

Chapter 13



Integrating with External Applications



13.1 HP OpenView Network Node Manager

13.1.1 Introduction

The integration package for HP OpenView Network Node Manager provides a bridge between the GUI and device discovery engine of NNM with Fidelia's NetVigil monitoring system. Once installed, the following features will be available:

- An import tool that will allow administrators to provision already discovered nodes (devices) by NNM into NetVigil
- A new menu item is added to NNM UI, and a new context sensitive pop-up menu is added for managed nodes which will allow the operator to view real-time and historical performance and availability information from NetVigil Web Application
- As new devices (nodes) are discovered by NNM, notifications will be sent to NetVigil for each device and it will be added to NetVigil database automatically. The same applies for deleted nodes from NNM

13.1.2 Limitations

- NetVigil architecture allows multiple logical **DGE locations** to be set up. Each location includes one or more DGEs. If you have multiple NNM (independent) installations, you will need to establish a mapping for each NNM against a particular NetVigil location. All devices managed from an NNM installation will get provisioned at that same NetVigil location. You can have multiple NNM installation mapped to same NetVigil location, but not vice versa.

- Likewise, all nodes for a particular NNM installation will need to be provisioned under a single NetVigil department. A specific user/login in that department will need to be selected which will be used for provisioning the devices and/or tests.
- The Device/Node synchronization feature is a one-way process where nodes added/deleted to/from NNM Topology Map is reflected accordingly in NetVigil. Devices added/removed from NetVigil provisioning database are **not** automatically updated in NNM.

13.1.3 Importing Devices From NNM

The import tool takes the NNM topology information, and creates a file suitable for the bulk provisioning tool. Here are step-by-step instructions:

❑ On the host running OpenView NNM:

1. Export the topology information from NNM using
`$OV_HOME/bin/ovtopodump -Irv > topology.txt`
2. Export the SNMP configuration from NNM using
`$OV_HOME/bin/xnmsnmpconf -export > snmpconf.txt`

❑ On the host running the NetVigil Provisioning Database:

1. Copy `topology.txt` and `snmpconf.txt` from the NNM host and save in a temporary location
2. Create an import file for the bulk provisioning tool using the following commands:

```
cd $NETVIGIL_HOME
utils/createImportFile.pl --topology /tmp/topology.txt \
--comm /tmp/snmpconf.txt --output /tmp/import.txt
```

A copy of `createImportFile.pl` tool is available within the integration package for NNM (see below) and is copied into `$NETVIGIL_HOME/utils` when the package is installed on the NetVigil host.

3. Start the BVE server using `etc/bveapi.init start` on Linux/Solaris, or `net start nvbveapi` on Windows platform
4. Provision the devices into NetVigil using the following commands:

```
cd /path/to/netvigil
utils/provisionDevices.pl --host 127.0.0.1 --user your_username \
--password your_password --location "location_name" \
--file /tmp/import.txt
```

The provisioning tool will continue to create each device from the topology map into NetVigil provisioning database, perform auto-discovery to find out what SNMP/port tests are available on the device, and create the tests.

13.1.4 Setting Up Automatic Node Synchronization

□ To set up automatic node synchronization:

1. Download/copy the integration package from <http://support.fidelia.com/downloads/netvigil/plugin/> and store it in a temporary location. The package should be downloaded to both the host running OpenView NNM and the host running the NetVigil Provisioning Database. For NNM on Windows platform, there is a .zip version of the package available.

2. Extract the files from the package and start installation using

```
perl ./install.ovpl
```

 If you are working on a Windows platform, double-click

```
install.ovpl
```

.

3. Depending on which host you are on, select the appropriate option and provide answers to the requested questions:

```
-----
NetVigil :: HP OpenView NNM Integration Package
-----
```

```
Please select one of the following installation options
```

```
[1] : Install NNM Specific Components
```

```
[2] : Install NetVigil Specific Components
```

```
Your selection (1-2) :
```

The installation process will copy the integration package into proper locations.

4. Edit `/usr/local/netvigil/etc/netvigil.init` on NetVigil host and enable the SNMP trap handler by setting `TRAPD="Y"`.
5. Start the SNMP trap handler using:

```
cd /usr/local/netvigil/etc
./trapd.init start
```

6. Make sure that the periodic maintenance tasks have been added to `cron`.

7. On the NNM host, restart NNM to apply the changes using `ovstop/ovstart` (Unix) or the **Start** menu (Windows)
8. You also need to modify NNM Event Correlation configuration so that it does not correlate to the `OV_Node_Added` event. Otherwise when multiple nodes are discovered close to each other, the event correlation engine will suppress some of the notifications and NetVigil will fail to know about the nodes. For instructions on updating the event correlation, see “To update event correlation configuration:” on page 170.

□ **To update event correlation configuration:**

1. From the NNM user interface, select `Options | Event Configuration | Edit | Event Correlation`. This will bring up the ECS Configuration Tool (on a browser).
2. Select **RepeatedEvent** correlation in the default stream and click on **Modify**.
3. Select **InputEventTypeList** and click on **View/Modify**.
4. Locate the **OV_Node_Added** event (1.3.6.1.4.1.11.17.1.0.58785794) and click on **true** in the **Enable Event Type** column.
5. Change the current value from **true** to **false** and press **Return**.
6. Close the window and click **Apply**.

13.2 NOCOL/SNIPS

NetVigil includes a script that can take existing NOCOL/SNIPS data, and insert the data for each monitored object (by NOCOL/SNIPS) into NetVigil. This is accomplished using the External Data Feed (EDF) protocol. For a complete description of the EDF protocol, see Chapter 24, “External Data Feed (EDF) Reference.”

Before starting, identify the devices and tests that you would like to integrate into NetVigil. NetVigil has native support for many of the monitoring functions performed by NOCOL/SNIPS and you should use NetVigil to perform these tests. For example, since NetVigil has native monitors for DNS, BGP, SQL database, etc., you should plan on using these monitors instead of exporting data from NOCOL/SNIPS. If you have written custom monitors or using user contributed monitors

for NOCOL/SNIPS, those are good candidates for integration. In such a case, NOCOL/SNIPS continues to run the monitors and the collected results are inserted into NetVigil so that you get a unified monitoring status for the devices and also utilize reporting and archival features of NetVigil.

First, the device currently being monitored using NOCOL/SNIPS needs to be provisioned into NetVigil. Select a DGE to host **all** NOCOL/SNIPS tests. If you have multiple installations of NOCOL/SNIPS in your network, each of these installations can be setup on a different DGE (or same if you wish), but you cannot setup devices that are monitored via NOCOL/SNIPS from the same legacy host on different DGE. Once you have picked this DGE, you can proceed to provision the devices in the location where that particular DGE is located. You must use the same device name and address to use to create the device in NetVigil that was used in the NOCOL/SNIPS configuration file. For example, for the following `ippingmon` configuration entry:

```
## snips name address/FQDN warn error critical
# -----
isp1-gateway gw1.abc.org
```

create a device in NetVigil with device name `isp1-gateway` and device address `gw1.abc.org`. Even if `gw1.abc.org` has IP address `1.2.3.4`, do not use the IP address unless you are using the IP address in NOCOL/SNIPS configuration as well. The device name and address must match that of NOCOL/SNIPS configuration for proper integration.

Once the devices have been created, you can proceed to create the equivalent NOCOL/SNIPS tests on NetVigil.

❑ To create one external NetVigil test for each NOCOL/SNIPS test:

1. Click on the **Administer** tab.
2. Click on the **Tests** link for the newly created device that is currently being monitored by NOCOL/SNIPS.
3. Click on the **Create Custom Tests** link.
4. Check **External Test**. Make sure other `Custom` tests are not checked.
5. The **Test Name** should be set to the name of the NOCOL/SNIPS test. For example, `ippingmon`, `portmapper`, `armon`, `smbmon` etc.
6. Select the appropriate test interval, thresholds and action.

7. Click on **Provision Tests**.

At this time you can also add any necessary native NetVigil monitors to these devices.

Finally, copy `NETVIGIL_DIR/utils/exportFromNocol.pl` to the host where NOCOL/SNIPS is running and save the script on an appropriate directory (e.g., `SNIPS_HOME/bin`). Edit `exportFromNocol.pl` and edit the following variables when necessary:

Variable	Meaning
<code>\$snipsroot</code>	Location of NOCOL/SNIPS installation
<code>\$netvigil_edf_host</code>	fqdn/ip address of DGE where devices have been provisioned
<code>\$netvigil_edf_port</code>	Specifies the port on which the EDF server is running, if other than default (3003)
<code>\$netvigil_edf_user</code>	login id to use to log into EDF server
<code>\$netvigil_edf_pass</code>	password to use to log into EDF server

The last four variables are set in `NETVIGIL_DIR/etc/dge.xml`. Once the changes have been completed, set up a cron job to execute `exportFromNocol.pl` periodically. The recommended interval is 5 minutes, but if you are running a NOCOL/SNIPS monitor at shorter intervals, use the same value for running the export script. The script will take **all** NOCOL/SNIPS data and try to insert it into NetVigil using the EDF protocol, but only the devices and tests that you have provisioned will be accepted and the rest will be ignored.