



Configuring Cisco Prime NAM

The following sections provide information about the configuration tasks that you perform after you install Cisco Prime NAM.

- [Setting up Cisco Prime NAM, page 1](#)
- [Installing and Configuring External Storage, page 2](#)

Setting up Cisco Prime NAM

To get the Cisco Prime NAM up and functioning, you will need to now set the management IP address and enable the web browser. Starting from the login prompt, the sequence looks like the session below.



Note

Remember to replace the IP address, netmask, and gateway shown with those appropriate to your switch setup.

The default username and password for the NAM is root/root. You must change the password first, although the Cisco Prime NAM will accept anything including the default.

```
nam.localdomain login: root
Password:
Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM3-6G-K9) Console, 6.1
Copyright (c) 1999-2014 by Cisco Systems, Inc.
System Alert! Default password has not been changed!
Please enter a new root user password.
Enter new password:
Confirm new password:
Successfully changed password for user 'root'
root@nam.localdomain# ip address 1.1.1.2 255.255.255.0
root@nam.localdomain# ip gateway 1.1.1.1
root@nam.localdomain# ip http server enable
No web users are configured.
Please enter a web administrator user name [admin]:
New password:
Confirm password:
User admin added.
Starting httpd
root@nam.localdomain#
```

Optionally you can enable Telnet if needed:

```
root@nam.localdomain# exsession on
root@nam.localdomain#
```

You can use ping to verify network connectivity to a known address, as below:

```
root@nam.localdomain# ping 3.3.3.3
PING 3.3.3.3 (3.3.3.3) 56(84) bytes of data.
64 bytes from 3.3.3.3: icmp_seq=1 ttl=245 time=8.48 ms
64 bytes from 3.3.3.3: icmp_seq=2 ttl=245 time=2.61 ms
64 bytes from 3.3.3.3: icmp_seq=3 ttl=245 time=2.95 ms
64 bytes from 3.3.3.3: icmp_seq=4 ttl=245 time=2.15 ms
64 bytes from 3.3.3.3: icmp_seq=5 ttl=245 time=2.43 ms
--- 3.3.3.3 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 2.153/3.728/8.483/2.391 ms
root@nam.localdomain#
```

The Cisco Prime NAM is now on the network and the GUI should be accessible using the management IP address you just set. Use a supported web browser to access the Cisco Prime NAM and confirm connectivity.

Installing and Configuring External Storage

The Cisco Catalyst 6500 Series Network Analysis Module (WS-SVC-NAM-3) offers external storage connectivity for extended capture durations and higher capture bandwidths. This connectivity is provided through two front-panel ports, one Mini Serial Attached SCSI (SAS, SFF-8088), and one Fibre Channel Over Ethernet (FCoE, SFP+). The external SAS storage array can be directly attached, while most FCoE arrays require an FCoE switch (such as a Nexus 5000 Series Switch) to connect to a NAM-3. A Nexus 5000 Series Switch can connect to multiple FC and FCoE storage arrays.

SAS and FCoE connectivity can be used simultaneously. See [xref](#) for an overview of external data storage setup.

See the following sections:

- [Preparing External SAS Storage, on page 2](#)
- [Preparing External FCoE/FC Storage, on page 3](#)

Preparing External SAS Storage

This section provides information about preparing the external SAS storage.

Configure The Storage Array

You must see the the vendor's user guide for detailed information about configuration of the array. The NAM-3 is independent of most array settings, but some are important for accessibility and performance.

When configuring the Logical Unit Numbers (LUNs) on the array, there is often a "Segment Size" setting. Larger segment sizes can improve write speeds. It is recommended to use a segment size as large as possible, up to 512KB. Multiple LUNs can be configured on a single array. The NAM-3 supports up to 24 LUNs between the SAS and FCoE ports combined.

It is very important to map the NAM-3 SAS address to the LUNs. Most storage arrays require this for security reasons, ensuring that only certain hosts (for example, a NAM) can access the LUNs. Each NAM has a unique

SAS address, so this step must be performed for each NAM that requires access and for each LUN that is to be accessed.

The NAM SAS address can be found using the CLI command **remote-storage sas local-address**. Many storage arrays will automatically detect the SAS address once connected to the NAM.

```
root@nam.domain#
remote-storage sas local-address
Local SAS Address: 5003223-0-0000-0000
```

Some SAS storage arrays do not properly negotiate the SAS base address of the front panel port. The port is a “wide port” because it consists of four SAS lanes. Each lane has its own SAS address, and any one of the four addresses can be considered the base address for the wide port. To safely account for this potential behavior, be sure to map all four SAS addresses in the storage array configuration.

For example, the CLI command above returned a SAS address of 5003223000000000 for the first lane. The other three lanes have consecutive addresses: 5003223000000001, 5003223000000002, and 5003223000000003. All four of those addresses should be mapped in the storage array configuration.

Connect The Storage Array

After the storage array is configured, connect it to the Cisco Prime NAM using the SFF-8088 cable. The NAM-3 supports SFF-8088 cables up to six meters long. Be sure to use the correct host-connect port on the array as indicated by the vendor’s user guide. The array can be connected while Cisco Prime NAM is running.

Some arrays come with multiple storage controller modules, and the module ownership must often be mapped to each LUN. This is a common security feature.

Use the CLI command **remote-storage sas list** to view the detected external SAS storage.

```
root@nam.localdomain# remote-storage sas list
Storage ID: 3
  Label:
  Status: Unformatted
  Transport: SAS
  Type: LUN
  Model: DotHill DH3000
  LUN: 0
  Capacity: 3.2TB
  Available: 3.2TB
```

The LUN number can help you identify one LUN from others of the same external storage array. This number is unique to each particular array, meaning two LUNs from different arrays can have the same number. If the new LUNs do not show up in the list, then Cisco Prime NAM cannot access them. This is likely due to a configuration error on the array.

You will now be able to use the SAS external storage from within Cisco Prime NAM. See the [Cisco Prime Network Analysis Module User Guide](#) for more information.

Preparing External FCoE/FC Storage

This section provides information about preparing the external FCoE/FC storage.

Configure The Storage Array

Reference the vendor’s user guide for proper configuration of the array. The NAM-3 is independent of most array settings, but some are important for accessibility and performance.

When configuring the Logical Unit Numbers (LUNs) on the array, there is often a “Segment Size” setting. Larger segment sizes can improve write speeds. Cisco recommends that you use a segment size as large as possible, up to 512KB. Multiple LUNs can be configured on a single array. The NAM-3 supports up to 24 LUNs between the SAS and FCoE ports combined.

It is very important that you map the NAM FCoE Port World Wide Identifier (PWWN). Most storage arrays require this for security reasons, ensuring that only certain hosts (for example, a NAM) can access the LUNs. Each NAM has a unique PWWN, so this step must be performed for each NAM which requires access and for each LUN that is to be accessed.

The NAM PWWN can be found using the CLI command **remote-storage fcoe local-pwwn**. The PWWN is based off of the SFP+ port MAC address. Two bytes are appended to the front, and may be changed by the Nexus switch when the PWWN is presented to the storage array. Many storage arrays will automatically detect the PWWN after being connected to the NAM, so look for the MAC address in the PWWN.

```
root@mynam.mydomain# remote-storage fcoe local-pwwn
Local FCoE MAC : 00:22:BD:CF:3E:4E
Local FCoE PWWN: 23:e8:00:22:BD:CF:3E:4E
```

The Nexus 5000 Series switch must also be configured for FCoE communication. Refer to the Nexus 5000 Series configuration guide that applies to your switch for configuration steps. The Nexus switch allows Cisco Prime NAM to connect to multiple FC and FCoE storage arrays.

Connect The Storage Array

After the storage array is configured, connect it to the Nexus 5000 Series switch using fibre cables and the appropriate SFP+ modules. The module depends on the storage array port type. It may be 4 Gb FC, 8 Gb FC, or 10 Gb FCoE. In the case of FC, make sure your Nexus 5000 Series switch supports the required speed. Some Nexus 5000 Series switches come with 4 Gb FC switch cards that do not support 8 Gb FC. In the case of FCoE, the supported SFP+ module types are 10 GbE SR, LR, and LRM. Be sure to use the correct host-connect port on the array as indicated by the vendor’s user guide.

Next, connect the Nexus 5K to Cisco Prime NAM using a fibre cable and matching 10 GbE SFP+ modules. The array can be connected while Cisco Prime NAM is running. Once the connection is made, the NAM FCoE PWWN will show up in the Nexus 5000 Series switch FCoE database and can be used for configuration.

Some arrays come with multiple storage controller modules, and the module ownership must often be mapped to each LUN. This is a common security feature.

Use the CLI command **remote-storage fcoe list** to view the detected external FCoE storage.

```
root@nam.localdomain# remote-storage fcoe list
Storage ID: 4
Label:
Status: Unformatted
Transport: FCOE
Type: LUN
Model: Vendor Name 28376
LUN: 0
Capacity: 14TB
Available: 14TB
```

The LUN number can help you identify one LUN from others of the same external storage array. This number is unique to each particular array, meaning two LUNs from different arrays can have the same number. If the new LUNs do not show up in the list, then Cisco Prime NAM cannot access them. This is likely due to a configuration error on the array.

You will now be able to manage the FCoE/FC external storage from within Cisco Prime NAM. See the [Cisco Prime Network Analysis Module User Guide](#) for more information.