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Integration with BSM and HPOM Best Practices

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Integration Best Practices Overview

This guide describes best practices and troubleshooting when configuring the integration of SiteScope with Business Service Management (BSM) and Operations Manager (HPOM) products.

This guide covers the following topics:

- ["Integrating with BSM and Operations Manager Applications" on page 6](#)
Describes the benefits, prerequisites, and options for integrating metrics and event data collected by SiteScope monitors into BSM and Operations Manager applications. It also provides integration best practices and recommendations.
- ["Troubleshooting SiteScope Integration Issues" on page 22](#)
Describes troubleshooting when using and configuring the integration of SiteScope with BSM and HPOM applications.

Part 1: Integrating with BSM and Operations Manager Applications

Chapter 1: Integrating SiteScope with BSM

SiteScope can be used to report data that is used in many applications in Business Service Management (BSM). This section contains details of the benefits, prerequisites, best practices, and troubleshooting for integrating SiteScope with BSM applications.

This section includes:

- ["Integration Benefits" below](#)
- ["Integration Prerequisites" on the next page](#)
- ["Integration Options and Details" on the next page](#)
- ["Troubleshooting" on page 15](#)

Note: For recommendations on integrating SiteScope with BSM or Operations Manager (HPOM), see ["Recommendations for Integrating SiteScope with BSM or HPOM" on page 21](#).

Integration Benefits

- **Events:** Ability to configure and generate events directly from SiteScope, reuse existing alerts as events, and manage and use SiteScope events in BSM's Operations Management and Service Health. For details, see Integrating SiteScope with HP Operations Manager Products in the SiteScope Help. You can check the [HPE Software Integrations](#) site for the latest version of this guide.
- **Run-time Service Model (RTSM):** SiteScope can discover and report topology on monitored systems to BSM's RTSM. You can then manage and work with these discovered configuration items (CIs) in views that provide a subset of the components in which your business functions. For details, see Integrate SiteScope Data with BSM's Configuration Items in the Using SiteScope Guide.
- **Service Health and Service Level Management:** Health indicators assigned to SiteScope monitor data provide a more detailed view of the health of a configuration item (CI) when SiteScope reports metrics or events.
 - For details on managing indicators in the centralized Indicator Assignments repository in SAM Administration, see Indicator Assignment Settings in the BSM Application Administration Guide in the BSM Help.
 - For details on mapping metrics to indicators in SiteScope, see Assigning SiteScope Metrics to Indicators in the Using SiteScope Guide.
- **System Availability Management Administration:** Enables viewing and managing multiple SiteScopes from within System Availability Management Administration. For details, see SAM Administration Overview in the BSM Application Administration Guide in the BSM Help.
- **Reports:** Ability to create and view reports of SiteScope monitor metrics in System Availability

Management and Operations Management.

- For details on System Availability Management reports, see System Availability Management Reports in the BSM User Guide in the BSM Help.
- For details on Performance Graphing in Operations Management, see the BSM User Guide in the BSM Help.
- **Service Health Analyzer (SHA):** SHA analyzes metrics, calculates the dynamic baseline to detect if each metric behaves normally or not, and automatically correlates related metrics to a single meaningful event.
- **Downtime:** Centralized management enables configuring downtime for your IT infrastructure from one place in BSM. For details, see CI Downtime in the Using SiteScope Guide.

Integration Prerequisites

The following are required to enable the integration:

SiteScope Integration	Prerequisites	Enables reporting
BSM	System Availability Management license. For details, see SAM Administration Overview in the BSM Application Administration Guide in the BSM Help.	<ul style="list-style-type: none"> • Metrics (using the BSM integration) • Topology data to BSM
Operations Manager	<p>Operations Agent must be installed on the SiteScope server.</p> <p>You can install the HP Operations Agent 11.14 from the SiteScope installer package, or download it from the HP Software Support web site (in the Search box, type "Operations Agent", select the relevant version, under Document Type, select Patches, and locate the installation file). For details, see the Integrating SiteScope with HP Operations Manager Products Guide available in the SiteScope Help or on the HP Software Integrations site.</p>	<ul style="list-style-type: none"> • Metrics (using the Operations Manager Integration) • Events to BSM's Operations Management

Integration Options and Details

The metrics and event data collected by SiteScope monitors is used in BSM applications. Choose the

integration option according to the type of data to be collected, and the monitoring environment that exists in your organization.

BSM Application	What to Use	SiteScope Integration to Use	Where to Get Details
Service Health	<p>Metrics Advantages:</p> <ul style="list-style-type: none"> • Displays metrics values in Service Health tooltips. • You can create customized calculation rules. For details, see Business Rule Repository Overview in the BSM Application Administration Guide in the BSM Help. <p>Recommended if you do not have Operations Management.</p>	BSM	How to Configure SiteScope to Communicate with BSM in the Using SiteScope Guide
	<p>Events (metrics status change)</p> <p>Advantage: Reduces the amount of data SiteScope sends to BSM.</p> <p>Recommended when managing events in Operations Management.</p>	Operations Manager	The section on sending events in Integrating SiteScope with Operations Manager Products in the SiteScope Help. Note: You can check the HPE Software Integrations site for the latest version of this guide.
	<p>Topology (required)</p>	BSM	How to Configure Topology Reporting in the Using SiteScope Guide Note: To report topology, make sure the Report monitor and related CI topology check box is selected in BSM Integration Data and Topology Settings for each monitor instance.

BSM Application	What to Use	SiteScope Integration to Use	Where to Get Details
Service Level Management	Metrics (recommended)	BSM	How to Configure SiteScope to Communicate with BSM in the Using SiteScope Guide
	Events (optional)	Operations Manager	The section on sending events in Integrating SiteScope with HP Operations Manager Products in the SiteScope Help. Note: You can check the HPE Software Integrations site for the latest version of this guide.
	Topology (required)	BSM	How to Configure Topology Reporting in the Using SiteScope Guide Note: To report topology, make sure the Report monitor and related CI topology check box is selected in BSM Integration Data and Topology Settings for each monitor instance.
System Availability Management Reports	Metrics (recommended)	BSM	How to Configure SiteScope to Communicate with BSM in the Using SiteScope Guide
	Topology (required)	BSM	How to Configure Topology Reporting in the Using SiteScope Guide Note: To report topology, make sure the Report monitor and related CI topology check box is selected in BSM Integration Data and Topology Settings for each monitor instance.

BSM Application	What to Use	SiteScope Integration to Use	Where to Get Details
<p>Service Health</p> <p>and</p> <p>Service Level Management/ System Availability Management Reports</p>	<p>Since SiteScope can report metrics to BSM (which are used in Service Level Management and System Availability Management), and metrics and events (which are used in Service Health), perform the following steps:</p> <ol style="list-style-type: none"> 1. Decide on the reporting mode (events, metrics, or both) that you want to use in Service Health. For details, see "Service Health" on page 10. 2. Select the data preference (events or metrics) for influencing Service Health when both SiteScope events and metrics are reported to Service Health, according to the specific use case. For details, see BSM Service Health Preferences in the Using SiteScope Guide. <p>Note: If you want to use metric status change events, set BSM Service Health affected by to Events in HP Integration Settings > BSM Service Health Preferences when configuring event integration. For details, see BSM Service Health Preferences in the Using SiteScope Guide. If Metrics is selected, status change events reported by SiteScope do not have any influence on CIs in Service Health.</p>		

BSM Application	What to Use	SiteScope Integration to Use	Where to Get Details
<p>Operations Management</p>	<p>Events (required)</p> <p>Status change:</p> <ul style="list-style-type: none"> • Use if you want to manage raw (low-level) events. • These events affect services. <p>Alerts:</p> <ul style="list-style-type: none"> • Use if you want to manage alerts as events. • These events do not affect services. You need to select the event or metrics reporting mode for Service Health. For details, see "Service Health" on page 10. <p>Events generated from health indicators:</p> <ul style="list-style-type: none"> • Use if you create customized calculation rules for metrics in Service Health. • Use for earlier versions of SiteScope (10.x) that report metrics to BSM. 	<p>Operations Manager</p>	<p>The section on sending events in Integrating SiteScope with HP Operations Manager Products in the SiteScope Help.</p> <p>Note: You can check the HPE Software Integrations site for the latest version of this guide.</p> <p>For details on events generated by health indicators, see Business Rule Repository in the BSM Application Administration Guide in the BSM Help.</p>

BSM Application	What to Use	SiteScope Integration to Use	Where to Get Details
	<p>Topology</p> <p>Recommended for:</p> <ul style="list-style-type: none"> • Topology-based event correlation rules. • Drill downs from events to views and related CIs. 	BSM	<p>How to Configure Topology Reporting in the Using SiteScope Guide</p> <p>Note: To report topology, make sure the Report monitor and related CI topology check box is selected in BSM Integration Data and Topology Settings for each monitor instance.</p>
<p>Performance Graphing (in Operations Management)</p>	<p>Metrics (using SiteScope data in BSM or in Operations Management)</p>	<ul style="list-style-type: none"> • BSM - when Profile DB is the selected data source (the default setting). • HP Operations Manager - when Embedded HP Operations Agent is the selected data source. 	<p>The section on reporting metrics in Integrating SiteScope with HP Operations Manager Products in the SiteScope Help.</p> <p>Note: You can check the HPE Software Integrations site for the latest version of this guide.</p>
	<p>Topology (required)</p>	BSM	<p>How to Configure Topology Reporting in the Using SiteScope Guide</p> <p>Note: To report topology, make sure the Report monitor and related CI topology check box is selected in BSM Integration Data and Topology Settings for each monitor instance.</p>

BSM Application	What to Use	SiteScope Integration to Use	Where to Get Details
Service Health Analyzer	Metrics (required)	BSM	How to Configure SiteScope to Communicate with BSM in the Using SiteScope Guide
	Topology (required)	BSM	How to Configure Topology Reporting in the Using SiteScope Guide Note: To report topology, make sure the Report monitor and related CI topology check box is selected in BSM Integration Data and Topology Settings for each monitor instance.
Service Health Analyzer and Service Health/ Operations Management	Since SiteScope can report both metrics and events to BSM (metrics are used in Service Health and Service Health Analyzer, and events are used in Service Health and Operations Management), perform the following: <ul style="list-style-type: none"> • To use metric status change events, set BSM Service Health affected by to Events in HP Integration Settings > BSM Service Health Preferences when configuring event integration. For details, see BSM Service Health Preferences in the Using SiteScope Guide. If Metrics is selected, status change events reported by SiteScope do not have any influence on CIs in Service Health or Operations Management. • If you only want events generated from SiteScope alerts, no additional configuration is necessary (the previous step is not required). For more information on the different event types generated by SiteScope, see Events in "Operations Management" on page 13 .		

Troubleshooting

- For topology reporting issues, see ["BSM Topology Issues" on page 23](#).
- For Operations Manager Event Integration issues, see ["Operations Manager Event Integration Issues" on page 26](#).
- For BSM Metrics integration issues, see ["BSM Metrics Integration Issues" on page 33](#).
- For Operations Manager Metrics Integration issues, see ["Operations Manager Metrics Integration Issues" on page 36](#).
- For CI downtime issues, see ["BSM CI Downtime Issues" on page 39](#).

Note: Depending on the integration option, the suggested troubleshooting might be applicable to specific HPOM or BSM applications only.

Chapter 2: Integrating SiteScope with HPOM Applications

The purpose of this section is to provide best practices for using and configuring the Operations Manager integration (in SiteScope) for sending events to HP Operations Manager (HPOM) and reporting metrics to Performance Manager (the reporting component of HPOM).

Note: For recommendations on integrating SiteScope with BSM or HPOM, see ["Recommendations for Integrating SiteScope with BSM or HPOM" on page 21](#).

This section includes:

- ["Integration Benefits" below](#)
- ["Integration Prerequisites" on the next page](#)
- ["Integration Options and Details" on page 19](#)
- ["Troubleshooting" on page 20](#)

Integration Benefits

- SiteScope works together with HPOM to provide a powerful combination of agentless and agent-based infrastructure management.
- SiteScope can communicate with HPOM using the Operations Agent (provided it has been installed on the SiteScope server). The agent enables SiteScope to integrate both events and metrics data.
- SiteScope sends events by writing them to a log file which is monitored by the Operations Agent. The agent reads the data and converts it to common events, which it forwards to the HPOM management server.
- SiteScope stores metrics data in the Operations Agent data storage, which is collected by Performance Manager and used in Performance Manager graphs.
- Centralized template management:
 - Templates from multiple SiteScope instances can be centrally managed from HPOM.
 - Provides version control for templates (including roll-back functionality), and scheduled roll out of template deployment based on group policy assignment.

Integration Prerequisites

The following are required to enable the integration:

Prerequisites	Where to Get Details
<p>The Operations Agent must be installed on the SiteScope server. If the agent is used only for integrations (not for monitoring), ignore the request from HPOM for the agent license.</p> <p>You can install the Operations Agent 11.14 from the SiteScope installer package, or download it from the HPE Software Support web site (in the Search box, type "Operations Agent", select the relevant version, under Document Type, select Patches, and locate the installation file).</p>	<p>Integrating SiteScope with HP Operations Manager Products in the SiteScope Help.</p> <p>Note: You can check the HPE Software Integrations site for the latest version of this guide.</p>
<p>For the HPOM versions supported in this SiteScope release, refer to the SiteScope Support Matrices section in the SiteScope Deployment Guide.</p>	<p>HPE SiteScope Deployment Guide (<SiteScope root directory>\sisdocs\doc_lib\Get_Documentation.htm).</p> <p>If a patch is required to support a feature in the integration, check for it in the Software Patches portlet on HPE Software Support site.</p>

Integration Options and Details

Choose the most suitable SiteScope-HPOM integration option for your monitoring environment.

Application	What to Use	Where to Get Details
<p>Operations Manager</p>	<p>Events</p> <ul style="list-style-type: none"> • Status change: If you want to manage raw (low-level) events. • Alerts: If you want to manage alerts as events. <p>Discovery Policies:</p> <ul style="list-style-type: none"> • Node discovery policy (recommended). Advantage: Automatically maps SiteScope events to nodes created in HPOM for each node monitored by SiteScope. <p>Note: For nodes monitored by SiteScope only, you can ignore the request from HPOM for a Target Connector license.</p> <ul style="list-style-type: none"> • Monitor discovery policy (not required). Advantage: Automatically maps SiteScope events to SiteScope monitors in HPOM Service Navigation maps. <p>Template Management (recommended) Advantages:</p> <ul style="list-style-type: none"> • Centralized management of templates across multiple SiteScope instances from HPOM. • Version control for templates (including roll-back functionality). • Automatic deployment of templates based on group policy assignment. 	<p>The section on sending events in Integrating SiteScope with Operations Manager Products in the SiteScope Help.</p> <p>Note: You can check the HPE Software Integrations site for the latest version of this guide.</p>

Application	What to Use	Where to Get Details
HP Performance Manager	Metrics (required)	The section on reporting metrics in Integrating SiteScope with HP Operations Manager Products in the SiteScope Help. Note: You can check the HPE Software Integrations site for the latest version of this guide.

Troubleshooting

- For Operations Manager Event Integration issues, see "[Operations Manager Event Integration Issues](#)" on [page 26](#).
- For Operations Manager Metrics Integration issues, see "[Operations Manager Metrics Integration Issues](#)" on [page 36](#).

Note: Depending on the integration option, the suggested troubleshooting might be applicable to specific HPOM or BSM applications only.

Chapter 3: Recommendations for Integrating SiteScope with BSM or HPOM

The following are recommendations for integrating SiteScope with Business Service Management (BSM) or Operations Manager (HPOM):

- It is recommended to integrate SiteScope directly with BSM's Operations Management rather than with HPOM.
- If your deployment prevents you from integrating directly with Operations Management, or you want to get event pre-processing in HPOM before forwarding SiteScope events to Operations Management, you should integrate SiteScope with HPOM.

Note: Even if you are integrating SiteScope with HPOM, it is recommended to integrate SiteScope directly with BSM and to configure SiteScope to report topology to BSM (a System Availability Management license is required). Reporting topology provides topology-based event correlation rules and drill down from events to views and related CIs. You can report topology to BSM with or without metrics. If you do not want SiteScope metrics to be used in System Availability Management, Service Level Management, and so forth, report topology without metrics.

For details on integrating SiteScope with BSM, see [How to Configure SiteScope to Communicate with BSM](#) in the [Using SiteScope Guide](#).

Troubleshooting

- For topology reporting issues, see ["BSM Topology Issues" on page 23](#).
- For Operations Manager Event Integration issues, see ["Operations Manager Event Integration Issues" on page 26](#).
- For BSM Metrics integration issues, see ["BSM Metrics Integration Issues" on page 33](#).
- For Operations Manager Metrics Integration issues, see ["Operations Manager Metrics Integration Issues" on page 36](#).
- For CI downtime issues, see ["BSM CI Downtime Issues" on page 39](#).

Note: Depending on the integration option, the suggested troubleshooting might be applicable to specific HPOM or BSM applications only.

Part 2: Troubleshooting SiteScope Integration Issues

Chapter 4: BSM Topology Issues

This section describes troubleshooting and limitations when SiteScope is integrated with BSM and enabled to report monitor and related CI topology to BSM.

This section includes:

- ["Opening Logs in SiteScope in Debug Mode" below](#)
- ["Opening Logs in BSM in Debug Mode" below](#)
- ["No Topology Reported" on the next page](#)
- ["RTSM Troubleshooting" on page 25](#)
- ["Where to Configure the Port to Which Data Flow Reports" on page 25](#)
- ["Error "Failed Running script :filesystem_topology.py" in bac_integration.log " on page 25](#)

Opening Logs in SiteScope in Debug Mode

The following log files in SiteScope contain information relating to the BSM integration.

- **SiteScope\logs\bac_integration\bac_integration.log**
- **SiteScope\logs\bac_integration\discovery.log**
- **SiteScope\logs\bac_integration\probeGW-taskResults.log**
- **SiteScope\logs\bac_integration\topology_queue_consumer.log**

Open the relevant log files in debug mode using the instructions listed below.

To open logs in SiteScope in debug mode:

1. In the **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava** folder, open the **bac_integration.properties** file and change the debug level to the appenders listed in **attachment1.txt** (attached to this PDF). To view the attachment, select **View > Navigation Panels > Attachments**, and select **attachment1.txt**.
2. Add the appenders listed in **attachment2.txt** (attached to this PDF) to the **probeGW-taskResults.log** file. To view the attachment, select **View > Navigation Panels > Attachments**, and select **attachment2.txt**.
3. Add the appender listed in **attachment3.txt** (attached to this PDF) to the **log topology_queue_consumer.log** file. To view the attachment, select **View > Navigation Panels > Attachments**, and select **attachment3.txt**.

Opening Logs in BSM in Debug Mode

The following log files in BSM contain information relating to the integration with SiteScope. Open the relevant log files in debug mode using the instructions listed below.

- **<BSM root directory>\log\odb\odb\mam.autodiscovery.log**
- **<BSM root directory>\log\odb\odb\cmdb.reconciliation.log**
- **<BSM root directory>\log\odb\odb\cmdb.reconciliation.datain.ignored.log**
- **<BSM root directory>\log\odb\odb\discoveryServlet.log**

To open logs in BSM (on the Data Processing server machine in a distributed environment) in debug mode:

Change RTSM debug level in BSM:

- **<BSM root directory>\odb\conf\log\reconciliation.properties**
- **<BSM root directory>\odb\conf\log\mam.properties**
- **<BSM root directory>\odb\conf\log\mam.web.properties**

No Topology Reported

1. Open all SiteScope and BSM logs in debug mode. For details, see ["Opening Logs in SiteScope in Debug Mode" on the previous page](#) and ["Opening Logs in BSM in Debug Mode" on the previous page](#).
2. Check if there are `\bin` files stuck in the **<SiteScope root directory>\cache\topologyresultsData\merged** directory.
3. Check for errors in the logs in the following order:
 - **bac_integration.log**. Topology is not sent due to general errors or syntax problems in the scripts.
 - **discovery.log**. Shows the complete picture of the topology reported from SiteScope to BSM using Data Flow Management.
 - **topology_queue_consumer.log**. Shows the topology SiteScope is trying to send to the Data Flow probe. (It does not mean that this is the topology that the probe client sends to the server). This log reflects what SiteScope script intended to report to Data Flow Management.
 - **probeGW-taskResults.log**. Shows the topology Data Flow Management sends to the RTSM server.
 - **mam.autodiscovery.log**. Shows the steps Data Flow Management probe is doing on the topology reporting from SiteScope to Data Flow Management (bulk creation) and the interaction with the RTSM server.
 - **cmdb.reconciliation.log**. If the issues are on the RTSM server-side, it is most likely a reconciliation issue.
 - **cmdb.reconciliation.datain.ignored.log**. Shows topology that is ignored by the RTSM server and not reported.
 - **discoveryServlet.log**. Shows data from the connection opened by SiteScope and the reply sent to

SiteScope. Check for exceptions in this log when there are issues with topology not being sent to BSM. This log exists also on BAC 8.0.

4. It is recommended to open logs that are in XML format using an XML editor.

RTSM Troubleshooting

To get the properties of a CI reported to a Data Flow database with JMX:

1. Open `http://<BSM_machine>:21212/jmx-console/` in a Web browser.
2. Click **UCMDB:service= Model Services**.
3. Invoke method: `retrieveObjectProperties`.

Where to Configure the Port to Which Data Flow Reports

The server settings are initialized in BSM in **Admin > System Availability Management > Topology Settings** from the **Topology receiver port** or **Topology receiver SSL port** boxes.

Error "Failed Running script :filesystem_topology.py" in bac_integration.log

This is caused by the download mechanism which fails to rename the `filesystem_topology.py.11` file to `filesystem_topology.py` after it is downloaded from BSM to SiteScope.

To fix this issue, reload the scripts from BSM:

1. Stop the SiteScope service.
2. Delete the contents of the `<SiteScope root directory>\discovery\hsqldb` folder.
3. Start the SiteScope service. This should reload the scripts from BSM and rename them.

Chapter 5: Operations Manager Event Integration Issues

This section describes troubleshooting when using the Operations Manager integration to send SiteScope events directly to the HPOM management server or to Operations Management in BSM.

This section includes:

- ["Integration Setup Problems" below](#)
- ["Problems Sending Events" on page 28](#)
- ["Node Discovery and Monitor Discovery Troubleshooting" on page 31](#)
- ["Certificate Requests Do Not Reach the Operations Management Server" on page 32](#)

Tip: When referring to the integration log file, you can open it from the SiteScope user interface (**Server Statistics > Log files > HPSiteScopeOperationsManagerIntegration.log**).

Integration Setup Problems

Symptom:

Any problem that occurs while trying to configure the Operations Manager Integration (between connecting the agent to the HPOM/BSM server and sending a test message).

Troubleshooting:

1. In SiteScope, open the HP Operations Manager Integration dialog box panel (**Preferences > Integration Preferences > HP Operations Manager Integration**).
2. In the HP Operations Manager Integration Main Settings pane, check the **HP Operations agent installation path**.
 - a. Click the **Resolve Path** button.
 - b. Make sure the agent is installed on the path you see in this field.
 - If the agent is installed on a different path, update the path accordingly.
 - If you do not see the path is resolved (probably the agent is not installed properly), try restarting the server machine. If it does not help, remove the Operations Agent and then install it again (it is also recommended to restart the server).
 - c. Make sure your HPOM management server or BSM Gateway host name is typed correctly in the host field.
3. Click the **Analyze** button.
 - a. If the command outputs are empty, there is a problem with the agent installation. Remove the Operations Agent and then install it again (it is also recommended to restart the server).

- b. Check that the `bbcutil` command output returns **status=eServiceOK**. If it does not, there is a connectivity problem to your HPOM management server.
 - c. Check the `opcagt -status` command output. You should see a few processes running (some can be in Aborted state—this is fine at this stage). If they are not running, manually start the agent by running command line: `opcagt -start`, or restart your server machine.
4. Make sure your HPOM management server is up and running.
 5. If you are working with BSM, check your Gateway and Data Processing Server:
 - a. Run command line `ovc -status` to check the server. Make sure all processes are running (in particular, the "Certificate Broker"). If they do not start, run command line `ovc -start`
 - b. Check the connection from SiteScope to the Gateway Server by running the command: `ping https://<BSM Gateway Server>/com.hp.ov.opc.msgr`. If this fails, restart the WDE process on the Gateway Server.
 6. If you are working with a distributed BSM environment (in BSM 9.00 or later), follow the procedures for initiating trust between your Gateway and Data Processing Server, and forwarding the certificate request from the Gateway to the Data Processing Server.

For details, see the section on sending events to BSM or HPOM in Integrating SiteScope with HP Operations Manager Products in the SiteScope Help. You can check the [HPE Software Integrations](#) site for the latest version of this guide.

7. Click the **Connect** button, and make sure the command output returns: `opcactivate Info: Successfully activated OVO agent`.

If it does not work, contact your HPOM administrator for assistance.

Note: If there is a large time difference (more than 24 hours) between the certificate server and the HP Operations agent, you might encounter the following error when running agent commands such as `ovc - status`, `ovc -start`, or `opcagt -status`:

```
(ctrl-21) Communication error when executing 'Status' method.  
(sec.core-113) SSL certificate verification error (The presented peer certificate  
is not yet valid.)
```

This problem occurs because certificates are only valid in the specified time period, and usually solves itself (after a day) when the certificate becomes valid. The time is specified in Coordinated Universal Time (UTC), independent from time zones, and certificates are issued to be valid from 24 hours in the past.

8. Accept the certificate request.
 - When connecting to a BSM server, follow the step for accepting the agent connection request in Integrating SiteScope with HP Operations Manager Products in the SiteScope Help. You can check the [HPE Software Integrations](#) site for the latest version of this guide.

- When connecting to an HPOM management server, consult your HPOM administrator. If you do not see the certificate request, contact your HPOM administrator.
9. Click the **Analyze** button.
 - a. Make sure the `ovcert -check` is ok, and it ends with "Check Succeeded".
 - b. Make sure `ovcert -list` lists some certificates.
 - c. If there are problems with the command outputs:
 - Contact your HPOM administrator, or
 - Start the integration process troubleshooting from the connect phase, or even reinstall the agent.
 10. Click the **Install Policies** button.
 - a. If you get an error here or this process is stuck with "please wait" and:
 - You recently reinstalled the agent and did not restart yet, restart your server.
 - Otherwise, there is a problem with the agent (and the additional policy activation tool package) installation. Reinstall on a clean image.
 - b. Click the **Analyze** button, or check the output of the Install Policies for the list of policies. Make sure you see the following list with all enabled:
 - HP_SiteScope_to_Operations_Manager_Integration_by_Log_File
 - HP_SiteScope_to_Operations_Manager_Integration
 - SiteScope_Hosts_Discovery
 11. In the **Test Message** box, type a message and click **Send test message**.
 - a. Check your HPOM Event Console or Operations Management Event Browser.
 - b. If you do not see the message in the Event Console/Browser:
 - Run command line: `opcmsg a=a o=o msg_t=xxx`
 - If the command is not available, something went wrong with the process so far (either the certificate or the policies does not work). Try to install the policies again, and if the same problem occurs contact HPE Software Support.
 - If the command is executed but you still do not see the message in the Event Console, contact your HPOM administrator for support.

Problems Sending Events

Symptom 1:

Sending a test event from the HP Operations Manager Integration dialog box does not reach the HPOM Event Console/Operations Management Event Browser.

Troubleshooting:

1. In the HP Operations Manager Integration dialog box, enter a test message in the **Test message** box, and click **Send test message**. If the test message is not displayed in the Event Console, follow all the steps in "[Integration Setup Problems](#)" on page 26, and then try again.
2. Click the **Analyze** button, and make sure all commands are successful (in particular, see the list of policies installed). For details, see "[Operations Manager Event Integration Issues](#)" on page 26.
3. Click the **Send Test Event** button.
4. In the **<SiteScope root directory>\logs** directory, check the events log file, **HPSiteScopeOperationsManagerIntegration.log**. Verify the event entry in the log file. If you do not see it, contact HPE Software Support.
5. If you still do not see the event in the HPOM Event Console/Operations Management Event Browser, check you are viewing the correct node in HPOM, or are not filtering out anything in the Operations Management Event Browser. If you still do not see the event, contact HPE Software Support.
6. Open the **<SiteScope root directory>\tools\OMIntegration\Policies\F516CEC3-3AD4-4627-9CFD-BB155B894349_data** file, and check that the path specified for **HPSiteScopeOperationsManagerIntegration.log** is correct (it might use an environment variable). If you make any changes here, you must install the policies again.
7. Check if the agent received the event and sent it to HPOM/Operations Management:
Make sure that the agent knows the location of the log file.
On Windows: Check if %SITESCOPE_HOME% variable is defined. If it is not defined:
 - a. Define %SITESCOPE_HOME%.
 - b. Remove the policy:

```
ovpolicy -remove -polname HP_SiteScope_to_Operations_Manager_Integration_by_Log_File
```
 - c. Reinstall the policies from the SiteScope user interface.**On UNIX:** Check if the log file policy contains the location of the log:
 - a. Open the policy:

```
"opt/HP/SiteScope/tools/OMIntegration/Policies/F516CEC3-3AD4-4627-9CFD-BB155B894349_data"
```
 - b. Check LOGPATH is set to "opt/HP/SiteScope logs/HPSiteScopeOperationsManagerIntegration.log"
If it is not, change the path and reinstall the policy (see the Windows steps above).
8. If you still do not see the event in the HPOM Event Console/Operations Management Event Browser, check:
 - You are viewing the correct node (in HPOM).
 - You are not filtering out anything (in the Operations Management Event Browser).

Otherwise contact support.

Symptom 2:

The metric status change or alert event is not displayed in the HPOM Event Console/Operations Management Event Browser.

Troubleshooting:

1. Check if the test event is displayed in the Event Console/Browser. If it is not displayed, follow the guidelines for Symptom 1 in "[Problems Sending Events](#)" on page 28.
2. Check that event integration is enabled in the monitor or alert configuration settings. Change the monitor metric status, or trigger an alert. In the **<SiteScope root directory>\logs** directory, check the events log file, **HPSiteScopeOperationsManagerIntegration.log**.
3. If you do not see the event entry in the log file, check you enabled event integration correctly in the monitor or alert you are running. For details, see Integrating SiteScope with HP Operations Manager Products in the SiteScope Help or check the [HPE Software Integrations](#) site for the latest version of this guide.

If it is still not in the log file, contact HPE Software Support.

4. If you see the event entry in the log file, but not in the Event Console/Browser:
 - a. Check that no filter is set in the Event Browser.
 - b. If it is a newly-created monitor, and you are filtering the related CI in Operations Management, it is possible that the CI topology is not reported yet. Try again in a few minutes.
 - c. In HPOM legacy, make sure the event target node exists on your console.
 - d. Contact HPE Software Support.

Symptom 3:

You see the metric or alert event in the Operations Management Event Browser, but it has no related CI or HI, or Indicator state or severity.

Troubleshooting:

1. Check the event attribute values in the **HPSiteScopeOperationsManagerIntegration.log** file located in the **<SiteScope root directory>\logs** directory. Look for the HI (ETI) and CI hint. They should look like this: `CPUload:High:80` and `SiteScope:3:123456` respectively.
 - a. To know the attribute order in this tab separated values line, you can send a test event before this event and compare the lines. The test event writes the name of each attribute in its order.
 - b. If the CI Hint or HI hint are unknown, empty, or look different than the example, there is a problem with the SiteScope configuration.
 - o Check that the SiteScope is registered to BSM.
 - o Check that the monitor thresholds have indicator states assigned to them, or that your alert has some ETI and ETI state set.

- Check the preference setting for reporting SiteScope data in the monitor configuration is set to **Events** (in **HP Integration Settings > BSM Service Health Preferences**).
2. If everything looks fine in the log file in SiteScope, open the event in the Operations Management Event Browser.
 - a. In the **General** tab, check the **related CI** attribute. If you do not see the related CI, select the **Resolver** tab and check the **Status** field.
 - Check if there is information about the CI resolution failure.
 - Check that the monitor topology is available in the BSM (you can check this in the System Hardware or System Monitors views).

Note: If this is a newly-created monitor, it will take few minutes for the topology to arrive and the event to be assigned with a related CI.

- b. In the **General** tab, if you see the **related CI** but **Event Type Indicator** is empty:
 - Select the **Resolver** tab and check the ETI Hint attribute value sent by SiteScope. If it is empty or unknown, check your SiteScope configuration.
 - If the value exists but does not show up in **Event Type Indicator** in the General tab, there was a problem when applying the indicator to the CI. Check Service Health or Operations Management for support.

Node Discovery and Monitor Discovery Troubleshooting

Node Discovery:

- If you are using Operations Manager for Windows 8.1x, patch OMW_00071 is required to support the Node discovery feature in SiteScope-HPOM event integration.
- If you are using Operations Manager for Windows 9, patch OMW_00097/98 or later (32-bit/64-bit) is required to support the Node discovery feature without overriding SiteScope node properties.
- If you are using Operations Manager for Solaris/HP-UX/Linux 9.10, patch 9.10.200 is required to support the Node discovery feature in SiteScope-HPOM event integration.

Problems with Node discovery:

1. Click the **Analyze** button in the HP Operations Manager Integration dialog box. Make sure you see the **SiteScope_Hosts_Discovery policy** installed and enabled.
2. Check that your event configuration is set. Send a test event and make sure you see it in the HPOM Event Console on the SiteScope node.

New nodes are reported within 5 minutes from the time they started to being monitored by SiteScope monitors.

The discovery policy runs SiteScope scripts that generate XML consumed by the policy. Each run is logged in the following log: `%OvDataDir%\log\System.txt` (for Linux `<SiteScope Server>/var/opt/OV/log`).

3. You can invoke the process manually, by running the following commands:

```
ovagtrep -run "SiteScope_Hosts_Discovery"ovagtrep -publish
```

Monitor Discovery:

To enable HPOM Service Navigator to view SiteScope groups and monitors in HPOM service maps, follow the instructions for configuring monitor discovery in Integrating SiteScope with HP Operations Manager Products. You can check the [HP Software Integrations](#) site for the latest version of this guide.

Certificate Requests Do Not Reach the Operations Management Server

Troubleshooting: Run the following command on the Operations Manager server:

```
"ovconfchg -ns sec.cm.server -set IsIPV6Enabled FALSE"
```


Chapter 6: BSM Metrics Integration Issues

This section describes troubleshooting when working with the BSM metrics integration if CI statuses are not displayed in Service Health.

This section includes the following troubleshooting steps:

- "Check HI/KPI assignment" below
- "Check that SiteScope data is not ignored by BSM" below
- "Check CI resolution" on the next page
- "If there are no HIs on the relevant CI (in case the problem is with the monitored CI and not the monitor/measurement)" on the next page
- "If there are no KPIs on the relevant CI (in case the problem is with the monitored CI and not the monitor/measurement)" on the next page
- "If there are no HIs/KPIs and everything seemed to work in the previous two steps" on the next page

1. Check HI/KPI assignment

If CI statuses are not displayed in Service Health, check if HIs and KPIs are assigned to the relevant CI:

- a. In BSM, select **Admin > Service Health > CI indicators**, expand the **Monitors** folder, and select one of the following views: System Monitors, System Hardware Monitoring, or System Software Monitoring.
- b. In the view you have selected, check if there are HIs and KPIs assigned to the relevant CI, as follows:
 - System Monitors view: SiteScope Monitor or SiteScope Measurement CI
 - System Hardware Monitoring view: Node or Computer CI
 - System Software Monitoring view: Running Software CI

2. Check that SiteScope data is not ignored by BSM

If HIs and KPIs are assigned to the relevant CI, check if SiteScope sends data and that the data is not ignored by BSM.

- a. Run the relevant monitor in SiteScope.
- b. On the BSM machine, open the **wdeIgnoredSamples.log** located in **<BSM root directory>\log\wde** folder. If this log includes samples of the monitor you have just run, or you see many ignored samples, this means SiteScope is sending the wrong data.
- c. If you do not see the relevant SiteScope sample, look for it in the **wdePublishedSamples.log** and check that **Eti_id** and **ci_hint** are not null.
- d. If you cannot find the SiteScope sample in the wde logs in BSM, check in SiteScope if the sample

was generated. Open the **bac_integration.properties** file located in **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava** and add the text found in **attachment4.txt** (attached to this PDF) to the end of the file. To view the attachment, select **View > Navigation Panels > Attachments**, and select **attachment4.txt**.

- e. Run the monitor, and check the **samples.log** file in the **<SiteScope root directory>\logs\bac_integration** directory.

3. Check CI resolution

If HIs and KPIs are assigned to the relevant CI, and samples are not ignored by the wde logs in BSM, check CI resolution (in case the problem is with the monitored CI and not the monitor or measurement).

- a. Run the relevant monitor in SiteScope.
- b. On the BSM machine, open the **cir_enrichment.log** file located in the **<BSM root directory>\log\wde** folder, and check if there are `badHint` or `CI not found` messages.

Note: To change the log file to debug mode, open the **cir_enrichment_service.properties** file located in the **<BSM root directory>\conf\core\Tools\log4j\wde** folder and change `loglevel` to `loglevel=DEBUG`.

4. If there are no HIs on the relevant CI (in case the problem is with the monitored CI and not the monitor/measurement)

If the relevant CI does not have any HIs, in SiteScope, check the indicator mappings in the monitor user interface (**HP Integration Settings > Indicator Settings**).

- If the mapping seems correct, go to the correct SiteScope Monitor CI or SiteScope Measurement CI in RTSM in BSM, and check that you can see the HI ID in the **health_indicator_list** attribute.
- If you can see it, check that you can see the monitored CI connected to this SiteScope Monitor or Measurement CI with a **monitored_by** link.
- If it seems fine, check that HPOM (HPOpr) content packs are deployed (in **Admin > Platform > Content Packs**), and that you can see the indicators you expect to get in it (in most cases, you will find it in the **HPOprInf** package).

5. If there are no KPIs on the relevant CI (in case the problem is with the monitored CI and not the monitor/measurement)

If the relevant CI does not have any KPIs, check if the HPOM content pack has KPI assignments.

- a. In BSM, select **Admin > Service Health > Assignments > KPI Assignments**.
- b. In the CI Types tree, drill down to the relevant CI (for example, **Infrastructure Element > Node > Computer**), and check if the CIT has a KPI assignment defined. KPI assignments appear in the right pane.

6. If there are no HIs/KPIs and everything seemed to work in the previous two

steps

Try to resynchronize the HI and KPI assignments on the problematic CIs, based on their CI types.

- a. In BSM, select **Admin > Service Health > Assignments > Health Indicator Assignments**.
- b. Select the problematic CI type (for example, `computer`), and select the HI assignment you want to run.
- c. Click the **Synchronize CI Type** button.
- d. When this is done, perform the same action on the KPI assignment using the **KPI Assignments** tab.

Chapter 7: Operations Manager Metrics Integration Issues

This section describes troubleshooting when using the Operations Manager integration to make SiteScope metrics data available to Performance Manager or to Performance Graphing in Operations Management.

This section includes:

- ["SiteScope and Operations Agent Configuration" below](#)
- ["Health Monitors Errors" on the next page](#)
- ["Performance Manager Configuration" on the next page](#)
- ["CI Resolution does not work \("BadHint error" in the cir_enrichment.log\)" on page 38](#)
- ["System runs out of ports when reporting data to the Operations Agent" on page 38](#)

SiteScope and Operations Agent Configuration

Check the Operations Agent Configuration

1. Check the status of the Operations Agent installed on the SiteScope server by running the following command: `opcagt -status`

The expected output is:

```
C:\Documents and Settings\user>opcagt -status
opcmsga  OVO Message Agent      AGENT,EA      aborted
opcacta  OVO Action Agent             AGENT,EA      <2476>        Running
opcmsgi  OVO Message Interceptor     AGENT,EA      <376>         Running
```

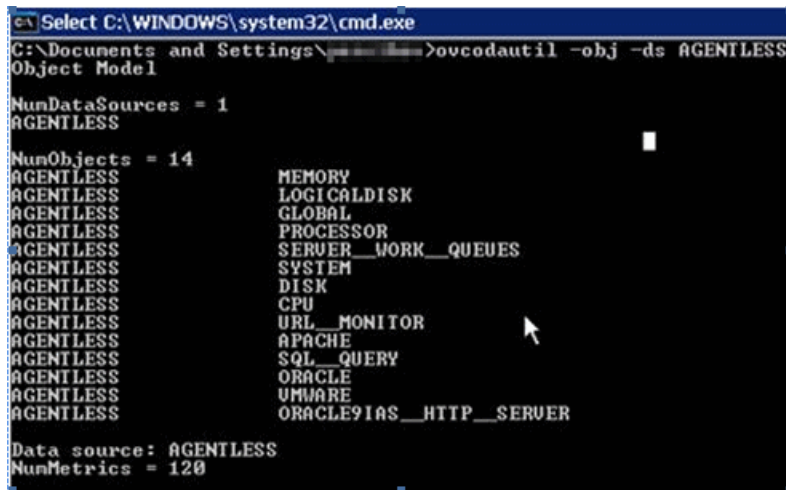
If `opcacta` or `opcmsgi` are not running, try to restart the agent by running:

```
opcagt -stop
opcagt -start
```

2. Select **Preferences > Integration Preferences**, and select an existing or create a new **HP Operations Manager Integration**. Verify that the **Enable sending events** check box is selected.
3. Under the Properties tab for the monitor, expand the HP Integration Settings panel, and verify that the **Report metrics to HP Operations agent** check box is selected.
4. Run the monitor, and wait for about a minute.
5. Run the following command to check if the agent data store contains the data:

```
set CODAMAGIC=0X05201993
ovcodautl -obj -ds AGENTLESS
```

You should receive object names from AGENTLESS data source (similar to the following):



```
 Select C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings\>ovcodautl -obj -ds AGENTLESS
Object Model

NumDataSources = 1
AGENTLESS

NumObjects = 14
AGENTLESS      MEMORY
AGENTLESS      LOGICALDISK
AGENTLESS      GLOBAL
AGENTLESS      PROCESSOR
AGENTLESS      SERVER_WORK_QUEUES
AGENTLESS      SYSTEM
AGENTLESS      DISK
AGENTLESS      CPU
AGENTLESS      URL_MONITOR
AGENTLESS      APACHE
AGENTLESS      SQL_QUERY
AGENTLESS      ORACLE
AGENTLESS      UMWARE
AGENTLESS      ORACLE9IAS_HTTP_SERVER

Data source: AGENTLESS
NumMetrics = 120
```

6. To dump the summarized last record for AGENTLESS data source, run the following command:
`ovcodautl -dumpds AGENTLESS`

Check the Relevant SiteScope Logs

Check the following logs that are available from the `<SiteScope root directory>\logs` directory:

- `error.log`
- `RunMonitor.log`
- `om_metric_integration.log`
- `data_integration.log`

Health Monitors Errors

In the SiteScope monitor tree, expand **Health** and click **Log Event Checker**.

- If the **Failed to report data to HP OM Agent** counter is in error, SiteScope failed to connect or report data to the Operations Agent using Java API. For more information, see the `oa_metric_integration.log` file in the `<SiteScope root directory>\logs` directory.
- If the **Generic Data Integration queue exceeded allowed size** counter is in error, the queue of metrics waiting to be sent is oversized and some metrics were dropped to maintain SiteScope stability. For more information, `data_integration.log` file in the `<SiteScope root directory>\logs` directory.

Performance Manager Configuration

1. On the Performance Manager server, open the `OVPMconfig.ini` file in the `%ovdatadir%\shared\server\conf\perf` directory.
2. Update the SiteScope server details as follows:
 - `[SITESCOPE]`
 - `SERVER = servename`

- NODEGROUP = Agentless
3. Restart the HP Openview Tomcat(B) service.

CI Resolution does not work ("BadHint error" in the cir_enrichment.log)

1. Go to **Admin > Platform > Infrastructure Setting**.
2. In the **Application** dropdown, select **End User/System Availability Management**.
3. In the **SiteScope CI Resolver Settings**, check for **TQL Queries** value.
The default value is `CI's Monitored by SiteScope` (in BSM versions earlier than 9.20).
4. Go to **Admin > RTSM Administration** and check for **CI's Monitored by SiteScope** query results. If you do not get the requested CI in the query results, CI resolution will not find it as well.
Possible problem: CI has missing attributes or the SiteScope monitor CI is not connected to any monitored CI.

System runs out of ports when reporting data to the Operations Agent

Problem: The system runs out of ports when reporting metrics data to the Operations Agent in a loaded environment.

- In SiteScope Health, an error is displayed in the Log Event Checker monitor for the `.*Failed to report data to HPOM Agent.*` counter.
- In the `oa_metric_integration.log`, the following error is displayed: "ERROR - Failed to report data to /Hewlett-Packard/OpenView/Coda/ IO error while gettingSingle Object;Address already in use: connect".

Possible solution: Increase the upper range of ephemeral ports and reduce the client TCP/IP socket connection timeout value in Windows. For details, see <http://msdn.microsoft.com/en-us/library/aa560610%28v=bts.20%29.aspx>.

Chapter 8: BSM CI Downtime Issues

This section describes troubleshooting CI downtime issues when SiteScope is integrated with BSM.

This section includes:

- ["Troubleshooting CI Downtime \(BSM-side\)" below](#)
- ["Troubleshooting CI Downtime \(SiteScope-side\)" below](#)

Troubleshooting CI Downtime (BSM-side)

If the SiteScope monitor does not enter downtime (it is still running, or is sending alerts while it should not be according to the downtime configuration), perform the following checks on SiteScope and BSM:

1. Check SiteScope reported topology to BSM. In BSM, select **Admin > RTSM Administration** and check the node and monitor CIs.
2. Logs:
 - Open **<BSM root directory>\conf\core\Tools\log4j\PlainJava\topaz.properties** and change the debug level to the following appender:

```
log4j.category.com.mercury.topaz.sitescopetmc=DEBUG, aims.appender
```

- Open the **aims.ejb.log** file located in **<BSM root directory>\log\EJBContainer** and search for "downtime" string. Check whether your downtime was created, which CIs were affected by it, and when a downtime request was made from SiteScope.

Troubleshooting CI Downtime (SiteScope-side)

If the SiteScope monitor is still running after configuring downtime on a specific node using the stop monitoring option, perform the following checks on SiteScope:

1. In **Preferences > Infrastructure Preferences > General Settings**, check the **Enable downtime mechanism** setting is enabled.
2. Check the following logs:
 - **<SiteScope root directory>\logs\audit.log**
 - **<SiteScope root directory>\logs\downtime.log**

To open these logs in debug mode:

- a. In the **<SiteScope root directory>\conf\core\Tools\log4j\PlainJava** folder, open the **log4j.properties** file.
- b. Change the debug level to the appenders listed in **attachment5.txt** (attached to this PDF). To view the attachment, select **View > Navigation Panels > Attachments**, and select **attachment5.txt**.

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Feedback on Integration with BSM and HPOM Best Practices (SiteScope 11.32)

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 sitescope-doc-feedback@hpe.com.

We appreciate your feedback!