

SNMP Traps - Standard Handler vs Embedded Handler

Article Number: 557 | Rating: 1/5 from 2 votes | Last Updated: Wed, Jan 13, 2021 at 4:34 PM

Overview

This KB article explains the differences between the Standard and Embedded handler for processing SNMP Traps.

Detailed steps are provided to configure Nagios XI to use either method (the standard handler is the default used).

Nagios XI 5.5 comes with SNMP Traps enabled by default. If you have an earlier version of Nagios XI SNMP Traps needs to be installed by following this guide:

[How to Integrate SNMP Traps With Nagios XI](#)

Editing Files

In many steps of this article you will be required to edit files. This documentation will use the `vi` text editor. When using the `vi` editor:

- To make changes press `i` on the keyboard first to enter insert mode
- Press `Esc` to exit insert mode
- When you have finished, save the changes in `vi` by typing `:wq` and press Enter

SNMPTRAPD and SNMPTT

SNMPTRAPD (Simple Network Management Protocol Trap Daemon)

Receives the SNMP Traps from the network

It can accept or reject the traps depending on it's configuration

Nagios XI accepts v1 & v2c traps from any source by default

v3 traps require additional configuration due to the security nature of v3 traps

Spools the traps so SNMPTT can process them

SNMPTT (Simple Network Management Protocol Trap Translator)

Processes the spooled traps from SNMPTRAPD

Responsible for filtering the types of traps that are forwarded to Nagios XI

Allows Nagios to receive send alerts based on the trap states received from SNMPTRAPD

Both of these components are used to receive and process SNMP Traps sent to the Nagios XI server.

Standard vs Embedded Handler

The handler is the program used by SNMPTRAPD to spool the trap for SNMPTRAPD.

The difference between the two is as follows:

Standard

Each time a trap is received, a process must be created to run the snmpthandler program

SNMPv3 EngineID and names are not passed by SNMPTRAPD to snmpthandler (*SNMP v3 traps will still be processed correctly*)

Suitable for most standard installations

Embedded

The handler is loaded and initialized when SNMPTRAPD is started, so there is less overhead as a new process does not need to be created and initialization is done only once

SNMPv3 EngineID and names variables are available in SNMPTRAPD (B* variables)

Recommended if there is a high volume of traps being received

Standard Handler Configuration

The standard handler is enabled by default on Nagios XI. This is configured with the following line in the `/etc/snmp/snmptrapd.conf` file:

```
traphandle default /usr/sbin/snmpthandler
```

Enhanced Handler Configuration

The enhanced handler can be enabled by making the following configuration changes.

Edit the `/etc/snmp/snmptrapd.conf` file:

Remove this line:

```
traphandle default /usr/sbin/snmpthandler
```

Add this line (as per your operating system distribution):

RHEL | CentOS | Oracle Linux

```
perl do "/usr/share/snmp/snmpthandler-embedded";
```

Debian | Ubuntu

```
perl do "/usr/lib/snmp/snmpthandler-embedded";
```

You also need to edit the INIT script to add an extra option. The steps are slightly different depending on the operating system version being used.

RHEL 7+ | CentOS 7+ | Oracle Linux 7+

Edit the `/etc/sysconfig/snmptrapd` file:

Add this line:

```
OPTIONS="-Lsd -On"
```

Now restart the SNMPTRAPD service:

```
systemctl daemon-reload
systemctl restart snmptrapd.service
```

Debian

Edit the `/etc/default/snmptrapd` file:

Find this line:

```
TRAPDOPTS='-Lsd -p /run/snmptrapd.pid'
```

Add `-On` to the line:

```
TRAPDOPTS='-Lsd -On -p /run/snmptrapd.pid'
```

Now restart the SNMPTRAPD service:

```
systemctl daemon-reload
systemctl restart snmptrapd.service
```

Ubuntu 16/18/20

Edit the `/etc/default/snmptrapd` file:

Find this line:

```
TRAPDOPTS='-Ln -p /run/snmptrapd.pid'
```

Add **-On** to the line:

```
TRAPDOPTS='-Ln -On -p /run/snmptrapd.pid'
```

Now restart the SNMPTRAPD service:

```
systemctl daemon-reload  
systemctl restart snmptrapd.service
```

Test

If you changed the handler method above you can test it's working by sending a test trap. Please refer to this article:

[How To Send A Test Trap](#)

Resources

The SNMPTT documentation was the basis for this KB article and is a very handy for understanding how SNMPTT works.

[SNMP Trap Translator](#)

Final Thoughts

For any support related questions please visit the [Nagios Support Forums](#) at:

<http://support.nagios.com/forum/>

Posted by: **tlea** - Mon, Oct 24, 2016 at 12:03 AM. This article has been viewed 8530 times.

Online URL: <https://support.nagios.com/kb/article/snmp-traps-standard-handler-vs-embedded-handler-557.html>