

# Configuring the Net-SNMP Agent on ESX Hosts

VMware ESX 4.0

---

VMware® ESX 4.0 includes a Simple Network Management Protocol (SNMP) agent that is embedded in hostd. This embedded SNMP agent supports VMware Management Information Base (MIB) files and extends SNMP functionality from sending traps only (as in ESXi 3.5) to also receiving polling requests.

In past releases, VMware ESX used Net-SNMP as its SNMP agent. Although VMware no longer supports Net-SNMP, you can still use Net-SNMP with ESX 4.0 if your management agent requires it. ESX 4.0 allows Net-SNMP to proxy through the VMware SNMP agent, which enables access to VMware MIBs.

---

**NOTE** VMware never supported installing and configuring Net-SNMP on ESXi.

---

If your management application depends on Net-SNMP but does not need to interact with VMware MIBs, you only need to configure Net-SNMP on the ESX host.

If your application currently depends on Net-SNMP and requires access to VMware MIBs, you must enable the VMware SNMP agent and configure it to use a different port number. By default, the VMware SNMP agent runs on port 161, which is the same default port that Net-SNMP runs on.

For information about configuring VMware SNMP and loading MIBs for ESX and ESXi, see “SNMP and vSphere” in the *vSphere Basic System Administration* guide.

## Configure Net-SNMP Only

Configure Net-SNMP as you would on a typical Linux host. The Net-SNMP agent cannot access VMware MIBs without a proxy to the VMware SNMP agent. To configure such a proxy, follow the instructions in the next section, “[Configure the Proxy for the VMware SNMP agent](#)” on page 2.

### To configure Net-SNMP

- 1 Stop the `snmpd` service through the service console on the ESX host.

```
service snmpd stop
```

- 2 Edit the `/etc/snmp/snmpd.conf` file as needed according to Net-SNMP documentation.

- 3 Start the Net-SNMP service.

```
service snmpd start
```

If you want the service to start when the ESX host boots, use the command:

```
chkconfig snmpd on
```

## Configure the Proxy for the VMware SNMP agent

With Net-SNMP, access VMware MIBs through a proxy configuration. Without this configuration, the `snmpwalk` command fails to find VMware MIBs. You must configure the VMware SNMP agent to run on a UDP port besides 161 to avoid port conflict with Net-SNMP. The following example uses UDP port 171. Use a UDP port number that is not listed in the `/etc/services` file on your ESX host.

### To configure the proxy and enable the VMware SNMP agent

- 1 Stop the `snmpd` service through the service console on the ESX host.

```
service snmpd stop
```

- 2 Add a proxy line to `/etc/snmp/snmpd.conf`.

```
proxy -v 1 -c public udp:127.0.0.1:171 .1.3.6.1.4.1.6876
```

In this example, `-v 1` reports the Net-SNMP version to proxy, `-c` specifies the community string for Net-SNMP, `udp:127.0.0.1:171` specifies the localhost IP address and the port number for the VMware SNMP agent to proxy through. This example uses port 171 (you might choose a different port number). The port number must be the same as the one you specify for the VMware SNMP agent, as described in the next step. `.1.3.6.1.4.1.6876` refers to the enterprise object identifier (OID) of the VMware MIBs.

- 3 Using the VMware vSphere™ CLI, configure `/etc/vmware/snmp.xml` to bind the VMware SNMP agent to port 171 and start the service.

```
vicfg-snmp.pl --server <hostname|IP address> --username <username> --password <password> -E -c public --port 171
```

In this example, `-E` enables the VMware SNMP agent, `-c public` sets communities to public, and `--port 171` changes the default port of the VMware SNMP agent to 171.

The command adds the following entries into `/etc/vmware/snmp.xml` (VMware recommends you use the `vicfg-snmp.pl` command to change this file instead of editing the file itself):

```
<config>
  <snmpSettings>
    <communities>public</communities>
    <enable>true</enable>
    <port>171</port>
    <targets>IP address@162 private</targets>
  </snmpSettings>
</config>
```

- 4 Restart the `mgmt-vmware` service (`hostd`) and the `snmpd` service. On the ESX host from the service console, use these commands.

```
service mgmt-vmware restart
service snmpd restart
```

## Differences Between Net-SNMP and the VMware SNMP Agent

This section includes specifications that are relevant to the integration or coordination of third-party management systems with ESX/ESXi 4.0.x.

SNMP versions supported:

- VMware SNMP: v1, v2c
- Net-SNMP: v1, v2c, v3

Notifications:

- VMware SNMP: v1trap
- Net-SNMP: v1trap, vt2trap, inform

Types of events reported:

- VMware SNMP reports only for physical NICs that have VMware drivers. Net-SNMP reports for ESX virtual and physical NICs.
  - linkDown
  - linkUp

Types of events not reported:

- authenticationFailure:
  - Not supported for VMware host agent SNMP
  - Not enabled for Net-SNMP
- EGPDn (routing protocol event): Obsolete and not supported in VMware SNMP and Net-SNMP

MIB modules supported with GET, GETNEXT, and GETBULK protocol operations:

- ESX/ESXi 4.0:
  - SNMPv2-MIB
  - IF-MIB
  - VMWARE-SYSTEM-MIB
  - VMWARE-RESOURCES-MIB
  - VMWARE-VMINFO-MIB
- NET-SNMP:
  - MIB-2
  - HOST-RESOURCES-MIB

For information about VMware MIBs and VMware SNMP, see “SNMP and vSphere” in the *vSphere Basic System Administration* guide.

---

If you have comments about this documentation, submit your feedback to: [docfeedback@vmware.com](mailto:docfeedback@vmware.com)

**VMware, Inc. 3401 Hillview Ave., Palo Alto, CA 94304 [www.vmware.com](http://www.vmware.com)**

Copyright © 2009 VMware, Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/go/patents>. VMware, the VMware “boxes” logo and design, Virtual SMP, and VMotion are registered trademarks or trademarks of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

Item: EN-000216-00

---