Hewlett Packard Enterprise

HPE ComputeSensor

Software Version: 3.01
Windows® and Linux operating systems

User Guide

Document Release Date: August 2016

Software Release Date: August 2016

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Chapter 1: Introduction

HPE ComputeSensor is a light-weight performance and health collection tool that provides a quick overview of the workloads and applications that are running on a Virtual Machine (VM). HPE ComputeSensor helps you monitor the system where it is installed and troubleshoot the resource bottlenecks by collecting metrics that indicate the health and performance of the system.

The tool provides you the following:

- Overview of the system resource utilization such as CPUs, file systems, disks, and network utilization.
- Overview of the general health of the system and reasons for any available bottlenecks.
- List of the processes and resources that are being used. You can further drill down to detect the processes where the memory or CPU utilization is exceeding the limit by checking the processes that are consuming more memory or CPU.
- List of the system events.

To install HPE ComputeSensor on Windows nodes, see Install HPE ComputeSensor on Windows Nodes.

To install HPE ComputeSensor on UNIX nodes, see Install HPE ComputeSensor on Linux or Linux-Debian Nodes.

> **Note**: In this release the HPE ComputeSensor version is upgraded from 02.01.004 to 12.01.020. The version of HPE ComputeSensor is different from the version of HPE Cloud Optimizer. HPE Cloud Optimizer 3.01 is supported with HPE ComputeSensor 12.01.020.
>
> `Hpcomputesensor` was the only process available with the previous release (HPE Cloud Optimizer 3.00). HPE Cloud Optimizer 3.01 includes following two processes:
> `hpsensor`
> `hpscrvd`

Chapter 2: Installation Scenarios

HPE ComputeSensor can be installed in the following ways:

- **Standalone Installation of HPE ComputeSensor on a Virtual Machine**

  For Standalone installation, make sure that you transfer the packages from the HPE Cloud Optimizer machine (Go to the HPE Cloud Optimizer console and browse to **Settings** > **Integration**) to the VM. For more information on standalone installation, see "Standalone Installation of HPE ComputeSensor on a Virtual Machine" below.

- **Remote Installation from a HPE Cloud Optimizer Machine**

  HPE ComputeSensor (Real Time Guest OS Drilldown) packages are available on the HPE Cloud Optimizer machine. Using the hpcsinstall utility, you can remotely install the packages from the HPE Cloud Optimizer machine to the VM. For more information on remote installation, see "Remote Installation from a HPE Cloud Optimizer Machine" on the next page.

- **Coexistence with HPE Operations Agent**

  For this Installation, you have HPE Operations Agent installed on the Virtual Machine as well as on the HPE Cloud Optimizer. For more information see, Coexistence with HPE Operations Agent.

> **Note**: HPE Cloud Optimizer uses HPE ComputeSensor and HP Operations Agent uses HPSensor for real-time monitoring respectively. HPE ComputeSensor is an alias of HP Sensor.

Standalone Installation of HPE ComputeSensor on a Virtual Machine

HPE ComputeSensor can be enabled for collecting the system performance data, events, and logs by installing the HPE ComputeSensor package.

On a VM in an environment, you have to install and configure HPE ComputeSensor manually.

Steps to install HPE ComputeSensor on a standalone VM:

1. Log on to HPE Cloud Optimizer with administrator privileges.
2. On the HPE Cloud Optimizer console, go to **Settings** > **Integration** and download the HPE ComputeSensor package.

3. Copy the HPE ComputeSensor package from the HPE Cloud Optimizer machine to the VM.

4. Install HPE ComputeSensor. For more information on Installation, see "Installing the HPE ComputeSensor" on page 12

5. Configure Heart Beat Polling (HBP). For more information on Configuring the HBP value, see "Configure Heart Beat Polling" on page 21

> **Note:**You can download ComputeSensor package from the HPE Cloud Optimizer console as follows:
>
> **Settings** > **Integration**

Remote Installation from a HPE Cloud Optimizer Machine

HPE Cloud Optimizer is available as a Virtual Appliance for easy deployment in vCenter. You can use the VMware vSphere Client user interface to deploy the virtual appliance.

HPE ComputeSensor packages are already available, after you install HPE Cloud Optimizer on a machine.

The following illustration shows an environment where HPE ComputeSensor package is already installed on a HPE Cloud Optimizer machine:
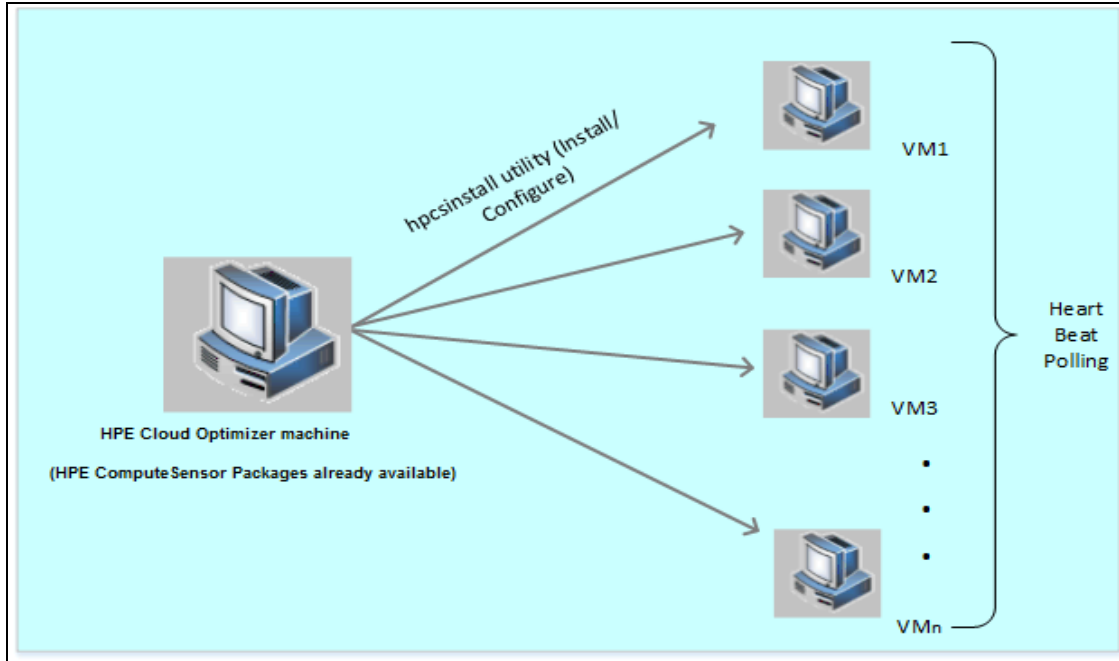
Using Registry functionality

HPE ComputeSensor Server (`hpcsrvd`) running on the HPE Cloud Optimizer machine is a registry that contains the details of other HPE ComputeSensor(s) available on the VMs in the environment. You must enable HBP on each VM in an environment. When HBP is enabled, the VM pushes the registry content to the target HPE ComputeSensor Server (`hpcsrvd`).

To enable HBP, update the values mentioned in the `hpcs.hbp` namespace in the `hpcs.conf` file. For more information on configuring HBP, see "Configure Heart Beat Polling" on page 21

Using hpcsinstall Utility

You can use the hpcsinstall utility to remotely install the HPE ComputeSensor on a VM in the environment.

Prerequisites:

- HPE Cloud Optimizer must be installed.
- SSH daemon should be running on both Windows and Linux nodes.

  To check if `sshd` is running on the remote host, follow these steps:

  a. Log on as root user.

  b. Run the following command:

```
nmap -p22  <remote_host_name>
```

sshd is running if the command returns an output as `22/tcp open ssh`.

> **Note:** Using the hpcsinstall utility HPE ComputeSensor supports the following installation:
>
> **On Linux Node:** `.rpm` or `.deb` installation
>
> **On Windows Node:** `.zip` installation

Follow these steps to install, configure, or remove HPE ComputeSensor:

Installing HPE ComputeSensor from HPE Cloud Optimizer Machine

1. Log on to the HPE Cloud Optimizer node with administrator privileges.
2. Go to the location: `/opt/OV/hpcs/bootstrap`
3. Run the command: **./hpcsinstall -install -node** *<ip address of the node>* **-user** *<username>* **-pw** *<password>*

Removing HPE ComputeSensor from HPE Cloud Optimizer Machine

1. Log on to the node with administrator privileges.
2. Go to the location: `/opt/OV/hpcs/bootstrap`
3. Run the command: **./hpcsinstall -remove -node** *<ip address of the node>* **-user** *<username>* **-pw** *<password>*

Coexistence with HPE Operations Agent

Follow these steps to configure the HBP at HPE ComputeSensor Server:

1. Stop the HPCS Server using the following command:
   ```
   ovc -stop hpcsrvd
   ```
2. Change the directory to `/var/opt/OV/shared/server/hpcsrv` and open the `hpcsrv.conf`.
3. In the `hpcsrv.conf`, change the configuration
   ```
   [hpcs.runtime]
   allowdirectaccess=true
   ```
4. Start the HPCS Server using the following command:
   ```
   ovc -start hpcsrvd
   ```

Follow these steps to configure the HBP at HPE ComputeSensor Client:

1. Log on to the node with administrator privileges, where you have installed ComputeSensor.
2. Go to the directory:
   - On Windows node: `%programdata%\HP\HP BTO Software\hpcs`
   - On Linux or Linux Debian node: `/var/opt/OV/hpcs`
3. Stop HPE ComputeSensor.

   For Windows:

   a. Open the Windows command prompt and go to the installation directory.

   b. Run the following commands:

   To stop the service:

   `net stop HP Compute Sensor Service`

   To un-register:

   `hpsensor.exe -drs`

   If you have started as a process:

   Type `Ctrl+c` in the command prompt or close the command window which is running `hpsensor.exe`.

   For Linux:

   a. Go to the installation directory.

   b. Run the following commands:

   To find `pid` of the running process:

   `ps -ef | grep hpsensor`

   Input the value of pid in the below command:

   `kill -15 <hpsensor-pid>`
4. Open the `hpcs.conf` file and edit the default target and interval values in the `hpcs.hbp` namespace.
   - Configure the target

     To push the HBP events to the target HPCS Server:

     `http://<IP address of the CO>:<HPCS Server(hpcsrvd) port>hpcsrv/hbphandler=/lwiregistry/up`

     > **Note**:
     > In the HPE Server configuration file - `hpcsrv.conf`, if
     > `regBBC=True`,
     > In the remote node, where HPE ComputeSensor is running, in the `hpcs.conf` file,
     > `[hpcs.hbp]`, set the target information as follows:

```
http://<IP address of the
CO>:383/hpcsrv/hbphandler=/lwiregistry/up
```

If, `regBBC=False`
In the remote node where HPE ComputeSensor is running, in the `hpcs.conf` file,
`[hpcs.hbp]`, set the target information as follows:
```
http://<IP address of the
CO>:381/hpcsrv/hbphandler=/lwiregistry/up
```

- Configure the Heart Beat Polling interval

   Modify the default interval in seconds as `interval=<Value>`.By default, the interval is set to 30.

   In this instance `<Value>` is the HBP interval in seconds.

5. Start the HPE ComputeSensor.

   For Windows:

   a. Open the Windows command prompt and go to the installation directory.

   b. Run the following commands:

   To register as HPE ComputeSensor Service:

   `hpsensor.exe -rs`

   To start the service:

   `net start HP Compute Sensor Service`

   > **Note:** You need to start the HPE ComputeSensor only for the .Zip installation.

   For Linux:

   a. Log on to the node and go to the installation directory.

   b. Run the following commands:

   To run as a daemon:

   `./hpsensor -srs`

   To run as a process:

   `./hpsensor`

Chapter 3: Installing the HPE ComputeSensor

You can install ComputeSensor by using the installer program in the media that is shipped with the product. You can install HPE ComputeSensor on the following platforms:

- Install HPE ComputeSensor on Windows Nodes
- Install HPE ComputeSensor on Linux or Linux-Debian Nodes

Install HPE ComputeSensor on Windows Nodes

Note: You can install HPE ComputeSensor on Microsoft Windows 7 SP1, 64-bit and Microsoft Windows Server 2008 R2, 64-bit operating systems.

You can use one of the following methods:

- Using Graphical User Interface
- Using Silent Installation
- Using .zip (Available for this release (3.01) only.)

Using Graphical User Interface

Follow these steps:

1. Log on to the node with administrator privileges.
2. Go to the location where the downloaded HPE ComputeSensor packages are available.
3. Double-click **HPComputeSensor-Win5.2_64-release** to start the installer.

   The installer for HPE ComputeSensor appears.
4. On the installer for HPE ComputeSensor of the installation program, click **Next**

   The License Agreement page appears.
5. Read the terms of the license agreement, select the `I accept the terms in the License Agreement` option and click **Next**.

   The Destination Folder page displays the options of the installation directory.
6. You can choose the default location for installing the product or change the location

as per your requirement and click **Next**.

The Ready to Install the Program page appears.

7. Click **Install** to start the HPE ComputeSensor installer program.

   The installer program starts by performing installation checks.

8. The installation wizard displays the Installer Completed dialog box after the installation is completed. Click **Finish** to complete the installation.

After the installation is completed,HPE **ComputeSensor Service** starts automatically.

Note: After the system reboots, HPE **ComputeSensor Service** starts automatically.

Using Silent Installation

Follow these steps:

1. Log on to the node with administrator privileges.

2. Download the HPE ComputeSensor packages from the media.

3. Open the Windows command prompt and type the name of the drive where the **HPComputeSensor-Win5.2_64-release** file is located.

4. Type the following command to start the installer.

   `msiexec /i HPComputeSensor-Win5.2_64-release /qn`

   After you run the command, the installation procedure begins. You will not receive any message stating the installation is successful.

After the installation is completed, HPE **ComputeSensor Service** starts automatically.

Note: After the system reboots, HPE **ComputeSensor Service** starts automatically.

Using .zip (Available for this release (3.01) only.)

Follow these steps:

1. Log on to the node with administrator privileges.

2. Extract the contents of .zip file to a local directory.

3. Run the following command to generate the UUID:

   `hpsensor -genUUID`

4. Configure HBP. For more information on configuring the HBP value, see "Configure Heart Beat Polling" on page 21

5. Double-click **hpcomputesensor.exe**. The following message appears:

   ```
   Started successfully. Type the URI to connect -->
   http://localhost:381
   ```

6. To start HPE ComputeSensor as a service, follow these steps:

a. Open the Windows command prompt and go to the installation directory.

b. Run the following commands:

To register as HPE ComputeSensor Service:

`hpsensor.exe -rs`

To start the service:

`net start HP Compute Sensor Service`

> **Note:** You need to start the HPE ComputeSensor only for the .Zip installation.

7. To stop the HPE ComputeSensor Service, follow these steps:

a. Open the Windows command prompt and go to the installation directory.

b. Run the following commands:

To stop the service:

`net stop HP Compute Sensor Service`

To un-register:

`hpsensor.exe -drs`

If you have started as a process:

Type `Ctrl+c` in the command prompt or close the command window which is running `hpcomputesensor.exe`.

Install HPE ComputeSensor on Linux or Linux-Debian Nodes

> **Note:** You can install HPE ComputeSensor on the Linux (RHEL, SuSE, Ubuntu), 64-bit operating system.

You can use one of the following methods:

- Using Command Line
- Using .tar or .gz (Available for this release (3.01) only.)

Using Command Line

Follow these steps:

1. Log on as `root` user.
2. Go to the location where the downloaded HPE ComputeSensor packages are available.
3. To start the installation, type the following command according to the node type:

For Linux nodes:

```
rpm -ivh HPComputeSensor-Linux2.6_64-release.rpm
```

> **Note:** During the installation of `rpm`, a warning message appears. You can ignore the following message:
>
> ```
> warning: HPComputeSensor-Linux2.6_64-release.rpm: Header V3
> DSA/SHA1 Signature, key ID 2689b887: NOKEY
> ```

For Linux-Debian nodes:

```
dpkg -i HPComputeSensor-Linux_Debian5-release.deb
```

After you run the command, the installer starts performing the installation checks and installs the HPE ComputeSensor.

> **Note:** After the system restarts, HPE **ComputeSensor Service** starts automatically.

Using .tar or .gz

Follow these steps:

1. Log on as `root` user.
2. Extract the contents of .tar or .gz file to a local directory.
3. Run the following command to generate the UUID:

   ```
   hpcomputesensor -genUUID
   ```
4. Configure HBP. For more information on configuring the HBP value, see
5. To start the HPE ComputeSensor explicitly, follow these steps:

   a. Log on to the node and go to the installation directory.

   b. Run the following commands:

   To run as a daemon:

   ```
   ./hpsensor -srs
   ```

   To run as a process:

   ```
    ./hpsensor
   ```
6. To stop HPE ComputeSensor Service, follow these steps:

   a. Go to the installation directory.

   b. Run the following commands:

   To find `pid` of the running process:

   ```
   ps -ef | grep hpsensor
   ```

Input the value of pid in the below command:

```
kill -15 <hpsensor-pid>
```

Verify the Installation

To verify the installation, check for the following:

1. Go to the following directory:

   On Windows nodes: `%programdata%\HP\HP BTO Software\hpcs`

   On Linux or Linux-Debian nodes: `/var/opt/OV/hpcs`

2. Check the **hpcstrace.log** file for

   `http://localhost:<random port>`

   HPCS starts on a random port.

> **Note:** On Windows nodes, a new entry named `HP Compute Sensor Service` is listed under **Services.msc**.

Chapter 4: Configuring the HPE ComputeSensor

After you install the HPE ComputeSensor, you can complete the following additional configuration tasks on the node:

- Configure the port number
- Configure the collection level
- Configure the number of threads
- Configure the connection backlog
- Configure the debug level
- Configure the target
- Configure the Heart Beat Polling interval

Follow these steps to configure the port number, collection level and debug level:

1. Log on to the node with administrator privileges and stop HPE ComputeSensor service as follows:

   For windows:

   a. Open the Windows command prompt and go to the installation directory.

   b. Run the following commands:

   To stop the service:

   `net stop HP Compute Sensor Service`

   To un-register:

   `hpsensor.exe -drs`

   If you have started as a process:

   Type `Ctrl+c` in the command prompt or close the command window which is running `hpcomputesensor.exe`.

   For Linux:

   a. Go to the installation directory.

   b. Run the following commands:

   To find `pid` of the running process:

   `ps -ef | grep hpsensor`

   Input the value of pid in the below command:

   `kill -15 <hpsensor-pid>`

2. Go to the directory:

   - On Windows node: `%programdata%\HP\HP BTO Software\hpcs`

   - On Linux or Linux Debian node: `/var/opt/OV/hpcs`

3. Open the **hpcs.conf** file and edit the following values in the `hpcs.runtime` namespace.

   a. **Configure the Port Number on remote VMs**

      Change the port number to 381, as `port=381`.

      > **Note**: For HPE Cloud Optimizer, the port is 381.

   b. Configure the Port Number on HPE Cloud Optimizer

      Change the port number to any port except 381. HPE Compute Sensor Registry (`hpcsrvd`) process is running on port 381, as `port = <Port number>`

      > **Note**: For Guest OS Drill-down to work, the port number mentioned in the `hpcs.conf` file should be open in the Firewall.

   - **Configure the collection level**

     Modify the default collection interval as **collection_Interval=**`<Value>`. By default, the collection interval is set to 10 second.

     In this instance, `<Value>` is the collection interval in seconds.

     > **Note:** On a HPE Cloud Optimizer machine, the default collection interval for HPE ComputeSensor is 10 seconds.

   - **Configure the number of threads**

     Modify the default number of threads as **num_threads=**`<Value>`. By default, the number of threads is set to 5.

     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 from clients.

   - **Configure the connection backlog**

     Modify the default connection backlog as **connection_backlog=**`<Value>`. By default, the connection backlog is set to 16384 on Windows and 128 on Linux.

     In this instance, `<Value>` is the length of the backlog socket queue for the web server. Set it to a high value such as 4096 to obtain maximum scalability.

4. Open the **hpcs.conf** file and edit the default debug level in the `hpcs.trace` namespace.

- **Configure the debug level**

  Modify the default debug level as **Debug_Level=**`<Value>`. By default, the debug level is set to INFO.

  In this instance `<Value>` is the debug level used to get debug and error information. You can also use `INFO, WARN, ERROR, DEBUG, ALL` as value for Debug Level.

5. Open the **hpcs.conf** file and edit the default target and interval values in the `hpcs.hbp` namespace.

   - **Configure the target**

     To push the HBP events to the target HPE ComputeSensor acting as a registry.

     ```
     http://<IP address of the CO>:<HPCS Server(hpcsrvd)
     port>/hbphandler=/lwiregistry/up
     ```

   - **Configure the Heart Beat polling interval**

     Modify the default interval in seconds as **interval=**`<Value>`. By default, the interval is set to 30.

     In this instance `<Value>` is the HBP interval in seconds.

6. Start the HPE ComputeSensor as follows:

   For Windows:

   a. Open the Windows command prompt and go to the installation directory.

   b. Run the following commands:

      To register as HPE ComputeSensor Service:

      ```
      hpsensor.exe -rs
      ```

      To start the service:

      ```
      net start HP Compute Sensor Service
      ```

      > **Note:** You need to start the HPE ComputeSensor only for the .Zip installation.

   For Linux:

   a. Log on to the node and go to the installation directory.

   b. Run the following commands:

      To run as a daemon:

      ```
      ./hpsensor -srs
      ```

      To run as a process:

      ```
      ./hpsensor
      ```

Configure the HTTP Secure Communication

HPE ComputeSensor requires a certificate and private key in a single file in `.PEM` format. This file is used for secure communication during the SSL handshake between the HPE ComputeSensor(s) installed on the HPE Cloud Optimizer node and VM. You can enable HPE ComputeSensor for Hyper Text Transfer Protocol Secure (HTTPS) communication by updating the `hpcs.conf` file.

Follow these steps to update the SSL certificate in the `hpcs.conf` file:

1. Log on to the node with administrator privileges.
2. Go to the directory:

   - **On Windows node:** `%programdata%\HP\HP BTO Software\hpcs`

   - **On Linux or Linux Debian node:** `/var/opt/OV/hpcs`

3. If the PEM certificate already exists then skip this step and go to step 4, else create the PEM certificate.

   To create the PEM certificate, follow these steps:

   a. Go to the directory:

      - **On Windows node:**`C:\\Program Files\\HP\\HP BTO Software\\hpcs\\ssl`
      - **On Linux or Linux Debian node:** `/opt/OV/hpcs/ssl`

   b. Run the `pemgen.sh` or `pemgen.bat` file and follow the instructions to create the PEM certificate.

   > **Note:** The PEM certificate will be created in the default location. If the PEM certificate already exists, check the certificate in the defined location of your environment.

4. Open the **hpcs.conf** file and edit the following values in the `hpcs.runtime` namespace.

   Modify the default SSL certificate as **ssl_certificate=**`<Value>`. Set this value to enable HTTPS. This parameter has no default value.

   For example:

   On Linux or Linux Debian node:

   `ssl_certificate=/opt/OV/hpcs/ssl/nodecert.pem`

   On Windows:

   `ssl_certificate=C:\\Program Files\\HP\\HP BTO Software\\hpcs\\ssl\\nodecert.pem`

In this instance, `<Value>` is the path to the file containing this system(s) Private key and certificate in PEM format.

> **Note:**
> - Once the certificate is configured, HPE ComputeSensor will accept only HTTPS connection. If the certificate is configured, you must configure a valid HBP URL.
>
> - HPE ComputeSensor accepts HTTP connection for `localhost`, even if HTTPS connection is configured.

5. Restart HPE ComputeSensor.

Configure Heart Beat Polling

Follow these steps to update the HBP in the `hpcs.conf` file:

1. Log on to the node with administrator privileges and stop the HPE ComputeSensor service.
2. Go to the directory:
   - **On Windows node:** `%programdata%\HP\HP BTO Software\hpcs`

   - **On Linux or Linux Debian node:** `/var/opt/OV/hpcs`

3. Open the **hpcs.conf** file and edit the following values in the `hpcs.hbp` namespace.
   - Configure the target

     The following command sends the HBP events to a target HPE ComputeSensor acting as a registry.

     `http://<Target system ip address>:<target HPCS sink port (hpcsrvd port)>/hbphandler=/lwiregistry/up`

     In this instance, `<Target system ip address>` is the IP address of the target system where HPE ComputeSensor registry is running.

   - *(Optional)* Modify the default interval in seconds as **interval=**`<Value>`. By default, the interval is set to 90.

     In this instance, `<Value>` is the Heart Beat Polling interval in seconds.

   > **Note:** The incoming connection to HPE ComputeSensor port must be enabled on HPE Cloud Optimizer system for HBP to work in case a firewall is configured.

4. Start HPE ComputeSensor.

Chapter 5: Removing the HPE ComputeSensor

You can remove HPE ComputeSensor from the Windows and Linux or Linux-Debian nodes.

Remove the HPE ComputeSensor from Windows node

Follow one of the following methods:

- Interactive Uninstallation
- Silent Uninstallation

Interactive Uninstallation

To uninstall, follow these steps:

1. To remove HPE ComputeSensor, go to the **Control Panel**.
2. Click **Programs and Features**.
3. Select HPE ComputeSensor and click **Uninstall**.

   The Programs and Features dialog box appears.
4. Click **Yes** to confirm the removal of HPE ComputeSensor.

   HPE ComputeSensor is removed from the node.

Silent Uninstallation

To uninstall, follow these steps:

1. Log on to the node with administrator privileges.
2. Open the Windows command prompt.
3. Run the following command:

   ```
   msiexec /x <msi file name with exact location> /qn
   ```
   The command removes HPE ComputeSensor from the node.

Remove the HPE ComputeSensor from Linux or Linux-Debian nodes

To remove HPE ComputeSensor from Linux or Linux-Debian node(s), follow these steps:

1. Log on as `root` user.
2. Run the following command:

   For Linux nodes:

   `rpm -e HPComputeSensor-12.01.020-1.x86_64`

   For Linux-Debian nodes:

   `dpkg -P HPComputeSensor-12.01.020-1.x86_64`

   The command removes ComputeSensor from the node.

Remove HPE ComputeSensor from HPE Cloud Optimizer Machine

Follow these steps:

1. Log on to the node with administrator privileges.
2. Go to the location: `/opt/OV/hpcs/bootstrap`.
3. Run the following command:

   ./hpcsinstall -remove -node_<ip address of the node>_**-user**_<username>_**-pw**_<password>_

Chapter 6: Troubleshooting HPE ComputeSensor

The following section details how to troubleshoot HPE ComputeSensor:

- **Problem:** HPE ComputeSensor does not run after installation is completed.

  Symptom: After you complete installation, HPE ComputeSensor does not run.

  Resolution: Check for the error message: `cannot bind to 381`.

  If this error message is present in the **hpcs.conf** file, configure an alternate port. To configure the port number see, Configure the Port Number.

- **Problem:** HPE ComputeSensor fails to start.

  Symptom: After you complete the installation, HPE ComputeSensor fails to start.

  Resolution: Follow these steps:

  a. Log on to the node with administrator privileges.
  b. Go to the directory:
     - On Windows node: `%programdata%\HP\HP BTO Software\hpcs`
     - On Linux or Linux Debian node: `/var/opt/OV/hpcs`
  c. Open the **hpcs.conf** file and set the following variable in the `[hpcs.trace]` section:

     `Debug_Level=DEBUG`
  d. Restart HPE ComputeSensor and check the messages in the **hpcstrace.log** file.

- **Problem:** When same vCenter is added to multiple HPE Cloud Optimizer machines, VM(s) Guest OS drill down menu is not enabled in all HPE Cloud Optimizer machines.

  Symptom: In an environment, HPE Cloud Optimizer (vPV1) is added to a vCenter (VC1) having HPE ComputeSensor configured on multiple VMs. When you add another HPE Cloud Optimizer machine (vPV2) in the same environment, the VMs are not able to register with the HPE ComputeSensor running on vPV2. Right-click the VM, the menu option shows **Attempt Real Time Guest OS drill down** instead of **Real Time Guest OS drill down**.

  Resolution: Follow these steps:

a. Log on to the newly added HPE Cloud Optimizer machine (vPV2) as root user.

b. Go to the location: `/opt/OV/hpcs/bootstrap`

c. Run the following command:

```
./hpcsinstall -updateConf -node <ip address of the node> -user username>
-pw <password>
```

> **Note:** Before you run `updateConf` on the HPE Cloud Optimizer machine, make sure you have entered the correct IP address of the HPE Cloud Optimizer machine in the **hpcs.ini** file present in the `/opt/OV/hpcs/packages/` location.

- **Problem:** HPE ComputeSensor is not able to recognize the IP address of the system.

  Symptom: HPE ComputeSensor is installed on a machine where IP address is not set. After installing HPE ComputeSensor, setting the IP address does not update the changes.

  Resolution: To update the IP address, follow the steps:

  a. Log on to the node with administrator privileges.

  b. Run the following command:

  `hpcomputesensor -genUUID`

  c. *(Optional)* Configure the hbphandler with a target. For more information, see "Configure Heart Beat Polling" on page 21.

  d. Restart HPE ComputeSensor.

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Feedback on User Guide (ComputeSensor 3.01)

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