the URL from the .1.3.6.1.4.1.11.15.1.2.1.4 CIA to the browser address field. Delete the logon credentials. In the SiteScope logon window, enter your SiteScope logon information.
- 2 Verify the SiteScope Integration Viewer user credentials in the URL. Copy the URL from the .1.3.6.1.4.1.11.15.1.2.1.4 CIA to the browser address field. (Keep the logon credentials.)

If this test fails, ask the SiteScope administrator about the status of the Integration Viewer user. If the password for the Integration Viewer user has changed recently, the URLs to SiteScope that existed before the password change do not work.

HP NNMi–HP SiteScope System Metrics Integration

This section contains the following topics:

- [About the HP NNMi–HP SiteScope System Metrics Integration](#) on page 17
- [Enabling the HP NNMi–HP SiteScope System Metrics Integration](#) on page 19
- [Using the HP NNMi–HP SiteScope System Metrics Integration](#) on page 21
- [Changing the HP NNMi–HP SiteScope System Metrics Integration](#) on page 24
- [Disabling the HP NNMi–HP SiteScope System Metrics Integration](#) on page 24

- [Troubleshooting the HP NNMi–HP SiteScope System Metrics Integration](#) on page 25
- [HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference](#) on page 28

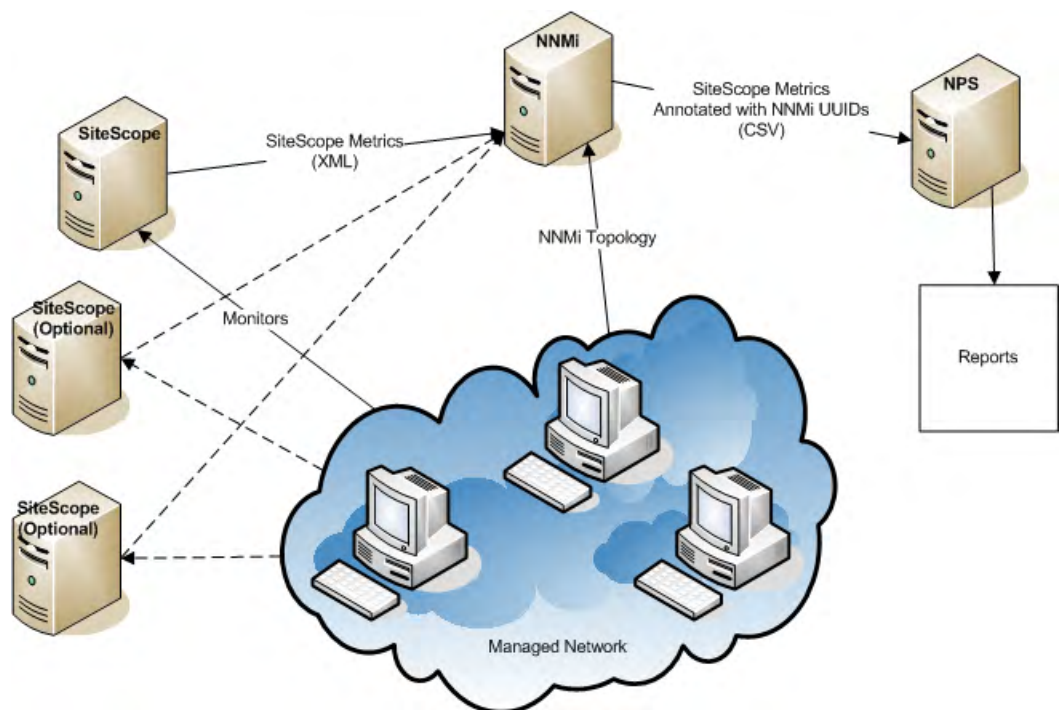
About the HP NNMi–HP SiteScope System Metrics Integration

The HP NNMi–HP SiteScope System Metrics integration populates the HP NNMi iSPI Performance for Metrics Network Performance Server (NPS) with system metrics data collected by SiteScope monitors. The integration handles data as follows:

- 1 HP SiteScope collects monitor data into XML files and passes the collected data to HP NNMi at the reporting interval of the SiteScope data integration preference.
- 2 HP NNMi augments the SiteScope data with NNMi node UUIDs.
- 3 HP NNMi places the augmented data in the configured location for NPS retrieval.
- 4 The NPS consumes the augmented data at the NPS accumulation interval.

Figure 2 shows the data flow for the HP NNMi–HP SiteScope System Metrics integration.

Figure 2 HP NNMi–HP SiteScope System Metrics Integration Data Flow



Value

The HP NNMi–HP SiteScope System Metrics integration enables reporting of SiteScope-collected metrics in the NPS.

Integrated Products

The information in this section applies to the following products:

- HP SiteScope



For the list of supported versions, see the *NNMi System and Device Support Matrix*.

- NNMi 9.23
- HP NNM iSPI Performance for Metrics version 9.20



This integration requires an HP NNM iSPI Performance for Metrics license.

HP NNMi, the HP NNM iSPI Performance for Metrics, and HP SiteScope can be installed on the same computer or on different computers.

For the most recent information about supported hardware platforms and operating systems, see the support matrices for all products.

Supported SiteScope Monitors

The HP NNMi–HP SiteScope System Metrics integration understands data from the following types of SiteScope monitors:

- CPU Utilization Monitor
- Dynamic Disk Space Monitor
- Disk Space Monitor
- Memory Monitor
- The Process monitored object of the Microsoft Windows Resources Monitor
- The Process monitored object of the UNIX Resources Monitor

The nodes being monitored must be managed in HP NNMi. The integration discards data for nodes that are not in the NNMi topology and for unmanaged nodes.

Documentation

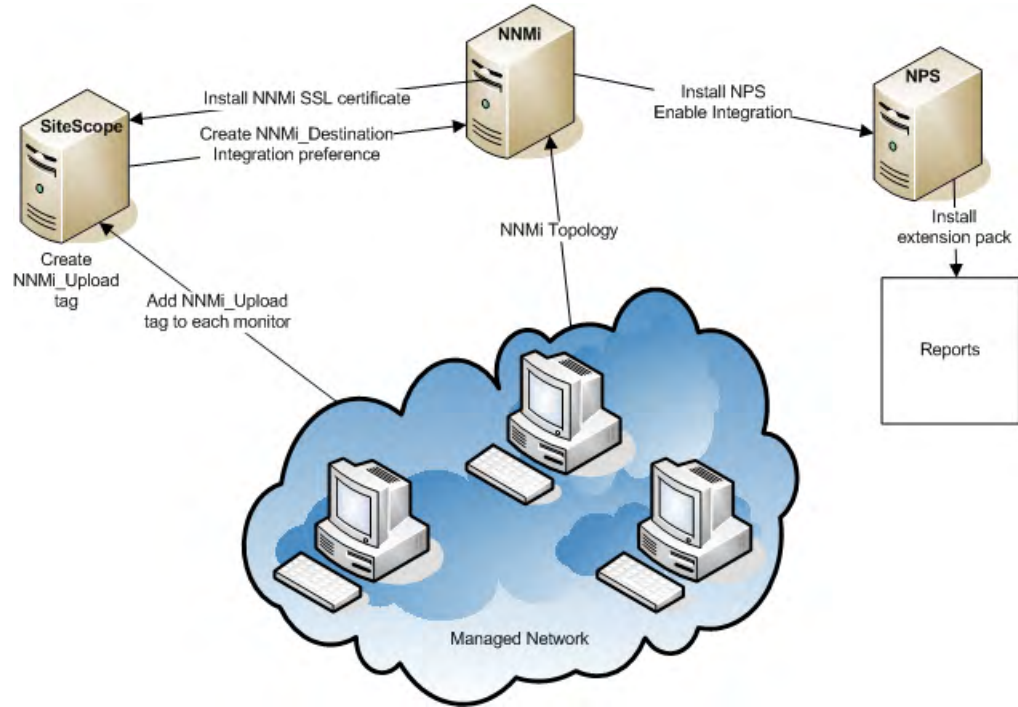
This section describes how to configure HP NNMi to communicate with HP SiteScope and the NPS reports available for the SiteScope-collected data.

The *HP SiteScope Using SiteScope* guide, which is included on the SiteScope product media, describes how to configure SiteScope monitors.

Enabling the HP NNMi–HP SiteScope System Metrics Integration


Figure 3 shows the configuration points for the HP NNMi–HP SiteScope System Metrics integration.



Figure 3 HP NNMi–HP SiteScope System Metrics Integration Configuration Points



To enable the HP NNMi–HP SiteScope System Metrics integration, follow these steps:

- 1 In the NNMi console, enable integration and configure the NPS with the SiteScope system metrics integration pack:
 - a *Optional.* Create an NNMi user with the Web Service Client role that the integration uses to connect to the NNMi console.
Alternatively, you can use an existing user with the Web Service Client role for the integration.
 - b Open the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form (**Integration Module Configuration > HP SiteScope System Metrics**).
 - c Select the **Enable Integration** check box.
 - d Enter the information for connecting to the NNMi management server. For information about these fields, see [HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference](#) on page 28.
 - e Click **Submit** at the bottom of the form.
The window displays a status message. If the message indicates a problem with the NNMi credentials, click **Return**, and then adjust the values as suggested by the text of the error message.
 - f From the results window, copy the data integration URL to a temporary location. You will use this value while configuring HP SiteScope.

- 2 In the SiteScope user interface, configure the SiteScope server for SSL communications with HP NNMi:
 - a From the **Preferences** workspace, open the **Certificate Management** page, and then click **Import Certificates** .
 - b Under **Source Selection**, provide information to identify the NNMi management server to HP SiteScope:
 - Verify that **Host** is selected, and then enter the fully-qualified domain name of the NNMi management server.
 - If necessary, change the port number to match the HTTPS port on the NNMi management server.

For more information, see [NNMi Port](#) on page 29.
 - c Click **Load**.
The NNMi certificate information appears under **Loaded Certificates**. Note the certificate alias.
 - d Select the NNMi certificate, and then click **Import**.
The NNMi certificate is listed on the **Certificate Management** page.
- 3 In the SiteScope user interface, create a search/filter tag that you will use to identify the NNMi target.
 - a From the **Preferences** workspace, open the **Search/Filter Tag** page, and then click **New Tag** .
 - b Enter a tag name (for example, NNMi_upload) and at least one value.
- 4 In the SiteScope user interface, configure the connection between HP SiteScope and HP NNMi:
 - a From the **Preferences** workspace, open the **Integration Preferences** page, and then click **New Integration** , and then click **Data Integration**.
 - b Under **General Settings**, enter a name (for example, NNMi_receiver) and optional description.
 - c Under **Data Integration Preferences Settings**, include the following settings:
 - In the **Receiver URL** field, paste the URL you saved at the end of [step 1](#) of this procedure (for example: `https://nnmi_server.example.com:443/sitescope-adapter/sitescopereceiver`).
 - Select the **GZIP compression** check box.
 - Clear the **Include additional data** and **Error on redirect** check boxes. (These are the default settings.)
 - Select the **Authentication when requested** check box. (This is the default setting.)
 - Clear the **Disable integration** check box. (This is the default setting.)

For all other settings, the default configuration is acceptable.
 - d Under **Web Server Security Settings**, enter the user name and password for the NNMi user that you specified on the integration configuration form in [step 1](#).
 - e Under **Reporting Tags**, select the search/filter tag that you created in [step 3](#) (for example, NNMi_upload).

- 5 In the SiteScope user interface, configure the monitors that contribute to the SiteScope reports in the NPS:
 - a As needed, create new monitors or identify existing monitors of the supported types:
 - CPU Utilization Monitor
 - Disk Space Monitor
 - Memory Monitor
 - The Process monitored object of the Microsoft Windows Resources Monitor
 - The Process monitored object of the UNIX Resources Monitor
 - b Add the search/filter tag that you created in [step 3](#) (for example, NNMi_upload) to the monitors that should pass data to HP NNMi.

The integration can only process data for managed nodes in the NNMi topology. So, only apply the tag to monitors on nodes in the NNMi topology.
 - c Recommended. Collect the monitors that pass data to HP NNMi in one monitor group.

Using the HP NNMi–HP SiteScope System Metrics Integration

The HP NNMi–HP SiteScope System Metrics integration provides the following SiteScope monitor reports in the NPS:

- Calendar
- Chart Detail
- Heat Chart
- Managed Inventory
- Most Changed
- Peak Period
- Threshold Sleeve
- Top N
- Top N Chart

To access the SiteScope system metric reports, follow these steps:

- 1 In the NNMi console, click **Actions > Reporting – Report Menu**.
- 2 In the **Reports** workspace of the NPS, open the **SiteScope System Metrics > SiteScope > System_Metrics** folder.

Best practice

The following tips apply to the SiteScope system metric reports:

- For some reports, such as Top N, a report that focuses on one type of SiteScope monitor is easier to interpret than a report on multiple monitor types. In the topology filter, select a single value for the ComponentType attribute.
- If the Node Name attribute is not set, the report includes data for all monitors of the selected type. To limit the report data to one or more specific nodes, set the Node Name attribute accordingly. If the ComponentType attribute is set, the Node Name selection list shows only those nodes that have the selected monitor type.

- For reports on Windows Resource Monitors, it might be helpful to filter out the `_Total on` and `Idle on` data. To do so, in the topology filter, set the `ComponentName` attribute to not equal `_Total on` and `Idle on`.

Table 2 lists the grouping options added by the integration.

Table 2 Available Report Grouping Options

Option Name	Description
Windows Process – Creating Process	An integer value that identifies the process ID (PID) of the parent process that created the measured process.
Windows Process – ID Process	An integer value that identifies the process ID (PID) of the measured process.
Unix Process – PID	An integer value that identifies the process ID (PID) of the measured process.
Unix Process – User	An integer value that identifies the UNIX user ID (uid) of the measured process.
Qualified Component Name	A string value that identifies the metric name and the node the metric is collected for. The qualified component name is in the form <code><metric_name> on <node_long_name></code> (for example: <code>disk percent full on device.example.com</code>). Qualified Component Name is the recommended grouping selection.

Table 3 lists the metrics added by integration. For each metric, you can select to report the actual values. For many metrics, you can also report threshold information. For information about interpreting the reported values, see the documentation for each operating system.

Table 3 Available SiteScope System Metrics

Monitor Type	Available Metrics
CPU Utilization ¹	<ul style="list-style-type: none"> • CPU Utilization
Disk Space	<ul style="list-style-type: none"> • Disk MB Free • Disk Percent Full
Memory ²	<ul style="list-style-type: none"> • Memory Pages/Sec • Virtual Memory Used Percent • Virtual Memory MB Free • Swap Memory Used Percent • Swap Memory MB Free • Physical Memory Used Percent • Physical Memory MB Free

Table 3 Available SiteScope System Metrics (cont'd)

Monitor Type	Available Metrics
Microsoft Windows Resources	<ul style="list-style-type: none"> • Windows Process – Percent Privileged Time • Windows Process – Percent Processor Time • Windows Process – Percent User Time • Windows Process – Creating Process ID • Windows Process – Elapsed Time • Windows Process – Handle Count • Windows Process – ID Process • Windows Process – IO Data Bytes/sec • Windows Process – IO Data Operations/sec • Windows Process – IO Data Other Bytes/sec • Windows Process – IO Other Operations/sec • Windows Process – IO Read Bytes/sec • Windows Process – IO Read Operations/sec • Windows Process – IO Write Bytes/sec • Windows Process – IO Write Operations/sec • Windows Process – Page Faults • Windows Process – Page File Bytes • Windows Process – Page File Bytes Peak • Windows Process – Pool Nonpaged Bytes • Windows Process – Pool Paged Bytes • Windows Process – Priority Base • Windows Process – Private Bytes • Windows Process – Thread Count • Windows Process – Virtual Bytes • Windows Process – Virtual Bytes Peak • Windows Process – Working Set • Windows Process – Private Working Set • Windows Process – Working Set Peak
UNIX Resources ³	<ul style="list-style-type: none"> • Unix Process – CPU Percent • Unix Process – Memsize • Unix Process – Number_Running • Unix Process – PID • Unix Process – User

1 HP SiteScope summarizes CPU utilization data collected on the HP-UX and AIX operating systems as a single average value for the system, not per specific CPU. Because the integration does not send average values to NPS, CPU utilization data is not available for the HP-UX and AIX operating systems.

2 HP SiteScope does not collect all of these metrics for all operating systems.

3 For the UNIX Resources monitor on the HP-UX operating system, HP SiteScope collects CPU percent, number running, and process ID only. Memory size and user data are not available for HP-UX nodes.

Changing the HP NNMi–HP SiteScope System Metrics Integration

You can change the HP NNMi–HP SiteScope System Metrics integration in the following ways:

- [Change the Connection from HP NNMi to the NPS](#)
- [Change the Connection from HP SiteScope to HP NNMi](#)

Change the Connection from HP NNMi to the NPS

To change the information for connecting to the NPS, follow these steps:

- 1 In the NNMi console, open the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form (**Integration Module Configuration > HP SiteScope System Metrics**).
- 2 Modify the values as appropriate. For information about the fields on this form, see [HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference](#) on page 28.
- 3 Verify that the **Enable Integration** check box at the top of the form is selected, and then click **Submit** at the bottom of the form.

The changes take effect immediately. The effect is to update the data integration URL displayed on the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form. If this URL changes, update the SiteScope data integration preference as described in [step 4](#) on page 20.

Change the Connection from HP SiteScope to HP NNMi

To change the information for the SiteScope data receiver, follow these steps:

- 1 In the SiteScope interface, open the data integration that defines the connection between HP SiteScope and HP NNMi (from **Preferences > Integration Preferences**).
- 2 Modify the values as appropriate. For information about the fields on this form, see the SiteScope help.
- 3 Verify that the **Disable Integration** check box is cleared, and then click **OK** at the bottom of the form.

The changes take effect immediately.

Disabling the HP NNMi–HP SiteScope System Metrics Integration

To completely disable the HP NNMi–HP SiteScope System Metrics integration, complete both of the following procedures:

- [Disable the Connection from HP NNMi to the NPS](#)
- [Disable the Connection from HP SiteScope to HP NNMi](#)

Disable the Connection from HP NNMi to the NPS

To stop HP NNMi from processing the SiteScope monitor data, follow these steps:

- 1 In the NNMi console, open the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form (**Integration Module Configuration > HP SiteScope System Metrics**).

- 2 Clear the **Enable Integration** check box at the top of the form, and then click **Submit** at the bottom of the form.

The changes take effect immediately.

Disable the Connection from HP SiteScope to HP NNMi

To stop HP SiteScope from sending monitor data to the NNMi management server, follow these steps:

- 1 In the SiteScope interface, open the data integration that defines the connection between HP SiteScope and HP NNMi (from **Preferences > Integration Preferences**).
- 2 Select the **Disable Integration** check box, and then click **OK** at the bottom of the form.

The changes take effect immediately.

Troubleshooting the HP NNMi–HP SiteScope System Metrics Integration

Messages related to the processing of SiteScope data, including XML parsing errors and monitor data for nodes not in the NNMi topology, are logged to the `nnm.0.0.log` (and older) files on the NNMi management server. If you encounter problems on the NNMi management server, check these log files for SEVERE and WARNING messages for the classes beginning with the string `com.hp.ov.nnm.sitescope.im` or `com.hp.ov.nms.im.sitescope`. For more information, see *NNMi Logging* in the *NNMi Deployment Reference*.

The SiteScope log file collects messages about problems with the data integration. Look in the SiteScope log file for data transmission errors, which most likely result from one or more of the following configuration problems:

- Certificate errors; the NNMi certificate is not properly loaded into HP SiteScope.
- User name and password authentication errors; the values for **NNMi User**, **NNMi Password**, or both are incorrect on the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form in the NNMi console.
- Integration module enablement errors; the **Enable Integration** check box is cleared on the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form in the NNMi console.

For more information on the SiteScope log file, see the SiteScope documentation.

This section contains the following topics:

- [Verify the Integration Data Flow](#) on page 26
- [Verify the HP NNMi Side of the Integration Configuration](#) on page 27
- [No Report Data for Nodes in a NAT'd Environment Behind a Firewall](#) on page 28

Verify the Integration Data Flow

XML files from SiteScope

The system metrics integration places the SiteScope data samples as *.gz files in the following directory on the NNMi management server:

- **Windows:**
%NnmDataDir%\shared\perfspi\datafiles\metric\working\sitescope
- **UNIX:**
\$NnmDataDir/shared/perfspi/datafiles/metric/working/sitescope

By default, the system metrics integration places a new file in this directory every minute, and HP NNMi consumes these files every five minutes.



The reporting interval of the SiteScope data integration preference determines the frequency HP SiteScope sends data samples to the system metrics integration. The NNMi consumption rate is not customer configurable.

If the `sitescope` directory remains empty for more than two minutes, HP SiteScope is not delivering the files. In this case, do the following:

- 1 In the SiteScope user interface, verify that the data integration preference is enabled and configured is as described in [step 4](#) on page 20.

Also verify the value of the **Reporting Interval** field.

- 2 In the SiteScope user interface, verify that at least one monitor configuration includes the search/filter tag associated with the data integration preference.

If files accumulate in the `sitescope` directory, HP NNMi is not consuming the files. In this case, in the NNMi console, verify that the HP NNMi–HP SiteScope System Metrics integration is configured correctly. For detailed information, see [Verify the HP NNMi Side of the Integration Configuration](#) on page 27.

CSV files from NNMi

HP NNMi places `SiteScopeMetrics_*.csv.gz` files for NPS consumption in the following directory on the NNMi management server:

- **Windows:** %NnmDataDir%\shared\perfspi\datafiles\metric\final
- **UNIX:** \$NnmDataDir/shared/perfspi/datafiles/metric/final

HP NNMi places a new file in this directory approximately every five minutes, and the NPS consumes these files approximately every five minutes.



The NNMi placement rate is not customer configurable. The NPS accumulation rate determines the frequency that NPS consumes the files in this directory. The HP NNMi iSPI Performance for Metrics sets the NPS accumulation rate, which is not customer configurable.

If the `final` directory remains empty for more than ten minutes, HP NNMi is not delivering the files. In this case, in the NNMi console, verify that the HP NNMi–HP SiteScope System Metrics integration is configured correctly. For detailed information, see [Verify the HP NNMi Side of the Integration Configuration](#) on page 27.

If files accumulate in the `final` directory, the NPS is not consuming the files. In this case, see the NPS troubleshooting documentation.

Reports

If the SiteScope reports are not available in the NPS user interface within two hours after files pass through the `final` directory, the integration is not correctly configured. In this case, restart HP SiteScope, the NNMi ovjboss process, and the NPS:

- 1 Restart HP SiteScope:
 - *Windows:*
 - Open the **Services** control panel (**Start > Control Panel > Administrative Tools > Services**).
 - In the list of services, right-click **SiteScope**, and then click **Start**.
 - *Linux or Solaris:*
 - Open a terminal window on the server where SiteScope is installed.
 - Run the start command shell script using the following syntax:


```
<installpath>/SiteScope/start
```
- 2 Restart HP NNMi by running the following commands:
 - a `ovstop`
 - b `ovstart`
- 3 Restart the NPS.

Verify the HP NNMi Side of the Integration Configuration

- 1 In the NNMi console, open the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form (**Integration Module Configuration > HP SiteScope System Metrics**).
For information about the fields on this form, see [HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference](#) on page 28.
- 2 To check the status of the integration, in the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form, click **Submit** at the bottom of the form (without making any configuration changes).
The window displays a status message.
- 3 Verify that the connection to NNMi is configured correctly:



If you used the information described in this step to connect to the NNMi console in [step 1](#) of this procedure, you do not need to reconnect to the NNMi console. Continue with [step 4](#).

- a In a web browser, enter the following URL:

```
<protocol>://<NNMIserver>:<port>/nmm/
```

Where the variables are related to values on the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form as follows:

- If the **NNMi SSL Enabled** check box is selected, `<protocol>` is `https`.
- If the **NNMi SSL Enabled** check box is cleared, `<protocol>` is `http`.
- `<NNMIserver>` is the value of **NNMi Host**.
- `<port>` is the value of **NNMi Port**.

- b When prompted, enter the credentials for an NNMi user with the Administrator role.

You should see the NNMi console. If the NNMi console does not appear, contact the NNMi administrator to verify the information that you are using to connect to HP NNMi. Continue to troubleshoot the connection to HP NNMi until the NNMi console appears.



You cannot log on to the NNMi console as a user with the Web Service Client role.

- c Contact the NNMi administrator to verify the values of **NNMi User** and **NNMi Password** for the NNMi integration user with the Web Service Client role.

Passwords are hidden in the NNMi console. If you are not sure what password to specify for an NNMi user name, ask the NNMi administrator to reset the password.

- 4 Update the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form with the values that you used for successful connections in [step 3](#) of this procedure.

For more information, see [HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference](#) on page 28.

- 5 Click **Submit** at the bottom of the form.
- 6 If the status message still indicates a problem, do the following:
 - a Clear the web browser cache.
 - b Clear all saved form or password data from the web browser.
 - c Close the web browser window completely, and then re-open it.
 - d Repeat [step 4](#) and [step 5](#) of this procedure.
- 7 Test the configuration by watching the transfer of SiteScope monitor data as described in [Verify the Integration Data Flow](#) on page 26.

No Report Data for Nodes in a NAT'd Environment Behind a Firewall

In a network address translation (NAT) environment, if the SiteScope server is deployed behind a firewall and reports data for nodes with duplicate IP addresses outside the firewall, HP NNMi cannot determine the node being monitored. In this case the integration does not provide the SiteScope data for these nodes to the NPS, so the NPS reports do not include this information.

HP NNMi–HP SiteScope System Metrics Integration Configuration Form Reference

The **HP NNMi–HP SiteScope System Metric Integration Configuration** form contains the parameters for configuring communications between HP NNMi and HP SiteScope. This form is available from the **Integration Module Configuration** workspace.



Only NNMi users with the Administrator role can access the **HP NNMi–HP SiteScope System Metrics Integration Configuration** form.

The **HP NNMi–HP SiteScope System Metrics Integration Configuration** form collects information for the identifying the NNMi management server.

To apply changes to the integration configuration, update the values on the **HP NNMi-HP SiteScope System Metrics Integration Configuration** form, and then click **Submit**.

Table 4 lists the parameters for connecting to the NNMi management server. This is the same information that you use to open the NNMi console. You can determine many of these values by examining the URL that invokes an NNMi console session. Coordinate with the NNMi administrator to determine the appropriate values for this section of the configuration form.

Table 4 NNMi Management Server Information

Field	Description
NNMi SSL Enabled	The connection protocol specification. <ul style="list-style-type: none"> If the NNMi console is configured to use HTTPS, select the NNMi SSL Enabled check box. If the NNMi console is configured to use HTTP, clear the NNMi SSL Enabled check box.
NNMi Host	The fully-qualified domain name of the NNMi management server. This field is pre-filled with host name that was used to access the NNMi console. Verify that this value is the name that is returned by the <code>nnmofficialfqdn.ovpl -t</code> command run on the NNMi management server.
NNMi Port	The port for connecting to the NNMi console. This field is pre-filled with the port that the jboss application server uses for communicating with the NNMi console, as specified in the following file: <ul style="list-style-type: none"> <i>Windows:</i> %NnmDataDir%\conf\nnm\props\nms-local.properties <i>UNIX:</i> \$NnmDataDir/conf/nnm/props/nms-local.properties <p>You cannot change the NNMi port value using the NNMi console.</p> <p>For non-SSL connections, use the value of <code>nmsas.server.port.web.http</code>, which is 80 or 8004 by default (depending on the presence of another web server when HP NNMi was installed).</p> <p>For SSL connections, use the value of <code>nmsas.server.port.web.https</code>, which is 443 by default.</p>
NNMi User	The user name for connecting to the NNMi console. This user must have the Web Service Client role.
NNMi Password	The password for the specified NNMi user.

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: NNMi 9.23

Document title: *HP Network Node Manager i Software - HP SiteScope Integration Guide*

Feedback:

HP Network Node Manager i Software - HP SiteScope Integration Guide

