Operations Agent

Software Version: 12.04

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

User Guide: Health View

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Chapter 1: Introduction

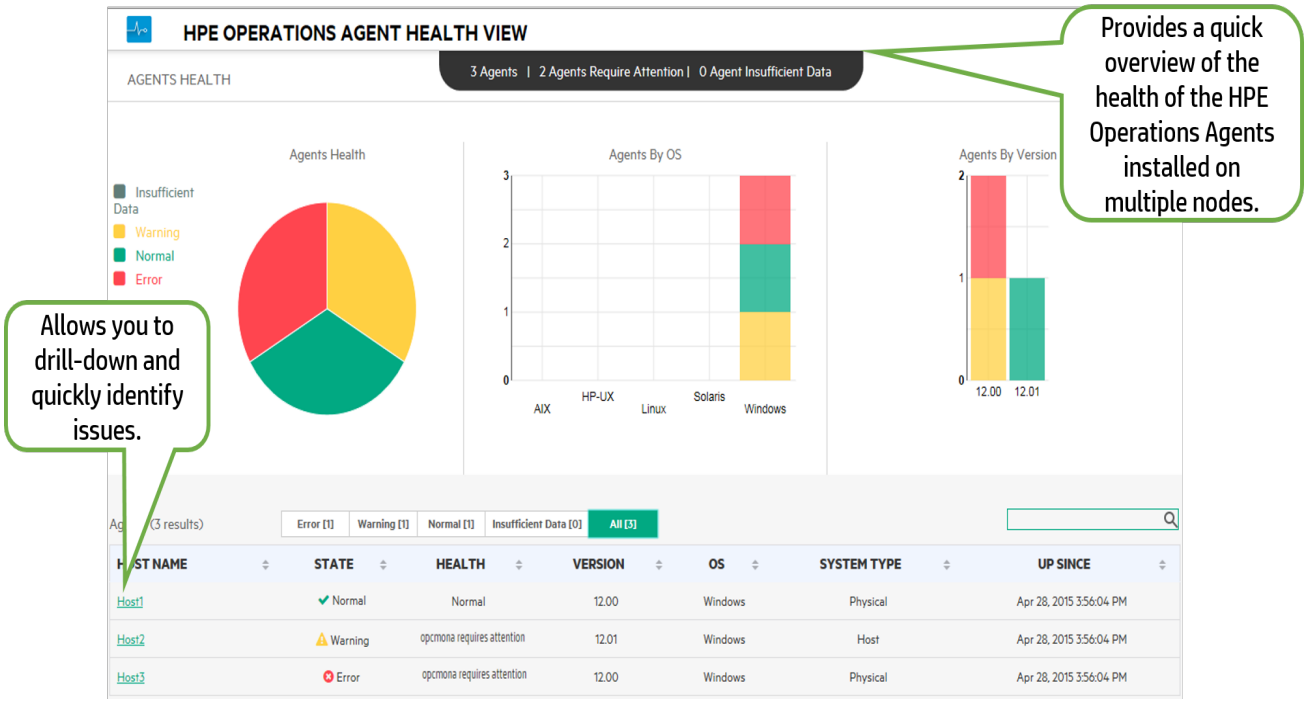
Operations Agent Health View is a health monitoring tool that provides a quick overview of the Operations Agent health.

Operations Agent Health View plays an important role in a complex environment that has many Operations Agents deployed on multiple nodes. For example, on a specific managed node if any of the health or policy parameters have failed or if any of the processes have issues, then you will not receive alerts or messages from that managed node.

Operations Agent Health View enables you to quickly identify issues in a complex environment with several managed nodes.

> **Note:** You can set the OM Management Server as the Health View Server or you can install Operations Agent Health View on a server other than the OM Management Server.

User Interface



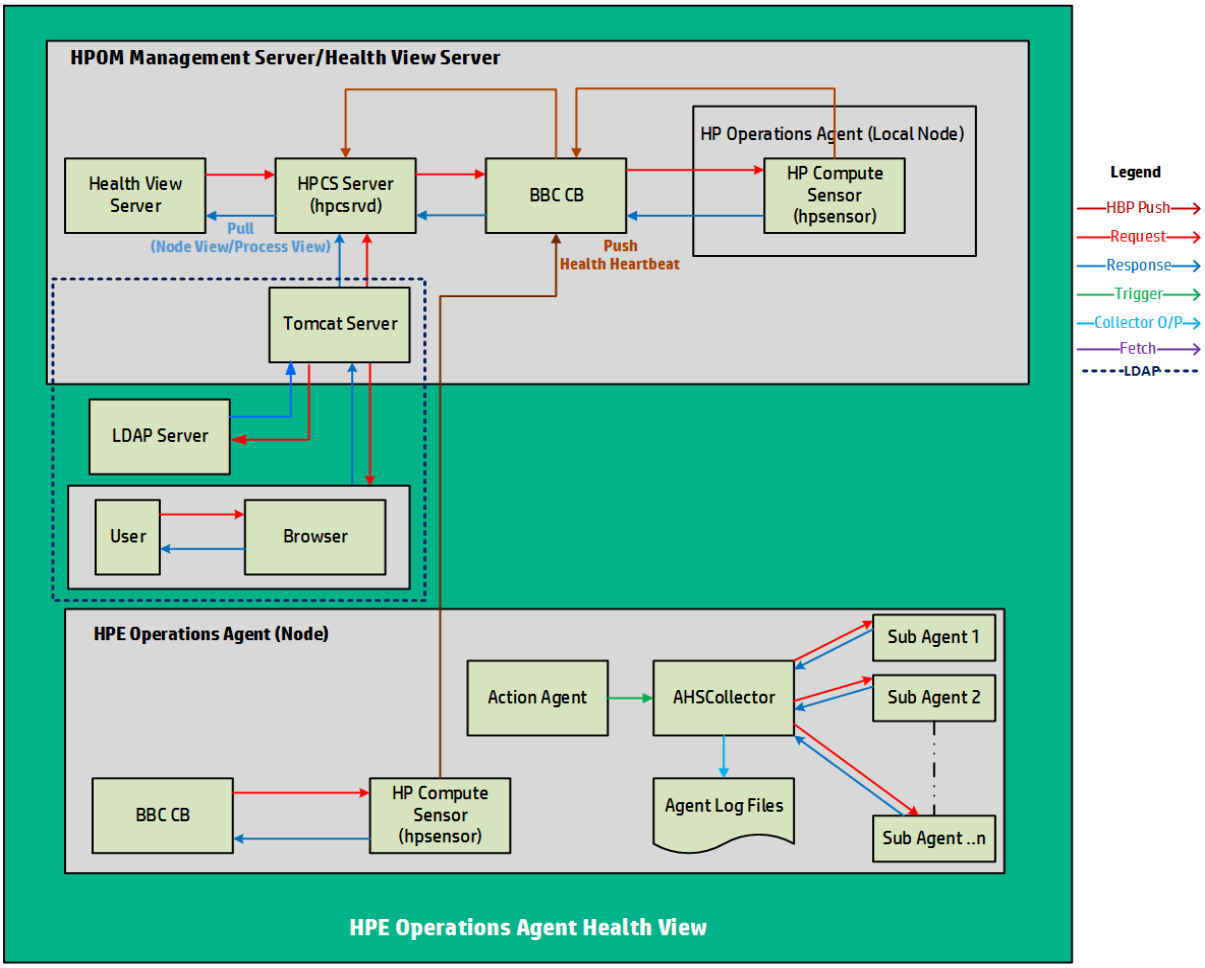
Operations Agent Health View offers the following features:

- Provides a consolidated dashboard that shows the health of all the Operations Agents configured with Operations Agent Health View.
- Allows you to drill-down into each managed node and view the list of Operations Agent processes and resources that are used.
- Allows you to drill-down into each Operations Agent process and identify issues related to health and policy parameters.

Operations Agent Health View Architecture

Operations Agent Health View is a health monitoring tool that provides a quick overview of the Operations Agent health.

The Operations Agent Health View architecture is as follows:



Operations Agent Health View consists of the server and the agent components.

The server component has the **HPCS Server process (hpcsrvd)** running, which acts as a registry that contains the details of the nodes available in the environment. On every node, Heart Beat Polling (HBP) is enabled and the node pushes its information to the HPCS Server process (hpcsrvd).

The agent component collects and provides the collected information to the Health View Server.

At every configured interval, **Action Agent** (opcacta) triggers the **AHSCollector** (Agent Health and System Data Collector is a BBC client process and it is not configurable) to collect the agent health information. Each sub agent maintains its state information based on the defined health and policy parameters. AHSCollector queries the sub agents for the health data through the HTTP interface. It analyzes the collected data for potential issues. Also, for every failed parameter, AHSCollector runs the configured diagnostic commands to find a potential cause for the failure. AHSCollector saves the processed state data in the **Agent Log Files**. **Compute Sensor process (hpsensor)** running on the node exposes this data to the Health View Server along with the system performance data.

> **Note:** Compute Sensor (hpsensor) is a light-weight performance and log data collection process.

Authentication

Operations Agent Health View server runs on a Tomcat server. The default Tomcat server port is 8444 and the URL to access the Operations Agent Health View is:

```
https://<servername>:tomcatserverport/HV
```

If LDAP is configured, then user authentication is required to access Operations Agent Health View. Authentication is provided using Microsoft Active Directory or OpenLDAP. The user name and password entered in the message browser is sent to the Tomcat server and then to the LDAP server for authentication. The user name and password is validated against LDAP server database. If authentication is successful, then the Operations Agent Health Dashboard View appears. For more information about configuring LDAP, see Configuring LDAP.

If LDAP server is not configured, then user authentication is not required.

Health Monitoring Process and the Parameters Monitored

Operations Agent Health View monitors the health of different agent processes based on the following:

- State change notifications at node view level is enabled by default for all the processes listed under **ovc** and **ovpa**:

- To view the processes listed under ovc, run the following command:

  `ovc -status`

- To view the processes listed under ovpa, run the following command:
  - *On Windows*: `perfstat -o`
  - *On Unix/Linux*: `ovpa -status perf`

- Running processes list in the node view is driven by the Operations Agent application configuration in the param file and it includes the agent, LCore, and perf processes.
- In the process view tab, resource utilization and performance data table is available for all the processes listed in the running process list in the node view table.
- In the process view tab, health parameters and policy parameters table is available for the agent processes which provide the agent health interface (run **`bbcutil -reg`** to see the list of processes which provide the agent health interface).
- Additionally, health parameters are implemented for some perf processes (perfd and perfalarm) through external collection method. These processes do not provide any health interface.

Health Parameters

Health Parameters are the parameters or the set of attributes defined for a process depending on what the process is expected to do.

The following table provides the health parameter details that affect the performance and utilization of different agent processes:

Process	Health Parameter	Parameter Description
opcmsga (Message Agent)	Buffer File Garbage Collector	Message agent (opcmsga) uses msgagtdf as temporary storage for outgoing messages. It is also used to buffer messages when the server is not reachable. Buffer file garbage collector removes unwanted messages from msgagtdf.
	Message Forwarding to Server	This parameter ensures that the agent is able to forward alerts and events to the server. If this parameters fails, then the agent will be in the buffering mode.
opcacta (Action Agent)	Read Action Request	This parameter indicates whether the action agent is able to successfully read an action request from the action queue.

	Failed Actions in Last One Hour	The action agent (opcacta) is responsible for starting automatic actions, operator-initiated actions, and scheduled actions. This parameter indicates any failed actions in the last one hour.
	Scheduled Action Request Count in Last One Hour	This parameter indicates the total number of scheduled actions in the last one hour.
	Auto Action Request Count in Last One Hour	This parameter indicates the total number of auto actions in the last one hour.
oacore (Data Collector)	Total Requests in Last One Hour	oacore provides a read and write interface for system performance and custom data. This parameter indicates the number of requests processed in the last one hour.
	Last Model Update	oacore provides a read and write interface for system performance and custom data based on model defined. This parameter indicates when the last successful model update occurred.
	Time to Log Data into DataStore	oacore provides a read and write interface for system performance and custom data. This parameter provides the time required to log data into datastore.
opcle (Logfile Encapsulator)	Log File Processing	This parameter indicates the state of the log file processing.
	Windows Event Log Processing	This parameter indicates the state of the event log processing. It also indicates whether opcle is able to subscribe to the event channel (Parameter: Windows Event Channel Subscription).
	Log File Conversion Commands	Checks whether opcle is able to execute log file pre-processing commands successfully.
opcmsgi (Message Interceptor)	Policy Initialization	This parameter indicates whether opcmsgi is able to load the msgi type of policies correctly and convert them into required format.
	Read Message Interceptor Queue	This parameter indicates whether the opcmsgi is able to read the message interceptor queue file.
opctrapi (Trap Interceptor)	Incoming Traps	Checks whether the trap interceptor (opctrapi) is able to receive incoming traps successfully.
	Traps Received in Last One Hour	SNMP Trap interceptor (opctrapi) is the message interface for feeding SNMP events. This parameter indicates the number of traps received in the last one hour.

	Policy Loading	This parameter indicates whether the trap interceptor (opctrapi) is able to load the SNMP type of policies correctly and convert them into the required format.
	SNMP Session	This parameter indicates whether trap interceptor (opctrapi) is able to open a SNMP session to receive traps.
opcmona (Monitoring Agent)	DataStore Connection	This parameter indicates the monitoring agent (opcmona) connection to datastore.
	AdvMon Schedule Actions	This parameter indicates whether the monitoring agent (opcmona) is able to schedule the action as mentioned in the schedule policy.
	DataStore Feed	This parameter indicates whether the monitoring agent (opcmona) is able to feed the custom data to the datastore successfully.
	SNMP Session	This parameter indicates whether the monitoring agent (opcmona) is able to open a session to connect to the SNMP daemon.
	SNMP GET	This parameter indicates whether the monitoring agent (opcmona) is able to fetch SNMP MIB information.
	SNMP WALK	This parameter indicates whether the monitoring agent (opcmona) is able to fetch SNMP information from multiple MIBs.
	WMI Connection	This parameter indicates whether the monitoring agent (opcmona) is able to collect data from local or remote system.
	Perl Engine Creation	This parameter indicates whether the monitoring agent (opcmona) is able to load the embedded Perl engine for executing Perl scripts.
	Perl Script Execution	This parameter indicates whether the monitoring agent (opcmona) is able to run the embedded Perl scripts to monitor or schedule policies successfully.
perfd (Real-Time Metric Access)	License Check	This parameter checks the perfd license.
	Client Connection	This parameter indicates the cpsh connection to perfd.
perfalarm	License Check	This parameter checks the perfalarm license.

Convention Used in this Document

The following conventions are used in this document.

Convention	Description

`<OvBinDir>`	**<OvBinDir>** is used in this document to imply the following location:
	• *On Windows*:
	  ◦ *Windows x64*: `%OvInstallDir%bin\win64\`
	  ◦ *Windows x86*: `%OvInstallDir%bin\`
	• *On Linux/HP-UX/Solaris*: `/opt/OV/bin/`
	• *On AIX*:`/usr/lpp/OV/bin/`

Health View Server	System on which the Operations Agent Health View server is installed.

Chapter 2: Installing Operations Agent Health View

Operations Agent Health View can be installed using the following steps:

1. Install Operations Agent Health View package on the server.

   > **Note:** Operations Agent Health View is supported on Linux and Windows x64 platforms only.

2. Install Operations Agent 12.04 and enable health monitoring on the node.

Install Operations Agent Health View Package on the Server

Operations Agent Health View package can be installed by one of the following methods:

- Install Operations Agent Health View during the registration of the Operations Agent 12.04 on the OM Management Server.

  > **Note:** Irrespective of the platform you want to register, Health View package can be installed during the registration of the Operations Agent 12.04.

  Or

- Install Operations Agent Health View without registering Operations Agent 12.04 on the OM Management Server.

  Or

- Install Operations Agent Health View on a server other than the OM Management Server.

Prerequisites

- Local agent on the Health View Server must be upgraded to Operations Agent 12.04.
- Trust must be established between the server and the nodes for successful communication. Ensure certificates from the same authority are installed on the Health View Server and the nodes. If the certificates are from different certificate authorities, then exchange the CA certificates and import

them into the node and the trusted keystores. For more information, see *"Establishing a Trust Relationship Between the Two Management Servers"* in the *Operations Manager Installation Guide for Linux* or *"Configure trusted certificates for multiple management servers"* in the *Operations Manager Online Help for Windows.*

- If you use only the Performance Collection Component of the Operations Agent (**HP Operations OS Inst Performance LTU**):
  - Ensure that you disable the default HBP configuration to the OM Management Server. For more information, see *Configuring Health View Capabilities.*
  - In the profile file, add the **OPC_SELFMON_SERVER** variable to update the Health View Server and set the **OPC_SELFMON_ENABLE** variable to **TRUE**.

    > **Note:** If you set the OPC_SELFMON_ENABLE variable to TRUE after installation, you must start the action agent (**opcacta**) manually.

  - If certificates are installed on the server and the nodes, ensure that the certificates are from the same authority. When certificates are installed, the communication between the server and the nodes is through HTTPS mode.
  - If no certificates are installed either on the server or the nodes, then the communication between the server and the nodes is through HTTP mode.

> **Note:** Local agent on the Health View Server is considered as any other node in your environment.

Install Operations Agent Health View

Task	Follow these steps
Install Operations Agent Health View during the registration of the Operations Agent 12.04 on the OM Management Server.	1. Make sure that you have downloaded the .ISO file or obtained the physical DVD of the Operations Agent 12.04. 2. Log on to the server as an administrator. 3. Extract the contents of the .ISO file into a local directory on the server or mount the .ISO file. 4. Go to the media root and run the following command to register the agent deployment packages and install the health view package: ◦ *On Windows:* `cscript oainstall.vbs –i –m -hv|-healthview` ◦ *On Linux:* `./oainstall.sh –i –m -hv|-healthview` 5. Verify Operations Agent Health View configuration on the server.

Install Operations Agent Health View, continued

Install Operations Agent Health View without registering on the OM Management Server *Or* Install Operations Agent Health View on a Server other than the OM Management Server	1. Make sure that you have downloaded the .ISO file or obtained the physical DVD of the Operations Agent 12.04. 2. Log on to the server as an administrator. 3. Extract the contents of the .ISO file into a local directory on the server or mount the .ISO file. 4. Go to the media root and run the following command to install the health view package: ◦ *On Windows:* `cscript oainstall.vbs –i -hv|-healthview` ◦ *On Linux:* `./oainstall.sh –i -hv|-healthview` 5. Verify Operations Agent Health View configuration on the server.

> **Note:** For additional configuration settings, see *Custom Settings for Operations Agent Health View on the Server.*

Verifying Operations Agent Health View Configuration on the Server

Run the following command to verify Operations Agent Health View configuration on the server:

```
<OvBinDir>ovc -status
```

Check if the **hpcsrvd** process is running on the server to verify the configuration ofOperations Agent Health View on the server.

Install Operations Agent and Enable Health Monitoring on the Node

You can enable Operations Agent health monitoring on the node either during the installation or after the installation of Operations Agent 12.04.

- Enable health monitoring on the node during the installation of Operations Agent using one of the following methods:
  - Health monitoring is enabled on the node by default when you remotely deploy Operations Agent from a OM Management Server.
  - If you use **HP Operations OS Inst Adv SW LTU** and if you want to set the OM Management Server as the Health View Server, then health monitoring is enabled on the node by default when you upgrade the node to Operations Agent.
  - Enable health monitoring during installation of the Operations Agent using the profile file (*see Operations Agent Installation Guide for more information about using the profile file*):
    - If you use **HP Operations OS Inst Adv SW LTU** and if you want to set the OM Management Server as the Health View Server, then health monitoring is enabled on the node by default.

      Or

    - If you use **HP Operations OS Inst Performance LTU** or if you have installed Operations Agent Health View on a server other than the OM Management Server, then add **set agent.health:OPC_SELFMON_ENABLE=TRUE** and also add **set agent.health:OPC_SELMON_SERVER=<*health view server IP address*>** in the profile file to enable health monitoring on the node.
  - If you use **Glance Pak Software LTU**, then add **set agent.health:OPC_SELFMON_ENABLE=TRUE** and also add **set agent.health:OPC_SELMON_SERVER=<*health view server IP address*>** in the profile file to enable health monitoring on the node.
- Enable health monitoring on the node after the installation of Operations Agent using one of the following methods:
  - If you use **HP Operations OS Inst Adv SW LTU** and if you want to set the OM Management Server as the Health View Server, then run the following command to enable health monitoring on the node:
    - *On UNIX*:

      On Linux/HP-UX/Solaris: `/opt/perf/bin/selfmon_configure.pl -enable`

      On AIX: `/usr/lpp/perf/bin/selfmon_configure.pl -enable`
    - *On Windows*: `%OvInstallDir%nonOV\perl\a\bin\perl.exe %OvInstallDir%bin\selfmon_configure.pl -enable`
  - If you use **HP Operations OS Inst Performance LTU** or if you have installed Operations Agent Health View on a server other than the OM Management Server, then run the following command to enable health monitoring on the node:

- *On UNIX*:

  On Linux/HP-UX/Solaris: `/opt/perf/bin/selfmon_configure.pl -enable -s <health view server IP address>`

  On AIX: `/usr/lpp/perf/bin/selfmon_configure.pl -enable -s <health view server IP address>`

- *On Windows*: `%OvInstallDir%nonOV\perl\a\bin\perl.exe %OvInstallDir%bin\selfmon_configure.pl -enable -s <health view server IP address>`

◦ If you use **Glance Pak Software LTU**, then run the following command to enable health monitoring on the node:

- *On UNIX/Linux*: `/opt/perf/bin/selfmon_configure.pl -enable -s <health view server IP address>`

> **Note:**
> ◦ If you use **HP Operations OS Inst Performance LTU**, then you must start action agent (opcacta) manually after running the **selfmon_configure.pl** script to enable health monitoring. Run the following command to start opcacta:
>
> `<OvBinDir>ovc -start opcacta`
>
> ◦ If you have installed Operations Agent Health View on a server other than the OM Management Server, then configure the nodes with the IP address of the system where Operations Agent Health View is configured. For more information, see *Configuring Operations Agent Health Monitoring on the Node.*
>
> ◦ Operations Agent Health View is not available if you use only the **Glance Software LTU**.

Verifying Operations Agent Health Monitoring Configuration on the Node

Run the following command to verify Operations Agent health monitoring on the node:

`<OvBinDir>ovc -status`

Check if the **hpsensor** process is running on the node to verify the configuration of Operations Agent health monitoring on the node.

> **Note:** If you use **HP Operations OS Inst Adv SW LTU** or **HP Operations OS Inst Performance LTU**, then set the configuration variable **OPC_SELFMON_ENABLE** to **TRUE** for

hpsensor to run.

Accessing Operations Agent Health View

Follow the steps to access Operations Agent Health View:

1. Enter the following address on a browser to open the **Operations Agent Health View**:

   https://<*server_name*>**:**<*tomcat_port*>**/HV**

   In this instance:

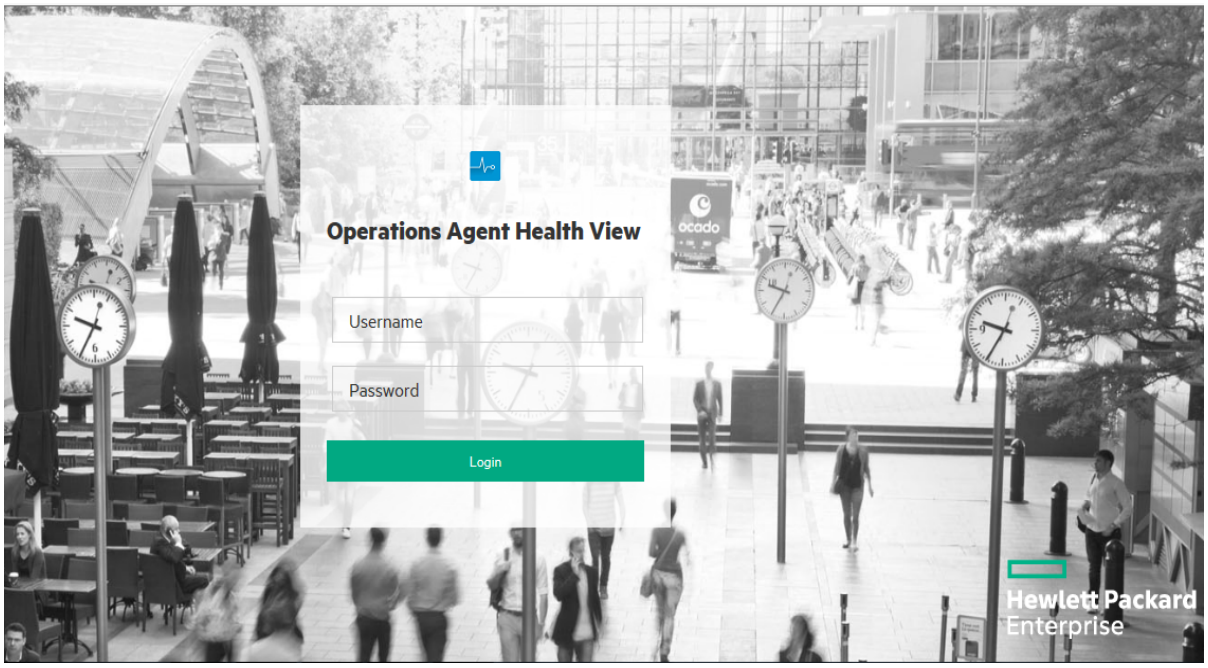
   <*server_name*>: Name of the server where Tomcat is running and the Health View Server is configured. By default, the OM Management Server is configured as Health View Server.

   <*tomcat_port*>: Port number on which the Tomcat server is running. By default, port 8444 is configured.

   > **Note:** Configure nodes with Operations Agent health monitoring. For more information, see *Configuring Operations Agent Health Monitoring on the Node*. After configuring nodes with Operations Agent health monitoring, the configured node appears on the Health View Server only after 5 minutes.

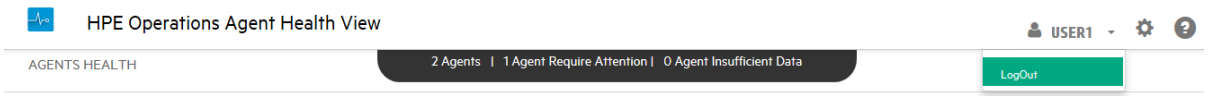
2. If LDAP is configured, then user authentication is required to access Operations Agent Health View. Log in using the LDAP user credentials. For more information about configuring LDAP see, Configuring LDAP. If LDAP server is not configured, then user authentication is not required.

   If LDAP server is configured, the Operations Agent Health View Login page appears.



Enter the User name, Password and then click **Login**. The **Operations Agent Health Dashboard View** appears.

3. Click any **Host Name** on the Health View Server to open the **Operations Agent Node Health View** for the specific managed node. You can monitor the health and performance status of the node.
4. Click any **Process Name** on the node health view to open the **Operations Agent Process Health View** of the specific Operations Agent process. You can monitor the resource utilization, health, and policy parameter details of the process.
5. To log out of Operations Agent Health View, click the user name drop-down and then click **LogOut.**



The following message is displayed:

```
You have successfully logged out of Operations Agent Health View.
```

Note:

- Once logged-in, if a user session is inactive for 20 minutes, the session expires and the system logs out the user.

- On Windows, Health View Server will access the required files even if the file path contains special characters like ~ symbol. This will be restricted only if the Windows settings are updated to restrict special characters in the file path.

Supported Browsers

Use the following web browsers to access the Operations Agent Health View:

Operating Systems	Supported Browsers
Microsoft Windows	Internet Explorer 10 and 11 Google Chrome 43 Mozilla Firefox 38 (ESR)
Linux	Mozilla Firefox 38 (ESR)
Apple Mac OS X	Safari 7.1.6

Removing Operations Agent Health View from the Server

To remove the Operations Agent Health View packages from the server, perform the following steps:

1. Log on to the server as an administrator.
2. Go to the following directory:
   - *On Windows*: `%ovinstalldir%bin\OpC\agtinstall`
   - *On Linux*: `/opt/OV/bin/OpC/agtinstall`
3. Run the following command if you have set OM Management Server as the Health View Server:
   - *On Windows:* `cscript oainstall.vbs –r –m –healthview`
   - *On Linux:* `./oainstall.sh –r –m –healthview`
4. Run the following command if you have installed Operations Agent Health View on a server other than the OM Management Server:

- *On Windows:* `cscript oainstall.vbs -r -healthview`
- *On Linux:* `./oainstall.sh -r -healthview`

> **Note:** On Linux systems, removing the Operations Agent Health View package will not remove HPOvJREB and HPOvtomcat packages, these packages have to be removed manually.

Chapter 3: Configuring Operations Agent Health View

You can update default configuration settings for Operations Agent Health View on the Health View Server and Operations Agent health monitoring on the node.

- Configuring Operations Agent Health View on the Server
- Configuring Operations Agent Health Monitoring on the Node

Configuring Operations Agent Health View on the Server

After installing the Operations Agent Health View on the server, you can use the **hpcsrv.conf** file to change the default configuration settings.

Follow the steps:

1. Log on to the server as an administrator.
2. Go to the following directory:
   - *On Windows*: `%OvDataDir%shared\server\hpcsrv\`
   - *On Linux*: `/var/opt/OV/shared/server/hpcsrv/`
3. Open the **hpcsrv.conf** file and edit the following values:

Namespace	Parameter	Details
`hpcs.runtime`	port	Update the default port number as **port=**`<Value>`. By default, port 8092 is configured. In this instance, `<Value>` is the port number that is used by the Operations Agent Health View Server.
`hpcs.runtime`	num_threads	Update the default number of threads as **num_threads=**`<Value>`. By default, the number of threads is set to 30.

		In this instance, **<Value>** is the number of worker threads allocated to handle the incoming requests from clients. Increase this value if the number of incoming requests are more.
hpcs.runtime	connection_ backlog	Update the default connection backlog as **connection_ backlog=<Value>**. By default, the connection backlog is set to 16384 on Windows and 512 on Linux. In this instance, **<Value>** is the length of the backlog socket queue for the web server. Set it to a higher value to obtain maximum scalability.
hpcs.runtime	regBBC	Set **regBBC=true** for the **hpcsrv** component to get registered with BBC.
hpcs.registry	UpdateInterval	Update the default update interval value as **UpdateInterval=<Value>**. The default value is 60 seconds. In this instance, **<Value>** is the frequency at which HBP entries are consolidated. Set it to a higher value to obtain maximum scalability.
hpcs.trace	Debug_Level	Update the debug level value as one of the following: **Debug_Level=<INFO/WARN/ERROR/DEBUG/ALL>**. **Example:** **Debug_Level=INFO** provides traces of INFO messages to **hpcsrvtrace.log**.

Note: If any of the parameters are configured manually, then you must restart **hpcsrvd**. Run the following command to restart **hpcsrvd**:

```
<OvBinDir>ovc -restart hpcsrvd
```

Additionally, you can use the XPL variable listed in the following table to configure the default behavior of the hpcsrvd process:

Variable	Namespace	Description	Restart Required	Default Value	Type
ENFORCE_ SERVER_ SSL	hpcsrvd	This parameter controls the connections allowed at the HTTP server. This parameter may be set to one of the following values: NONE: Both SSL and non-SSL connections will be accepted by the HTTP server.	YES	ALL	String

Variable	Namespace	Description	Restart Required	Default Value	Type
		REMOTE: All remote connections to the HTTP server must use SSL. Remote connections that do not use SSL will be automatically rejected. Local connections may use SSL or non-SSL. ALL: All connections to the HTTP server must use SSL. Connections that do not use SSL will be rejected automatically. This parameter is ignored if set to any other value. The HTTP server will then use the authentication specified by the application that created the HTTP server. This parameter is not case sensitive. **Note:** Use caution when setting this parameter as it will disable security features if set to 'NONE' or 'REMOTE'.			

Log Files

HPCS log file **hpcsrvtrace.log** is available in the following directory:

- *On Windows*: `%OvDataDir%shared\server\hpcsrv\`
- *On Linux*: `/var/opt/OV/shared/server/hpcsrv/`

Configuring Operations Agent Health Monitoring on the Node

You can update default configuration settings for the Operations Agent health monitoring using `selfmon_configure.pl` script after installing of the Operations Agent 12.04. Follow the steps:

1. Log on to the node where you have installed Operations Agent 12.04 as an administrator.
2. You can configure the following parameters using the **selfmon_configure.pl** script:

Parameter	Details
`-e|-enable` or `-d|-disable`	Enable or disable Operations Agent health. This command sets the **OPC_SELFMON_ENABLE** variable in the `agent.health` namespace.
`-s|-server`	IP address or the host name of the system where Operations Agent Health View is configured. By default, the OM Management Server is configured as the Health View Server. This parameter sets the **OPC_SELFMON_SERVER** variable in the `agent.health` namespace. This is an optional parameter used along with `-e` option.
`-i|-interval`	Defines the frequency at which the system health information is collected and exposed to the Health View Server. The default value is 300 seconds and the minimum value recommended is 60 seconds. This parameter sets the **OPC_SELFMON_INTERVAL** variable in the `agent.health` namespace. This is an optional parameter used along with `-e` option.

For Example:

To update the Operations Agent Health View Server, run the following command:

- *On UNIX*:
  - *On Linux/HP-UX/Solaris*: `/opt/perf/bin/selfmon_configure.pl -enable -s <health view server IP address>`
  - *On AIX*: `/usr/lpp/perf/bin/selfmon_configure.pl -enable -s <health view server IP address>`
- *On Windows*:

```
%OvInstallDir%nonOV\perl\a\bin\perl.exe %OvInstallDir%bin\selfmon_configure.pl -enable -s <health view server IP address>
```

In this instance:

<*server*> is the IP address or the host name of the Health View Server.

<*%OvInstallDir%nonOV\perl\a\bin\perl.exe*> is the path to **Perl** on Windows.

> **Note:** Set **HP Operations OS Inst Adv SW LTU** or **HP Operations OS Inst Performance LTU** to ensure that health monitoring is functional before running **selfmon_configure.pl** script.

> **Note:** If any of the parameters are configured manually, then you must restart **hpsensor**.
>
> Run the following command to restart **hpsensor**:

```
<OvBinDir>ovc -restart hpsensor
```

Log Files and hpcs.conf File

HPCS log files **hpcstrace.log** and **hpcswatch.log** and the **hpcs.conf** file are available in the following directory:

- *On Windows*: `%OvDataDir%hpcs\`
- *On UNIX/Linux*: `/var/opt/OV/hpcs/`

Configuring Operations Agent Health Monitoring Capabilities Using ovconfchg

You can also use **ovconfchg** to configure the following health monitoring capabilities:

- To enable the Operations Agent health monitoring, run the following command:

  `<OvBinDir>ovconfchg -ns agent.health -set OPC_SELFMON_ENABLE TRUE`

  The default value is FALSE.
- To set the agent health monitoring interval, run the following command:

  `<OvBinDir>ovconfchg -ns agent.health -set OPC_SELFMON_INTERVAL <value>`

  The default value is 300 seconds and the minimum value recommended is 60 seconds.
- To disable the default HBP configuration, run the following command:

  `<OvBinDir>ovconfchg -ns agent.health -set OPC_SELFMON_HBP FALSE`

  The default value is TRUE.
- To update/modify the Health View Server, run the following command:

  `<OvBinDir>ovconfchg -ns agent.health -set OPC_SELFMON_SERVER <health view server IP address>`

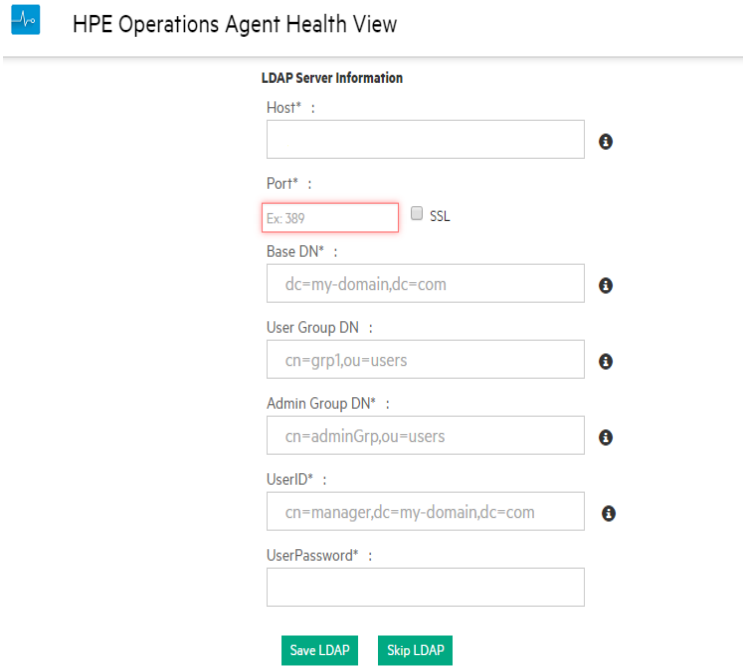
  By default, the OM Management Server is configured as Health View Server.

Configuring LDAP

User authentication in Operations Agent Health View is provided using Microsoft Active Directory or OpenLDAP. You can configure LDAP from the Dashboard View of the Operations Agent Health View.

To configure LDAP for Operations Agent Health View, follow the steps:

1. From the Dashboard View , click **(Settings)**. The **LDAP Configuration** page appears.



2. Provide the following information to configure LDAP:

Field	Description
Host	The fully-qualified LDAP server domain name (server.domain.com) or IP address.
Port	The port used to connect to the LDAP server. The default port number for LDAP and LDAPS (LDAP over SSL) server is 389 and 636 respectively.
SSL	If the LDAP server is configured to require LDAPS , select the SSL check box.
Keystore	Location of the Keystore that stores the LDAP server certificate. This field is

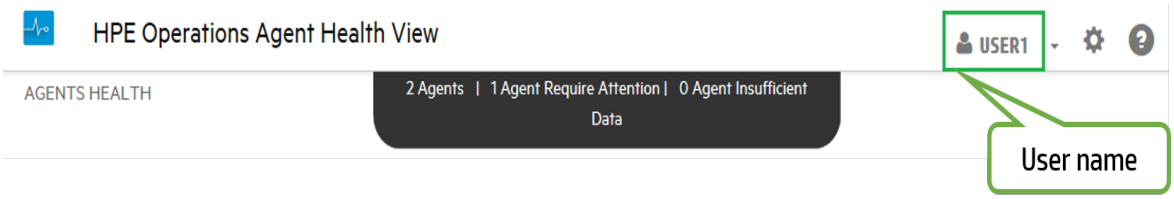
Field	Description

Location	mandatory if the SSL check box is selected.
	To get the Keystore location, perform the following steps:
	a. Obtain the Server Certificate
	You must add the Microsoft Active Directory server SSL certificate to the list of accepted certificates used by the Operations Agent Health View server. To add the certificate, export the certificate by running the following command on the Microsoft Active Directory server:
	`certutil -ca.cert <sample.crt>`
	In this instance,
	sample.crt is the name of the SSL certificate that you want to export to the Operations Agent Health View server.
	b. Import the Server Certificate
	You must import the Microsoft Active Directory server certificate to the keystore for SSL enabled communication between the Operations Agent Health View server and the Microsoft Active Directory. Follow the steps:
	i. Run the following command to obtain the `KeystoreFile` value:
	`<OvBinDir>ovconfget NONOV.TomcatB`
	The `KeystoreFile` value will be as shown:
	`KeystoreFile=/var/opt/OV/certificates/tomcat/b/tomcat.keystore`
	ii. Run the following commands to import the server certificate:
	• `/opt/OV/nonOV/jre/b/bin/keytool -importcert -keystore /opt/OV/nonOV/jre/b/lib/security/cacerts -file <LDAP_CA_certificate>`
	• `/opt/OV/nonOV/jre/b/bin/keytool -importcert -keystore <keystore_file> -file <LDAP_CA_certificate>`
	The keytool prompts you for a password. The default password is `changeit`
	Select yes to confirm the key import when prompted with Trust this Certificate?[no]: `yes`
	In this instance,
	<*keystore_file*> is the `KeystoreFile` value obtained during **Step i**
	<*LDAP_CA_certificate*> is the location and name of the CA certificate that you want to import. For example `/root/sample.crt`
	iii. Restart the `ovtomcatB` process, run the following commands:

Field	Description
	`ovc -stop ovtomcatB` `ovc -start ovtomcatB`
Base DN	The Base Distinguished Name represents the top most level of the LDAP directory from where the LDAP search begins. For example, dc=mydomain,dc=com
User Group DN	The Distinguished Name of the Group or Organization Unit (OU) of users without administrator rights. The value is relative to the Base DN value. Multiple values should be separated with the || sign. For example, cn=grp1,ou=users||cn=grp2,ou=users.
Admin Group DN	The Distinguished Name of the Group or Organization Unit (OU) of users with administrator rights. The value is relative to the Base DN value. Multiple values should be separated with the || sign. For example, cn=adminGrp1,ou=users||cn=adminGrp2,ou=users.
User ID (Full DN)	The full Distinguished Name of the user with search permissions. For example, cn=Manager,dc=mydomain,dc=com
User Password	Password of the User ID.

3. Click the **Save LDAP** option.

   After saving the LDAP configuration, the user name is displayed on the top right corner.



> **Note:**
> - All fields marked with asterisk (*) are mandatory. You can save the LDAP server information only after all the mandatory fields are filled.
> - If required, **Admin Group** user can change the LDAP configuration any time.
> - Click the **Skip LDAP** option, if you do not want to configure LDAP. If LDAP is configured for a user, then **Skip LDAP** option will be disabled.

Removing the LDAP configuration

Follow the steps to remove the LDAP configuration for Operations Agent Health View:

1. Log on to Operations Agent Health View as a root user.
2. Run the following command at the command prompt:

   ```
   /opt/OV/bin/ovconfchg -edit
   ```

   A text file opens.

   For example:

   ```
   [agent.health]
   BASEDN=dc=my-domain,dc=com
   HOST=sample.my-domain.com
   ISSSL=false
   OPC_SELFMON_ENABLE=True
   PORT=389
   SSL_KEY_STORE_PATH=
   USERDN=ou=qaou,dc=my-domain,dc=com
   ```

3. Delete all the contents in the `[agent.health]` namespace except OPC_SELFMON_ENABLE=True.
4. Save and close the file.

Configuring the Web Server to Disable TLSv1.0

TLSv1.0 protocol is considered insecure as it cannot support strong cipher suites [1]. The insecure protocol version prevents the protection mechanism for the data transmitted between the client and the web server. Therefore, it is recommended to configure the web server to use the most secure protocol such as, TLSv1.1 or TLSv1.2. The insecure protocol, TLSv1.0 must be disabled for secure communication.

Follow these steps to disable the TLSv1.0 protocol in `OvTomcatB`:

1. Log on to Operations Agent Health View as a root user.
2. Run the following command at the command prompt:

   ```
   <OVBinDir>/bin/ovconfchg -edit
   ```

   A text file opens.

3. In the text file, edit the following values under the `NONOV.TomcatB` namespace:
   a. Modify the SslProtocol value by setting it to either TLSv1.1 or TLSv1.2:

      ```
      SslProtocol=TLSv1.1
      ```

      The default value for SslProtocol is TLSv1.

   b. Modify the sslEnabledProtocols value by removing TLSv1 and then setting it to the following:

      ```
      sslEnabledProtocols=TLSv1.1, TLSv1.2
      ```

      The default value for sslEnabledProtocols is TLSv1, TLSv1.1, TLSv1.2.

   > **Note:** Once you install the Operations Agent Health View server, the `NONOV.TOMCATB` namespace is created by default.

4. Create the following namespace in the text file:

   ```
   [sec.core.ssl]

   COMM_PROTOCOL=TLSv1.1 or TLSv1.2
   ```

   > **Note:** The supported values for COMM_PROTOCOL are TLSv1, TLSv1.1 and TLSv1.2. If any values other than the supported values are set, then the communication between all the protocols are allowed.
   >
   > - If you set TLSv1, then TLSv1, TLSv1.1 and TLSv1.2 protocols are used for secure communication.
   > - If you set TLSv1.1, then TLSv1.1 and TLSv1.2 protocols are used for secure communication.
   > - If you set TLSv1.2, then only the TLSv1.2 protocol is used for secure communication.

5. Save and close the text file.
6. Run the following commands to restart Operations Agent for the changes to take effect:
   a. `ovc -kill`
   b. `ovc -start`

[1]A cipher suite is a named combination of authentication, encryption, message authentication code (MAC) and key exchange algorithms which is used to transfer the security settings for a network connection using the Transport Layer Security (TLS) or Secure Sockets Layer (SSL) network protocol.

Configuring the Variable for Heartbeat Messages

The Operations Agent sends heartbeat messages to the management server only if there is no regular message sent within the heartbeat interval. The OPC_HB_MSG_INTERVAL variable is disabled by default. Only if the OPC_HB_MSG_INTERVAL variable is enabled, the Operations Agent can send alive messages to the management server in a configurable interval. The normal heartbeat messages are sent as log-only messages. If you stop the Operations Agent, a critical heartbeat message is sent to the management server.

Run the following command to configure the OPC_HB_MSG_INTERVAL variable, available under the `agent.health` namespace:

```
<OvBinDir>ovconfchg -ns agent.health -set OPC_HB_MSG_INTERVAL <value>
```

In this instance, *<value>* is the configurable time interval in seconds.

> **Note:** The following message key identifier is used for heartbeat messages:
>
> `MsgKey = 8c72e1fa-b1f1-4def-8c7e-71ecee643351:<coreId>`
>
> The other message attributes used for heartbeat messages include MSGTXT, APPLICATION, OBJECT, SEVERITY, SERVICEID, MSGKEYRELATION and ICON.
>
> The heartbeat messages with Normal severity must be sent as log only events.

The following configuration setting is used for the OPC_HB_MSG_INTERVAL variable:

```
[agent.health]

OPC_HB_MSG_INTERVAL= <time in seconds>
```

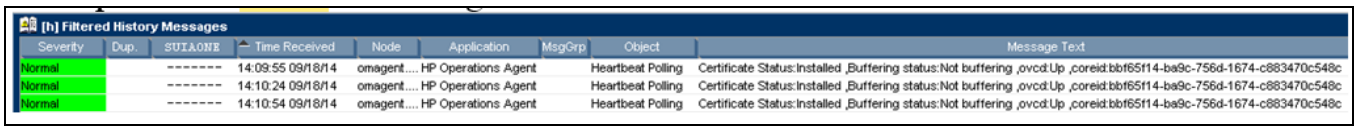
For example:

If you want the Operations Agent to send heartbeat messages at a interval of 10 minutes, use the following configuration setting for the OPC_HB_MSG_INTERVAL variable:

```
[agent.health]

OPC_HB_MSG_INTERVAL= 600
```

The following image illustrates the heartbeat messages:



Chapter 4: Using the Operations Agent Health View

Operations Agent Health View provides the following three views:

- Dashboard View
- Node View
- Process View

Using the Operations Agent Health Dashboard View

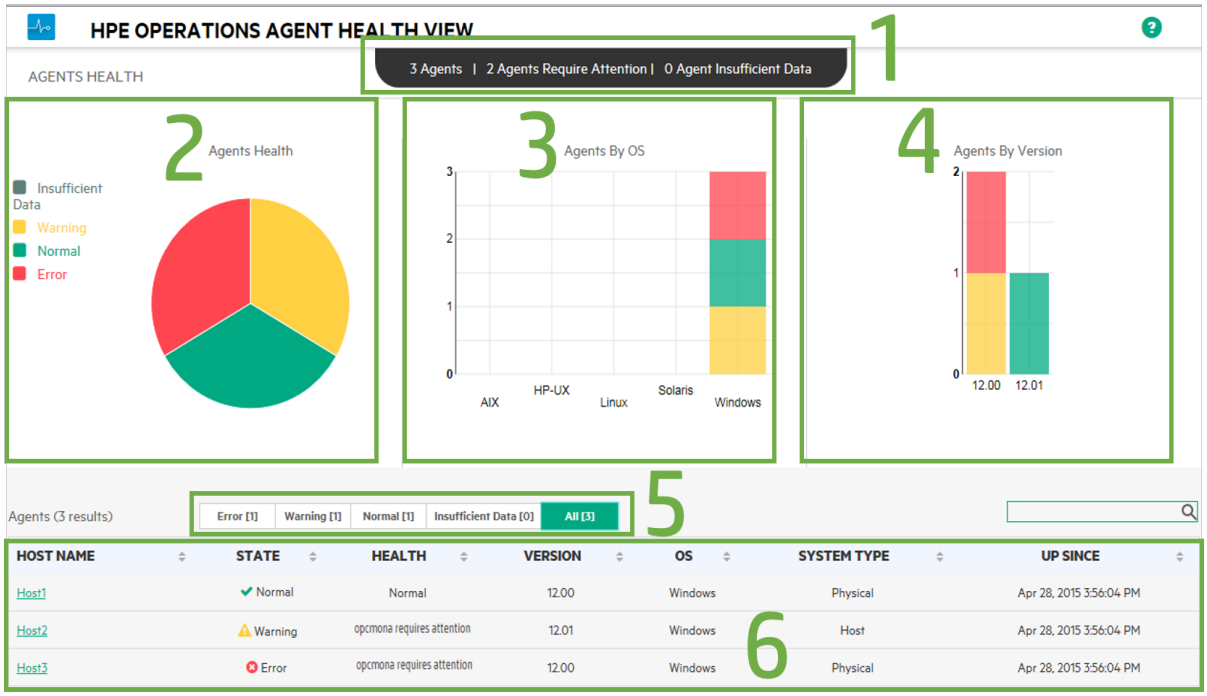
Operations Agent Health View provides a consolidated view about the health of Operations Agents. The Dashboard View helps you to monitor Operations Agents in a centralized environment. The health of Operations Agents distributed across various environments is represented as pie charts and bar graphs.

> **Note:** You can monitor the health and performance of only those nodes that are configured with Operations Agent Health View.

The Operations Agent Dashboard View provides you the following:

- Health overview of the nodes configured with Operations Agent Health View.
- Quickly view the health, operating system and version details of the nodes configured with the Operations Agent Health View. You can also get the count of Operations Agents that require attention.
- Drill-down into each managed node to view the health and performance status of the Operations Agent.

User Interface



The UI elements listed in the image are described in the following table:

Legend	Section	Description
1	Overview	Provides an overview of the number of agents configured with the Operations Agent Health View. You can also see the number of agents that require attention and the number of agents with **Insufficient Data**. Here, all the agent nodes that are in **Error or Warning** state are denoted as Agent(s) that require attention.
2	Agents Health	Provides an overview of the health of agents running on the nodes configured with the Operations Agent Health View. The pie chart provides the following details: **Status** / **Description** Error — One or more subagents are in aborted state on these agent nodes. Warning — One or more parameters have failed on these agent nodes.

<table>
<tr><td></td><td></td><td>
<table>
<tr><td>Normal</td><td>All the agent processes are in running state and all the parameters are in good state on these agent nodes.</td></tr>
<tr><td>Insufficient Data</td><td>Data not received from these agent nodes.</td></tr>
</table>
Note: Each color represents a different state of the agents running on the nodes configured with the Operations Agent Health View.
</td></tr>
<tr><td>3</td><td>Agents By OS</td><td>Provides an overview of the agents running on different operating systems (AIX, HP-UX, Linux, Solaris or Windows) as a bar graph. This information is available only for nodes configured with Operations Agent Health View.</td></tr>
<tr><td>4</td><td>Agents By Version</td><td>Provides an overview of the agents running with different versions of Operations Agent. This information is available only for nodes configured with Operations Agent Health View. Note: Operations Agent Health View is only available with Operations Agent 12.04. </td></tr>
<tr><td>5</td><td>Agents State</td><td>Provides tabs to view the list of agents based on their current state. Error tab is selected by default. In your environment, if no agents are in aborted state, then the agents where one or more parameters have failed (Warning tab) will be listed. Click any tab to view the list of agents in respective state.</td></tr>
<tr><td>6</td><td>Results Table</td><td>Results table groups agents by state. View the list of agents for any selected state or all the agents in your environment that are configured with Operations Agent Health View. Following is the list of entities and their description:
<table>
<tr><th>Entity</th><th>Description</th></tr>
<tr><td>Host Name</td><td>Node where Operations Agent health monitoring is configured.</td></tr>
<tr><td>State</td><td>Specifies the state of the node (Error/Warning/Normal/Insufficient Data).</td></tr>
<tr><td>Health</td><td>Specifies the health of the node.</td></tr>
<tr><td>Version</td><td>Specifies the version of the Operations Agent installed on the node.</td></tr>
<tr><td>OS</td><td>Specifies the operating system of the node.</td></tr>
</table>
</td></tr>
</table>

		<table><tr><td>System Type</td><td>Physical Machine, Virtual Machine, or Host.</td></tr><tr><td>Up Since</td><td>Last started time of the agent.</td></tr></table> You can search for any agent node and also re-order the results table in ascending or descending order based on any of the above listed entities. Click **Host Name** to drill-down and check the processes running under the selected node.

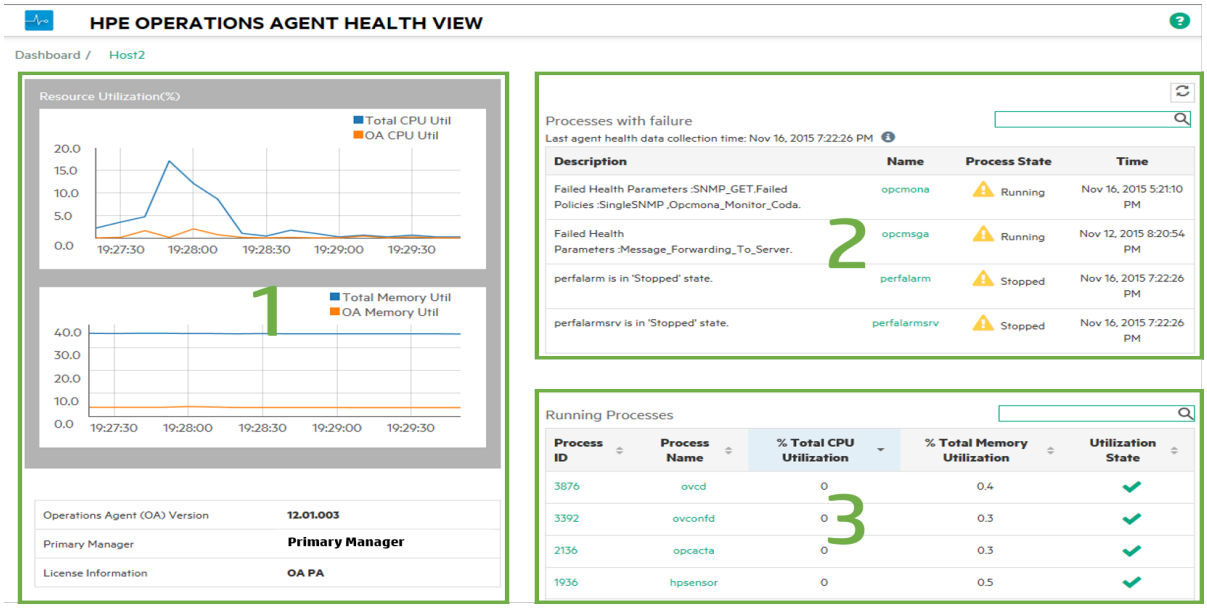
Using the Operations Agent Health Node View

TheOperations Agent Node View helps you to view the list of processes and resources that are currently being used. Node view provides drill-down view into each managed node providing the health and performance status of the Operations Agent installed. You can view the system resource utilization of Operations Agent processes such as CPUs, memory, and file systems against the overall resource utilization in the form of comparative graphs.

The Operations Agent Node View helps you do the following:

- Monitor the resource utilization of the node.
- Monitor the health of the Operations Agent processes.
- Drill-down to view the process health view.
- View the version and license information of the Operations Agent.

User Interface



The UI elements listed in the image are described in the following table:

Legend	Section	Description
1	Agent Resource Utilization	View resource utilization of the Operations Agent processes such as CPU and memory against the overall resource utilization in the form of comparative graphs. You can also view the version, primary manager, and the license information of the Operations Agent installed. The utilization graphs gets updated every 10 seconds and 4 minutes of utilization data is available at any given instance.
2	Failed Processes	View the failed processes for the selected node and the time when the process has failed. Click  to update the table. Following is the list of entities and their description: **Entity** / **Description** Description: Details of the failed processes. Name: Name of the failed processes. Process State: State of the process (Running/Aborted/Stopped). Time: Last agent health collection time/last process abort time. Click **Process Name** to drill-down and check the health or policy parameters that have failed for the selected process.
3	Running Processes	View all the Operations Agent processes running on the selected node and also view CPU utilization, memory utilization, and utilization state of each process. If any of the processes are in the **Warning** state, the CPU or

memory utilization of that process may have violated the defined threshold. The CPU and memory utilization threshold is set to 10% for all processes.

Click  to update the table. Following is the list of entities and their description:

Entity	Description
Process ID	Process ID of the running process.
Process Name	Name of the process.
Total CPU Utilization %	CPU utilization of the process.
Total Memory Utilization %	Memory utilization of the process.
Utilization State	Utilization state of the process [ (Normal) or  (Warning)].

You can search for any agent process and also re-order the table in ascending or descending order based on any of the entities listed earlier.

Click **Process Name** to drill-down and check the health and policy parameters for the selected process.

Using the Operations Agent Health Process View

Process view enables you to view the health and policy parameter details of each Operations Agent process. It provides drill-down view into each agent process and gives the resource utilization details.

The Operations Agent Process View enables you do the following:

- View health and policy parameter details of the process.
- View events for the process for the last 1 hour, 1 day, or 3 days.
- View the resource utilization of the selected process.
- Monitor the deployed policies of the Operations Agent process.
- View information about the failed health parameters.

User Interface

The UI elements listed in the image are described in the following table:

Legend	Section	Description
1	Health Parameters	View the process health parameters and their respective state for the selected process. Click any of the parameters to check the parameter details and if the parameter is in failed state, you can see possible corrective actions based on the diagnostic commands executed.
2	Process Resource Utilization	View resource utilization by the various metrics defined for the selected process. Following is the list of entities and their description: **Entity** / **Description** Metric Name / Name of the metric. Value / Value of the metric. Unit / Unit of the metric.
3	Process Details	View process start time. Click to update the health and utilization details of the process. The process details are updated every 300 seconds by default.
4	Process	View the process policy parameter details such as policy name, policy type,

<table>
<tr>
<td></td>
<td>Policy Parameter Details</td>
<td>policy state, policy interval and the last run time. Following is the list of entities and their description:
<table>
<tr><th>Entity</th><th>Description</th></tr>
<tr><td>Policy Name</td><td>Name of the policy.</td></tr>
<tr><td>Policy Type</td><td>Type of the policy or collection parameters.</td></tr>
<tr><td>Policy State</td><td>State of the policy (Active/Not Responding/Failed).</td></tr>
<tr><td>Policy Interval</td><td>Defines how often the policy should run.</td></tr>
<tr><td>Last Run Time</td><td>Last run time of the policy.</td></tr>
</table>
The policy details will be for the selected process under the selected node where Operations Agent health monitoring is configured.</td>
</tr>
<tr>
<td>5</td>
<td>Events</td>
<td>View event details for the selected process. You can view events for 1 hour, 1 day, or 3 days by selecting the respective tab. By default, events logged during the last one hour are displayed. If no events were logged in the last one hour, then events logged during the last 1 day or 3 days are displayed.
You can view the time, severity and description of the events. Mouse over the  icon to get more information on the severity.</td>
</tr>
</table>

Chapter 5: Launching the Operations Agent Health View from the Operations Manager

You can also access the health and performance status of the Operations Agent from the Operations Manager GUI.

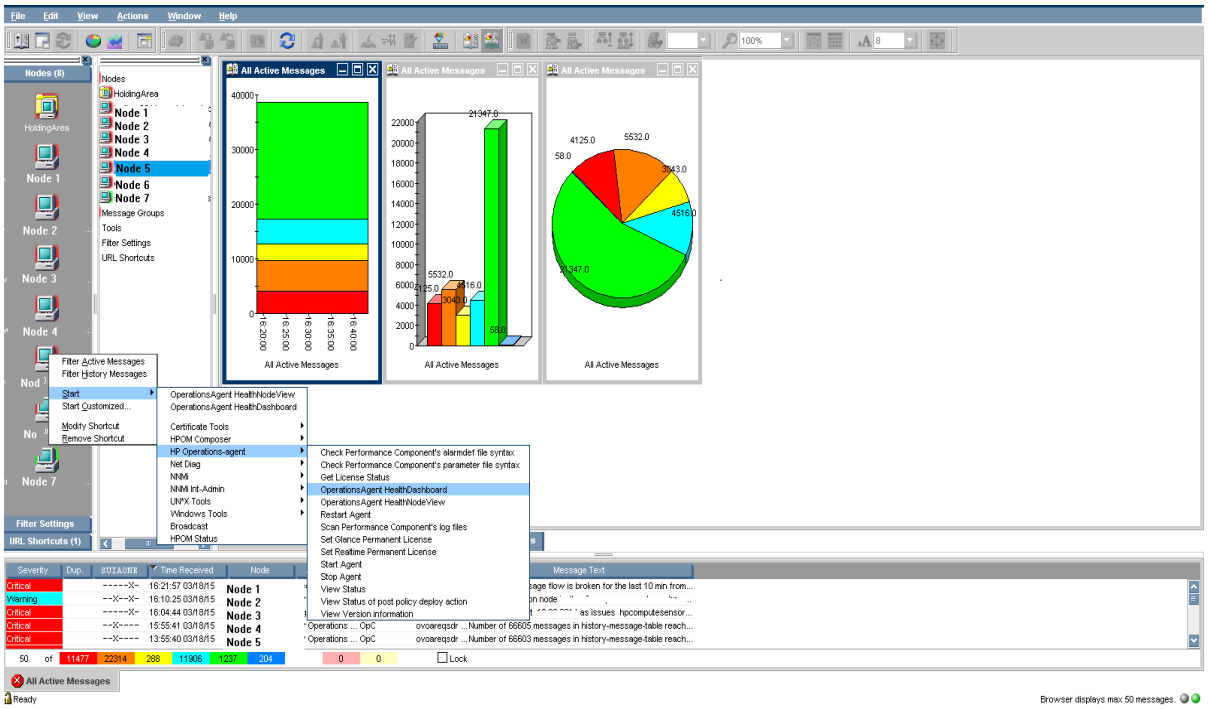
Launching the Operations Agent Health View from the Operations Manager for Linux

You can get the health perspective of the Operations Agent from the Operations Manager for Linux Java GUI.

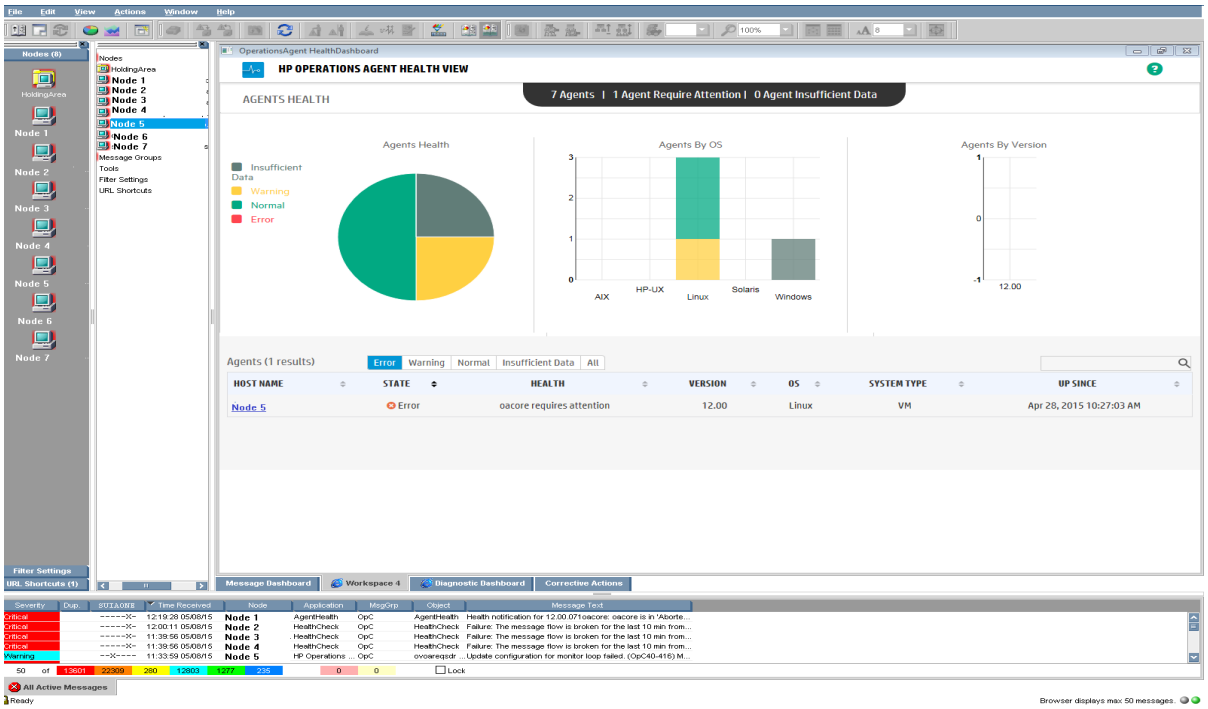
> **Note:** Operations Agent Health View supports integration with Operations Manager for Linux version 9.21.130 or above.

To access the health and performance status of the Operations Agent from the Operations Manager for Linux Java GUI, perform the following steps:

1. Log on to the Operations Manager for Linux server as an administrator.
2. Open the Operations Manager for Linux Java GUI.
3. Right-click the node on the left-panel.
4. Go to **Start --> Operations-agent --> Operations Agent HealthDashboard (or Operations Agent HealthNode View)**



5. Operations Agent Health View Server is launched.



6. Drill-down to view the health and performance status of the Operations Agent.

> **Note:** If the Health View Server port is manually configured to a non-default port, then update the

Tools menu by changing the port to the configured server port. Follow the steps:

- Run the following command to open the **applications.dat** file:

  ```
  /var/opt/OV/share/databases/OpC/mgd_
  node/tools/C/APPLICATIONS/applications.dat
  ```

- For the application **OperationsAgent HealthDashboard**, update the following:

  Change `APPL_CALL "https://$OPC_MGMTSV:8092/#/dashboardview"` to `APPL_CALL "https://$OPC_MGMTSV:<configured server port>/#/dashboardview"`

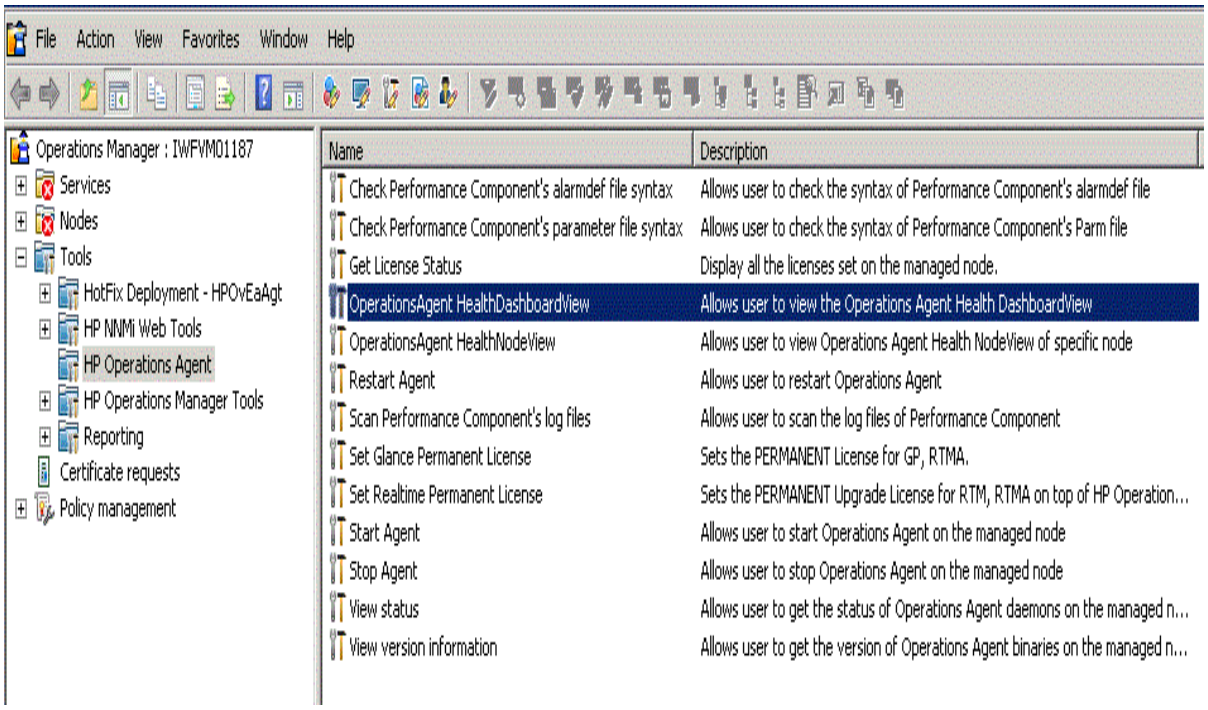
- Update the **Tools** menu by using the following:

  ```
  /opt/OV/bin/OpC/opccfgupld -replace /var/opt/OV/share/databases/OpC/mgd_
  node/tools
  ```

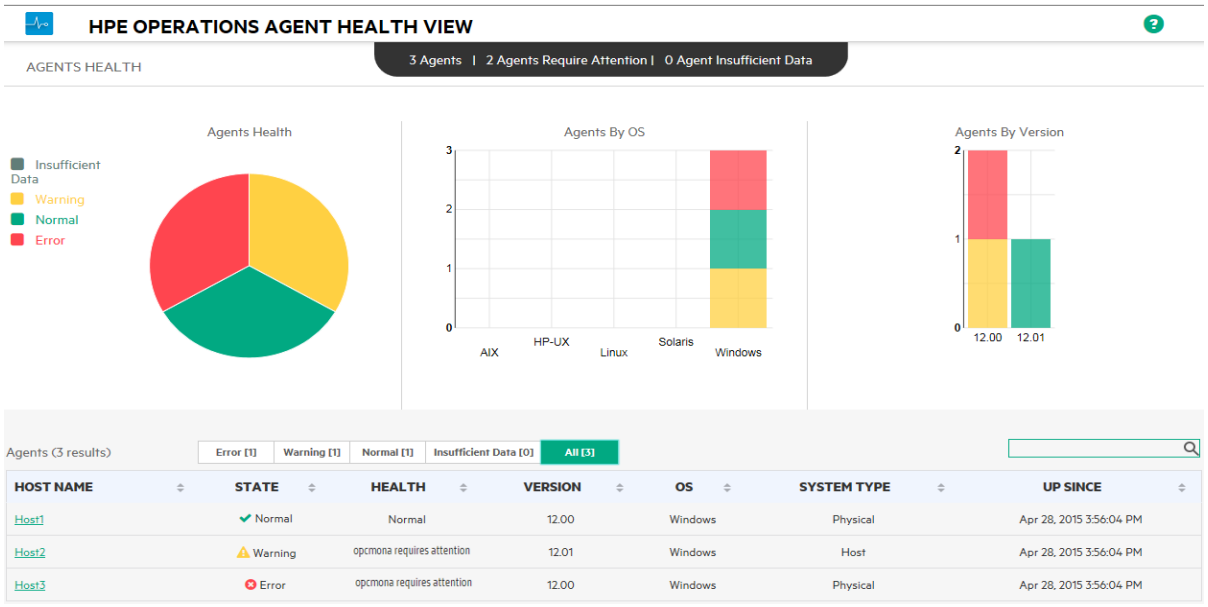
Launching the Operations Agent Health View from the Operations Manager for Windows

You can get the health perspective of the Operations Agent from the Operations Manager for Windows. To access the health and performance status of the Operations Agent, perform the following steps:

1. Log on to the Operations Manager for Windows server as an administrator.
2. Open the Operations Manager for Windows.
3. Click **Operations Agent** under the **Tools** menu on the left-panel.
4. Click **OpeartionsAgent HealthDashboard** to view the Operations Agent Health View Server.

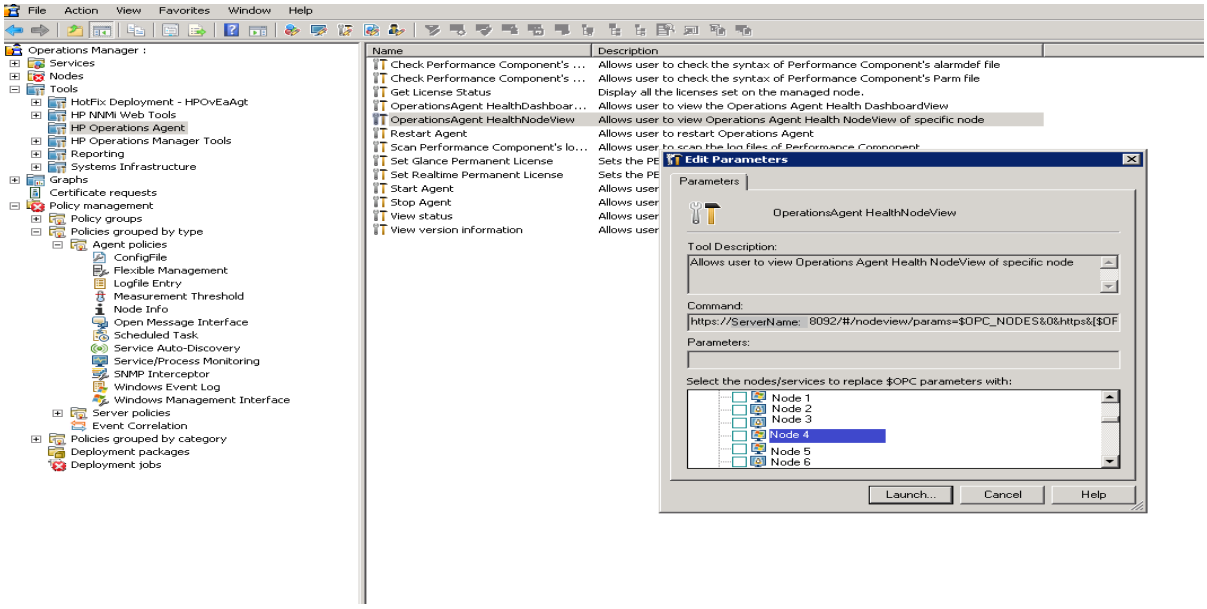


5. Operations Agent Health View Server will open in a browser window.

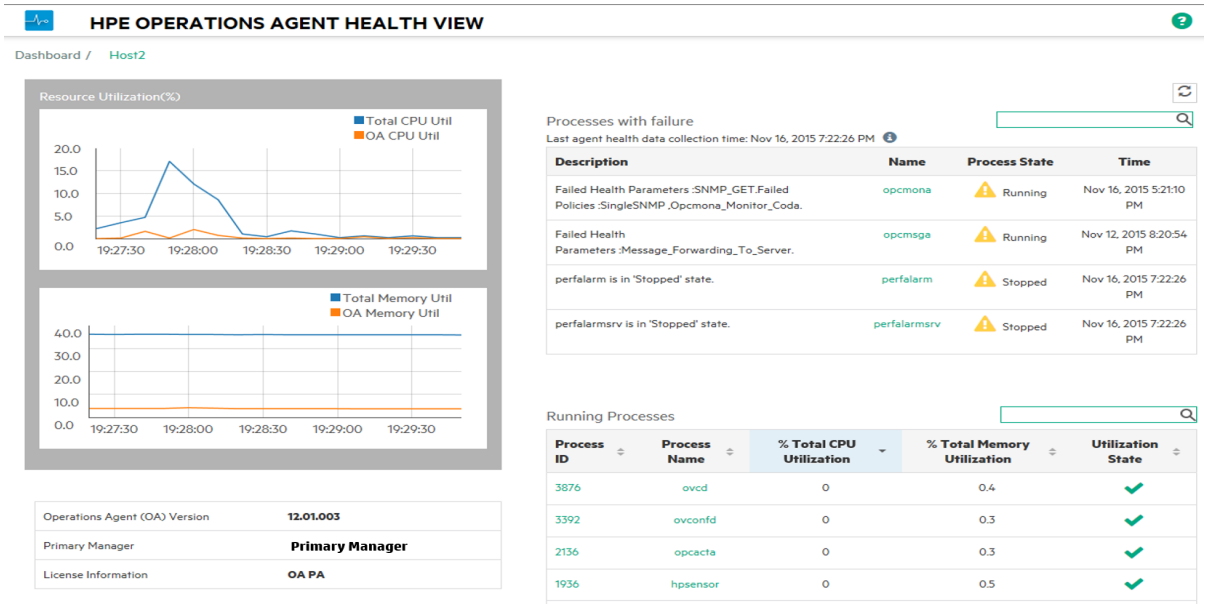


6. Click **Host Name** to drill-down into each managed node and view the health and performance status of the Operations Agent.
7. To launch Operations Agent Health of a specific node directly from the Operations Manager for

Windows, go to **Tools --> Operations Agent --> OperationsAgent Health NodeView**



8. Select the node from the pop-up window and click **Launch**.
9. Operations Agent Health View will open in a browser window.



10. Click **Process Name** to drill-down and view the health and policy parameter details of each Operations Agent process.

> **Note:** If the Health View Server port is manually configured to a non-default port, then access the

> Health View Server from the **Tools** menu by changing the default port to the configured server port in the browser URL itself.

Chapter 6: Use Case

This use case demonstrates how Operations Agent Health View enables you to quickly identify issues in a complex environment with several managed nodes.

Use Case: Alerts are not being generated as one or more parameters have failed on the agent node.

Description

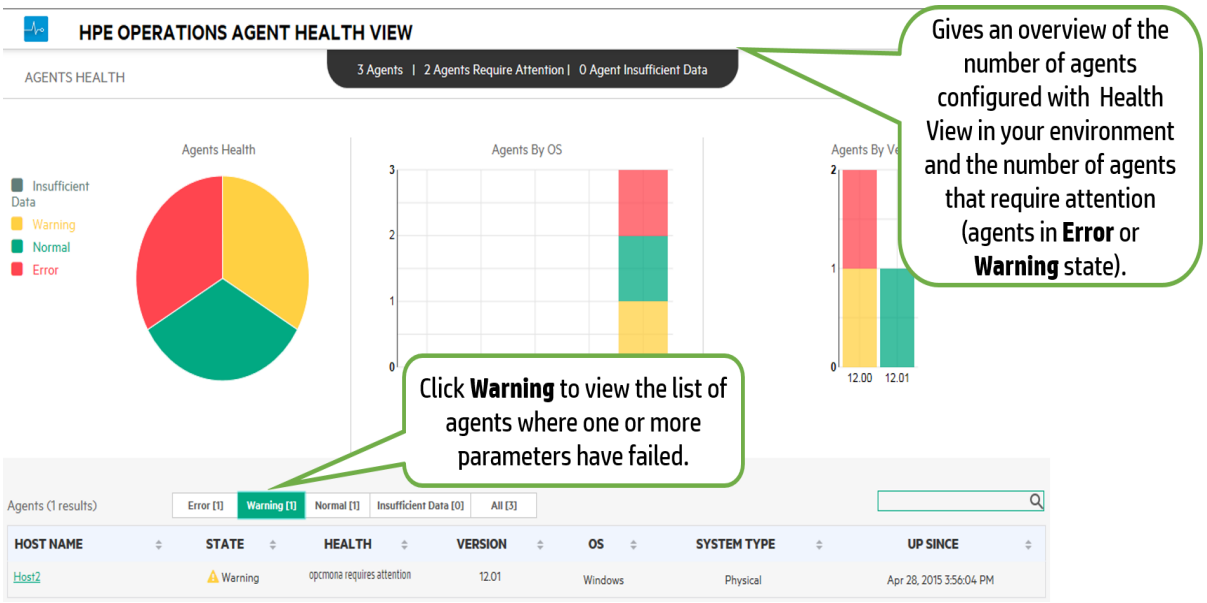
Consider a scenario where you have multiple managed nodes; however, you do not see any alerts from a specific managed node for a long time. This may be because the agent node has some issues or all the applications are running fine on the managed node and there is no event for Operations Agent to generate any alert message.

Prerequisite

Operations Agent health monitoring must be enabled on the specific managed node and the node must be configured with a health view server.

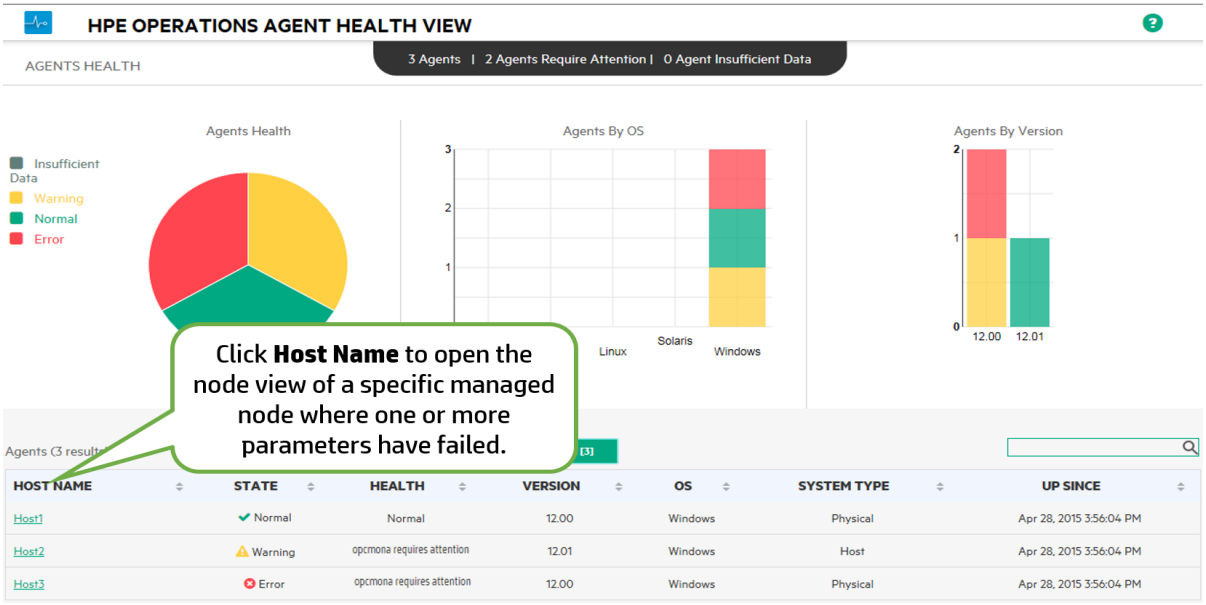
Standard flow

1. Open the **Operations Agent Health View Server**.
2. Click **Warning** to view the list of agent nodes where one or more parameters have failed.

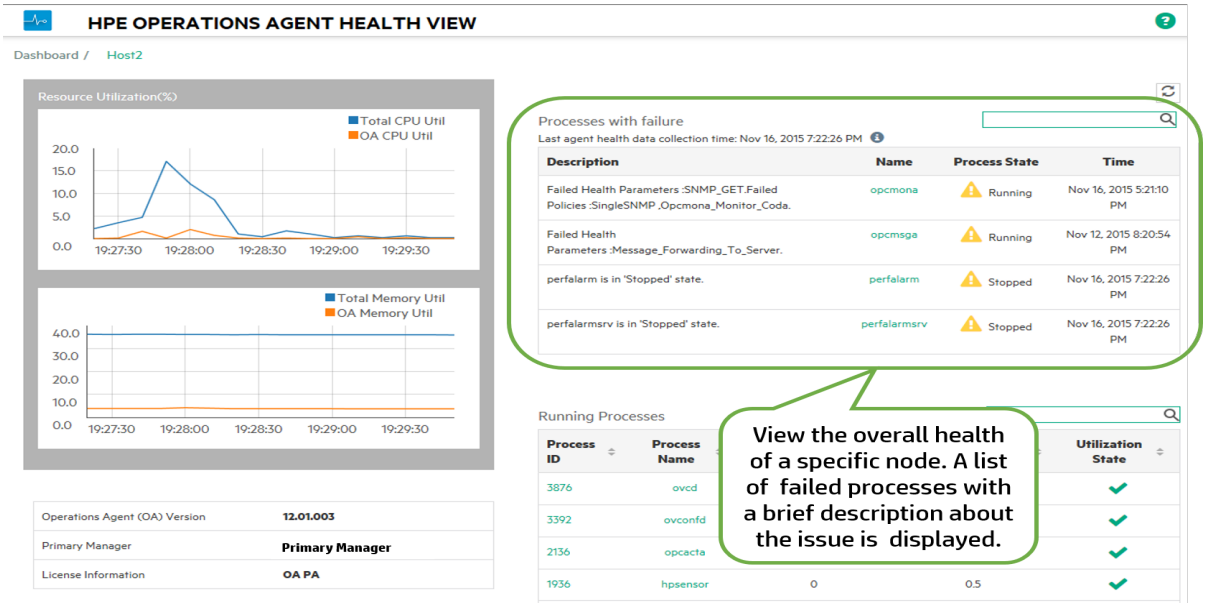


3. The **Health** of the specific node shows **opcmona requires attention**. Click **Host Name** to open

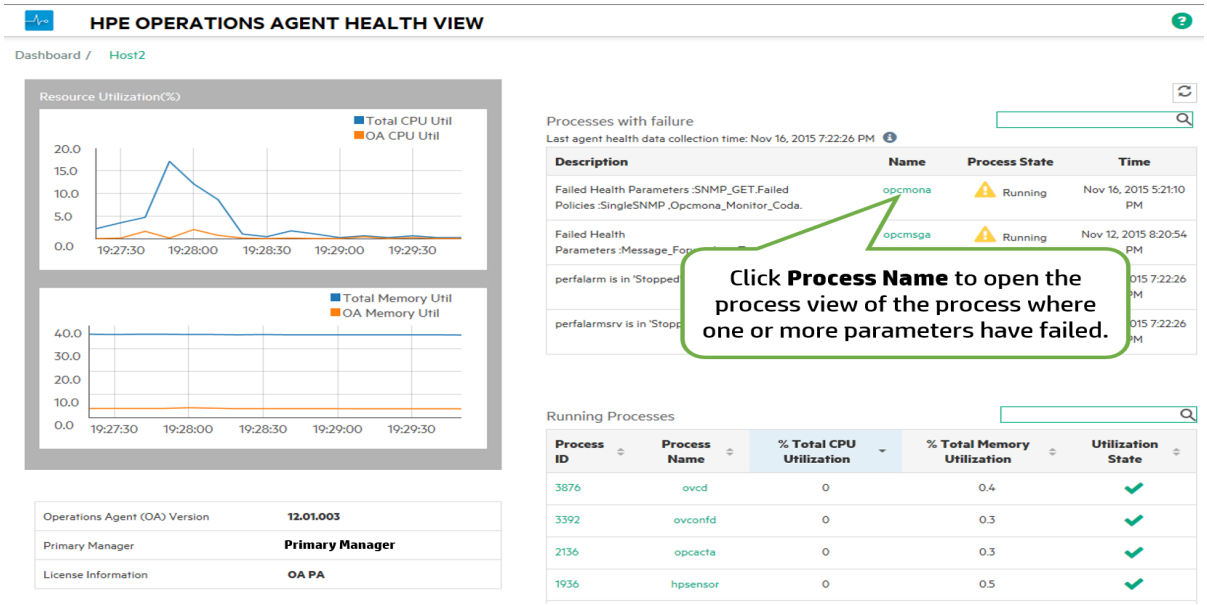
the node view of the specific managed node.



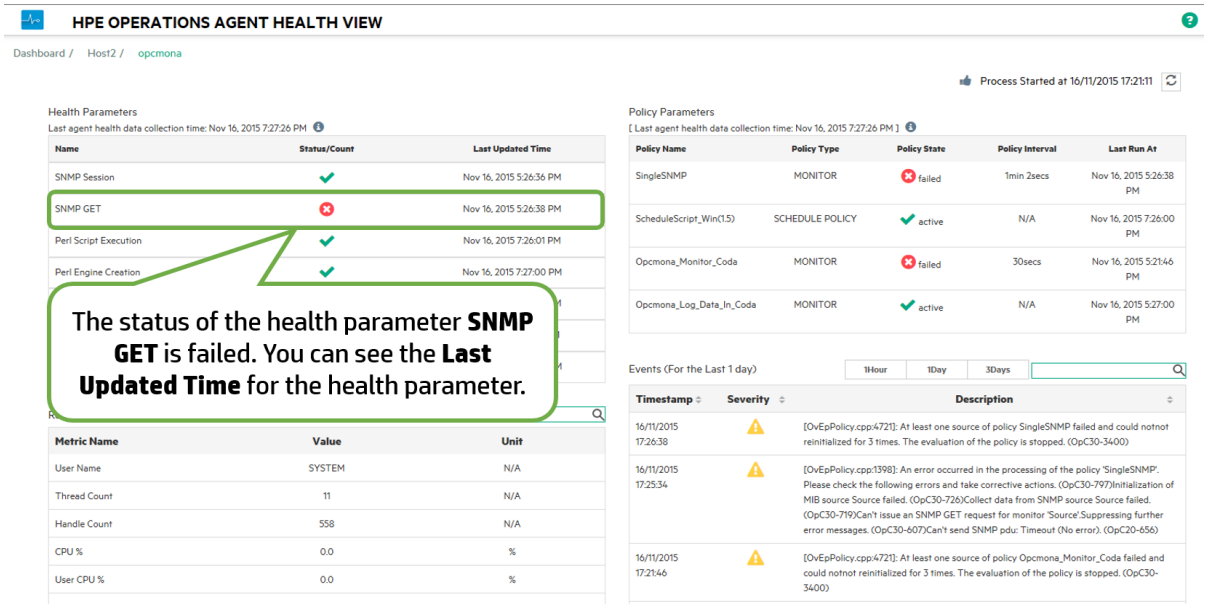
4. Check **Process with failure** on the specific node view. It lists the **opcmona** process with brief description about the issue.



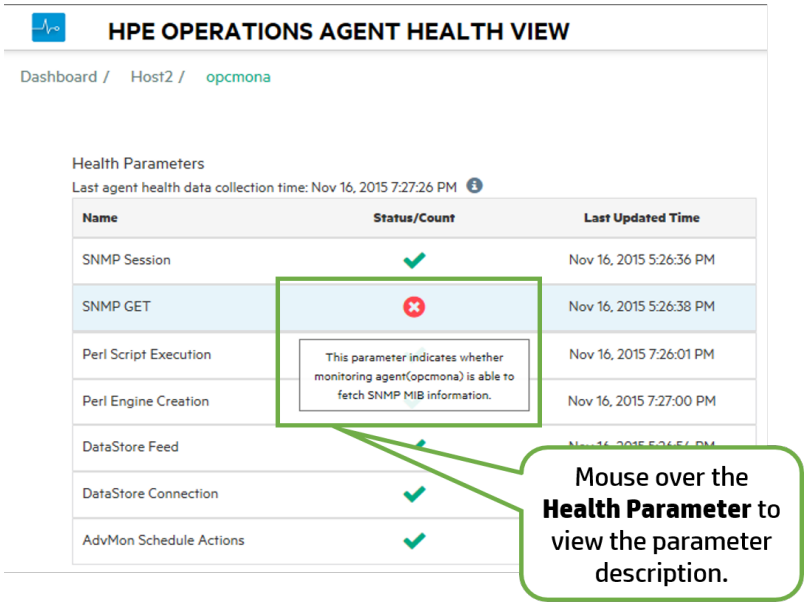
5. Click **Process Name** to open the process view.



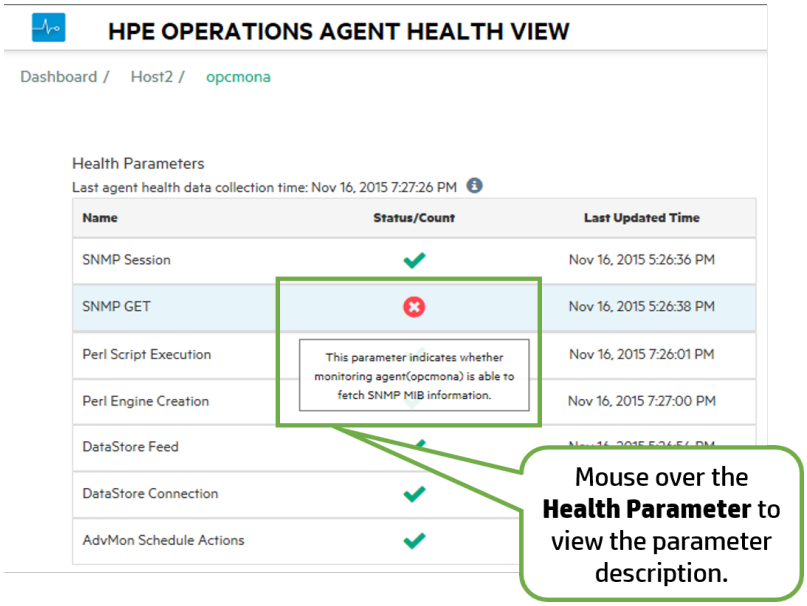
6. Check the **Health Parameter** details. The health parameter corresponding to the source (as per policy) from where the process is unable to collect data will show the status as failed. For example, the status of the health parameter **SNMP GET** is **Failed**.



7. Mouse over the **Health Parameter** to view the parameter description.



8. Click the **Health Parameter** to view if any diagnostic commands are executed and view suggestions to take corrective actions.



Conclusion

The **opcmona** process of the Operations Agent is unable to fetch SNMP MIB information as the health parameter **SNMP GET** has failed. Hence, alerts are not being generated from the managed node.

Chapter 7: Troubleshooting

This section helps you troubleshoot the problems experienced during the configuration or accessing health view.

> **Note:** For any issues you can use the XPL tracing for processes running on the agent node, enable debug mode for the hpsensor process (using hpcs.conf file on the agent node) and the hpcsrvd process (using hpcsrv.conf file on the server) and check for errors in the log files to troubleshoot.
>
> To enable debug mode, edit the following value under the **hpcs.trace** namespace:
>
> Modify the debug level value as following: **Debug_Level**=**DEBUG**.

Problem: Node does not appear on the Operations Agent Health View Server.

Solution: To resolve this issue, check the following:

1. Log on to the node and check for errors in the **hpcstrace.log** file. The log file is available in the following location:
   - *On Windows*: `%OvDataDir%hpcs\hpcstrace.log`
   - *On UNIX/Linux*: `/var/opt/OV/hpcs/hpcstrace.log`

   Check and resolve all the errors related to the HBP push, certificate issues, or the http/https mode.
2. Check if the communication between the node and the health view server is successful.

   Follow the steps:

   a. Log on to the health view server as an administrator.

      Run the following command:

      `bbcutil -ping <node_ip_address>`

   b. Log on to the node as an administrator.

      Run the following command:

      `bbcutil -ping <server_ip_address>`

      > **Note:** Trust must be established between the server and the nodes for successful communication. Ensure certificates from the same authority are installed on the Health

> View Server and the nodes. If they are from different certificate authorities, then exchange the CA certificates and import them into the node and the trusted keystores. For more information, see *"Establishing a Trust Relationship Between the Two Management Servers"* in the *Operations Manager Installation Guide for Linux* or *"Configure trusted certificates for multiple management servers"* in the *Operations Manager Online Help for Windows.*

3. Restart **hpsensor** on the node. For more information, see *Restart.*

> **Note:** After configuring the nodes with Operations Agent health, the configured node appears on the Health View Server only after 5 minutes.

Problem: Running Processes drill down does not show any processes if an agent node is upgraded to Operations Agent 12.04.

Solution: To resolve this issue from occurring, follow the steps:

1. Log on to the node as an administrator.
2. Open the **parm** file from the following location:

   On Windows: `%OvDataDir%parm.mwc`

   On Unix/Linux: `/var/opt/perf/parm`
3. Check the following text in the parm file:

   application = OperationsAgent

   ```
   file = ovcd, ovbbccb, ovconfd, ovbbcrcp, ovcodautil, extract, utility
   file = opcgeni, ompolparm, opceca, opcecaas, agtrep, dsilog, perfalarm
   file = opcmona, opcmsga, opcmsgi, opcacta, opcle, opcwbemi, opctrapi
   file = oacore, midaemon, ttd, perfd, hpsensor, glance, xglance
   file = AHSCollector, opcconfigfile, xglance-bin
   ```
4. If the above text or part of the text is missing in the parm file, then add the above text in the parm file. If the parm file is updated manually, then restart **hpsensor** on the node. For more information, see *Restart.*

Problem: Data collection is not happening on the node.

Solution: Follow the steps to resolve this issue:

1. Run the following command to check the status of **opcacta**:

   ```
   <OvBinDir>ovc -status
   ```

2. If **opcacta** is not running, then run the following command to restart **opcacta**:

   ```
   <OvBinDir>ovc -restart opcacta
   ```

If **opcacta** is running, then enable xpl tracing for **AHSCollector** (Agent Health and System Data Collector).

Problem: Data not received from the node for the last 3 intervals (or HBP is missing or Insufficient Data).

Solution: This issue is because hpcsrvd process has not received HBP for more than 3 intervals. To resolve this issue, check the following:

- Check if **ovbbccb** is reachable

1. Check if the communication between the node and the server is successful.

   Ping the node from the server, run the following command:

   ```
   bbcutil -ping <node_ip_address>
   ```

2. If the above step fails, check if the node is reachable using the following command:

   ```
   ping <node_ip_address>
   ```

- Check if **hpsensor** process is running

  a. Run the following command to check the status of **hpsensor** on the node:

     ```
     <OvBinDir>ovc -status
     ```

     If **hpsensor** is not running, then run the following command to restart **hpsensor**:

     ```
     <OvBinDir>ovc -restart hpsensor
     ```

  b. Check the **hpcstrace.log** file on the node to get more information. This log file is available in the following location:

     - *On Windows*: `%OvDataDir%hpcs\hpcstrace.log`
     - *On UNIX/Linux*: `/var/opt/OV/hpcs/hpcstrace.log`

- Check the certificate on the node

  Certificate on the node may have some issues or it may not be installed. Check the certificates on the node using the following commands:

```
ovcert -list

ovcert -check
```

Problem: Removed agent node appears on the Health View Server.

Solution: Whenever an agent node is removed, the agent node entry exists on the Health View Server for 24 hours.

Problem: Duplicate agent nodes appear on the Health View Server.

Solution: Whenever an agent node is cleaned up and re-installed, the agent node entry exists on the Health View Server for 24 hours. Entry with **No Data** can be ignored. Check the Core_ID of the agent nodes to differentiate the nodes when two different nodes with same the host name appear on the Health View Server. Mouse-over the node name in Dashboard View to check the Core_ID of the agent node.

Problem: Health View UI does not change locale on Internet Explorer.

Solution: To resolve this issue, follow the steps:

1. Close all the tabs of the browser.
2. Open the browser again.
3. Open the Operations Agent Health View Server.

Problem: Health data is not available for a Windows node configured with agent health monitoring on a Health View Server other than the OM Management Server.

Cause: This may be seen if the licenses are set after the installation.

Solution: To resolve this issue, manually start **opcacta** on the Windows node. Run the following command to start **opcacta**:

```
<OvBinDir>ovc -start opcacta
```

Problem: Updated agent health data is not available on the Health View Server as data collection is not occurring.

Cause: This may be because the action agent (**opcacta**) is in Stopped/Aborted state. When the process **opcacta** is in Stopped/Aborted state, the process state change information gets updated on the Health View Server only after 3 HBP intervals.

Solution: To resolve this issue, restart **opcacta** on the node. Run the following command to restart **opcacta**:

```
<OvBinDir>ovc -restart opcacta
```

Problem: Getting multiple alert messages for the same events.

Cause: This may happen if you have the **Selfmon Policies** deployed on the node and then upgraded the node to the Operations Agent 12.04.

Solution: To resolve this issue, de-assign the **Selfmon Policies** deployed on the node from the OM Management Server. For more information, see *"Deleting Policies"* in the *Operations Manager Administrator's Reference for Linux* or *"Remove policy from node"* in the *Operations Manager Online Help for Windows*.

Chapter 8: Performance and Sizing of the Operations Agent Health View

This section provides the test setup information and the recommendations for using the Operations Agent Health View.

> **Note:** The performance will vary based on the test environment and the test setup.

Test Environment

The tests are performed using the following test setup:

Server	Operating System	Architecture	Hardware (Physical/VM)	System Configuration	CPU Clock Speed
Operations Manager 9.20 Local Agent: Operations Agent 12.04	Linux	x64	VM	6 CPU 6 GB RAM	2.67 GHz

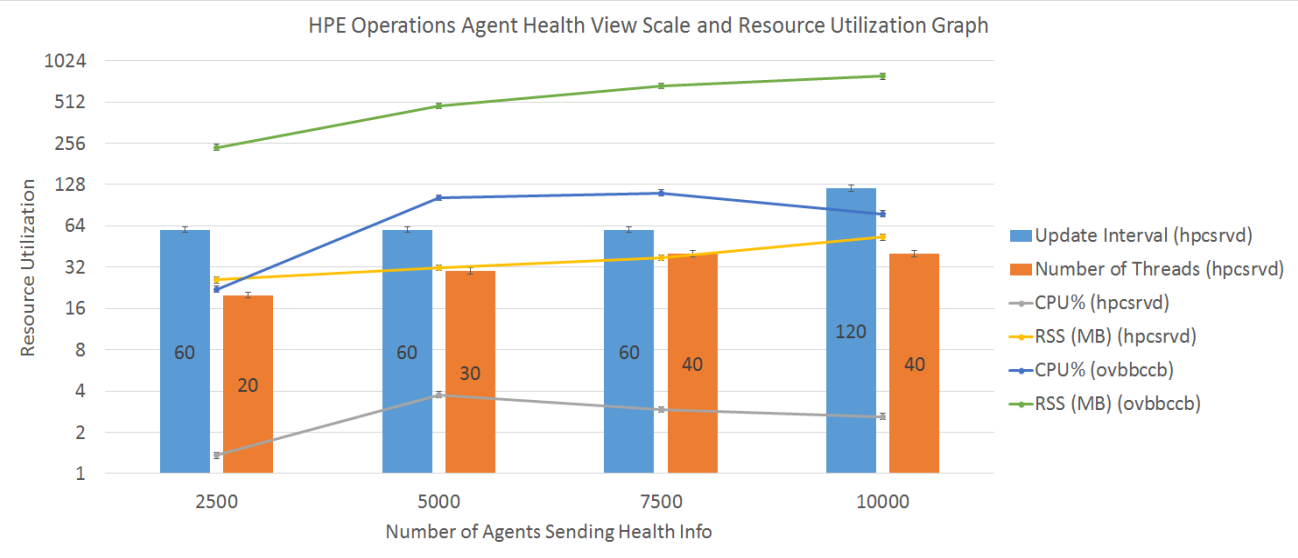
Recommendations

Based on the test results and the performance observations, the following recommendations are provided for using the Operations Agent Health View.

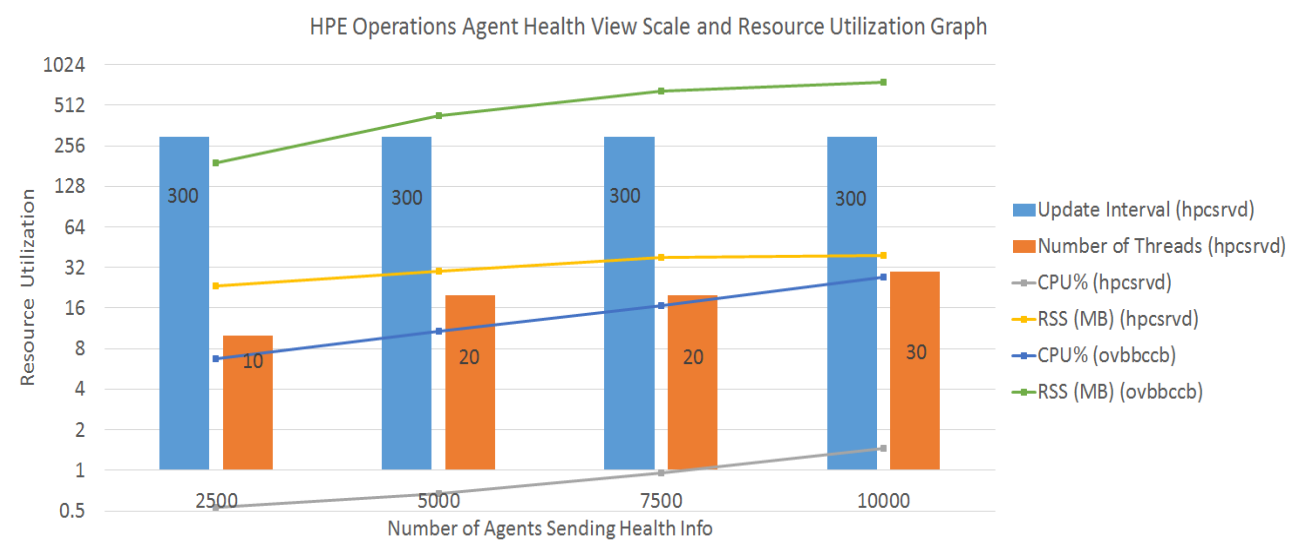
	System Configuration `ulimit -n`	Server Side Configuration `/var/opt/OV/shared/server/hpcsrv/hpcsrv.conf`		
Number of Agent Nodes	Open File Descriptors	UpdateInterval	connection_ backlog	num_threads
2500	3000	60	512	20
5000	6000	60	512	30

7500	8000	60	512	40
10000	11000	120	1024	40

Use the following graphs to view and analyze the performance of the Operations Agent Health View:



Operations Agent Health View performance graph for **UpdateInterval = 300** seconds.



Conclusion

If the number of node instances are increased, it is recommended to increase the UpdateInterval time for optimal CPU utilization. The default value for UpdateInterval is 60 seconds.

If you increase the UpdateInterval time, then the time taken for the Health View Server to reflect the node state change also increases.

For example, keeping the UpdateInterval to 300 seconds is optimal for CPU utilization but the Health View Server will update any issues found on the agent node after 300 seconds or more.

To avoid this, there is an option to configure multiple Health View Servers in your environment with optimum number of node instances.

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Feedback on User Guide: Health View (Operations Agent 12.04)

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 docfeedback@hpe.com.

We appreciate your feedback!