GRIDScaler ZenPack

Installation Guide

Version 0.0.7 | 96-30076-003 | Rev. A0

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This document provides information about the DDN GRIDScaler ZenPack. Installation instructions are given at the end of the document.

1. Overview

This ZenPack is developed by DDN to provide modeling and monitoring functionality for DDN's GRIDScaler storage solution. It will also support modeling for GridNAS storage solution.

2. Releases

Version:	0.0.7
Summary of changes:	First release
Released on:	February 27, 2015
Compatible with:	Zenoss 4 and Zenoss 5

3. Prerequisites

- This ZenPack is dependent on DDN GRIDScaler API to be available on all NSD nodes.
- This ZenPack only works with newer GRIDScaler API (v10.1.18450 and above).
  To check your GS API version, use the command:
  `/opt/ddn/directmon/gridscaler/scripts/get_gsapi_version.py`

4. Installed Items

Installing this ZenPack will add the following items to your Zenoss system.

4.1 Device Classes

The following device classes will be created once this ZenPack is installed:

- /Storage
- /Storage/DDN
- /Storage/DDN/Gridscalerv2

4.2 Configuration Properties

The following configuration properties will be added which are required for this ZenPack:

- **`zCommandUsername`**
  This is the name of the user through which Zenoss system communicates with the device (for example, root).
- **`zCommandPassword`**
  The password of that particular user through which Zenoss system communicates with the device (for example, root).

- **`ZKeyPath`**
  If password-less SSH is configured, provide the full path for private key file (for example, ~/.ssh/id_rsa).
- **`zGSNSDList`**
  Management network address of NSD servers to be monitored (for example, 192.168.111.8, 192.168.111.9). Provide at least two server addresses to ensure continued monitoring on failed nodes.

5. Modeler Plug-ins

List of modeler plug-ins for GRIDScaler:

- ddn.GridScaler_ModelClientNode
- ddn.GridScaler_ModelFS
- ddn.GridScaler_ModelNSD
- ddn.GridScaler_ModelSFA

List of modeler plug-ins for GridNAS:

- ddn.GridNAS_Model_CIFS
- ddn.GridNAS_Model_Group
- ddn.GridNAS_Model_NFS
- ddn.GridNAS_Model_Shares
- ddn.GridNAS_Model_User
- ddn.GridNAS_Model_VIP

6. Monitoring Templates

This defines the metrics, events, and thresholds for modeled components:

6.1 Component Level

1. GS_FsList
   - TotalAvailableLnodes
   - TotalFreeSpace
   - TotalInodes
   - TotalSpace
   - TotalUsedInodes
   - TotalUsedSpace
2. GS_NsdServer
3. GS_Nsddisk

6.2 Graphs

GS_FsLists

- FileSystemUsage
- InodeUsage

6.3 Events Classes

- Perf/GridScalerv2/CN - ClientNode
- Perf/GridScalerv2/FSLIST - FsList
- Perf/GridScalerv2/NSD - Network Storage Device
- Perf/GridScalerv2/SFA - SFA

6.4 Thresholds

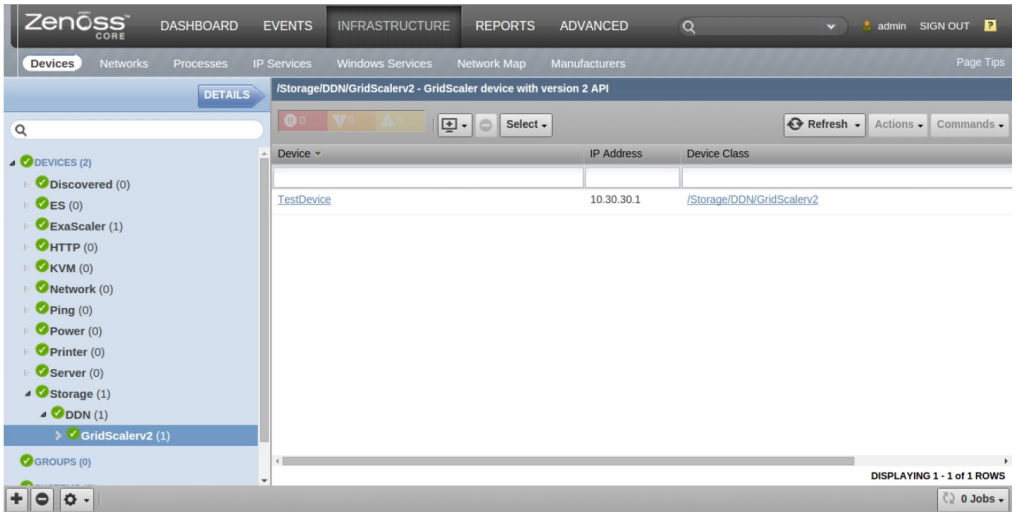
No Thresholds are defined.

7. Detailed Overview

7.1 Device Classes

Figure 1 shows the list of device classes that are available in this ZenPack.

Figure 1. List of Available Device Class

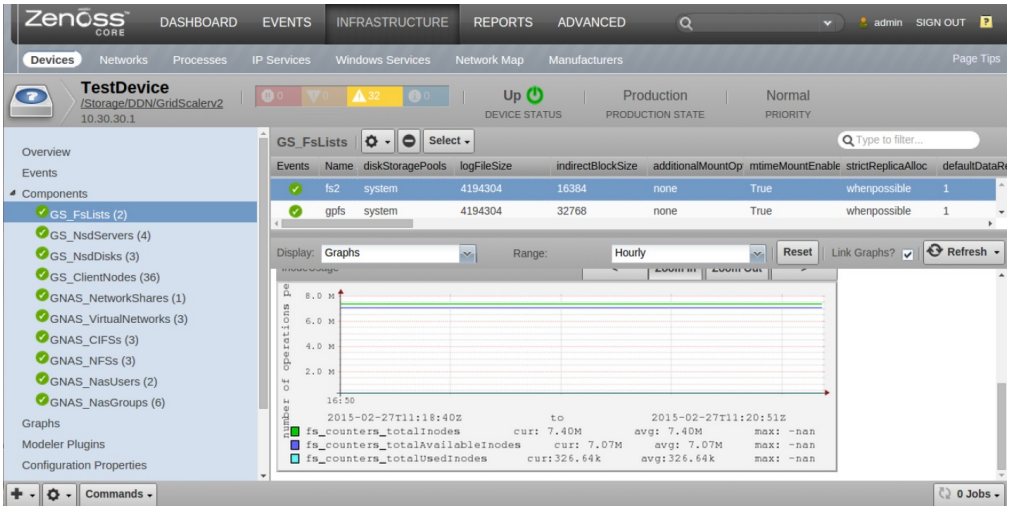


7.2 Device Components

7.2.1 GS_FsLists

Figure 2 shows the GRIDScaler file system list along with the graph available with this ZenPack.

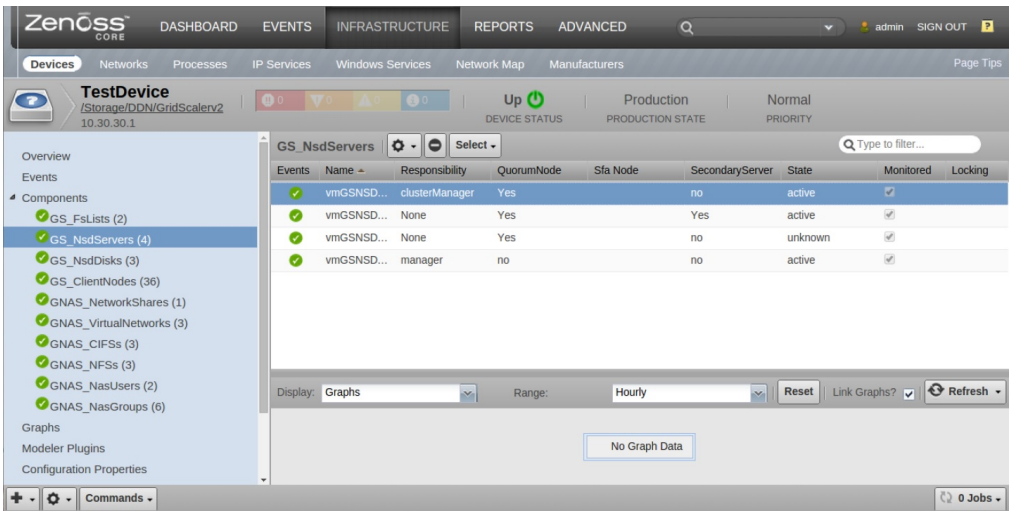
Figure 2. GS_FsLists Screen



7.2.2 GS_NsdServers

Figure 3 shows the list of GRIDScaler NSD servers screen.

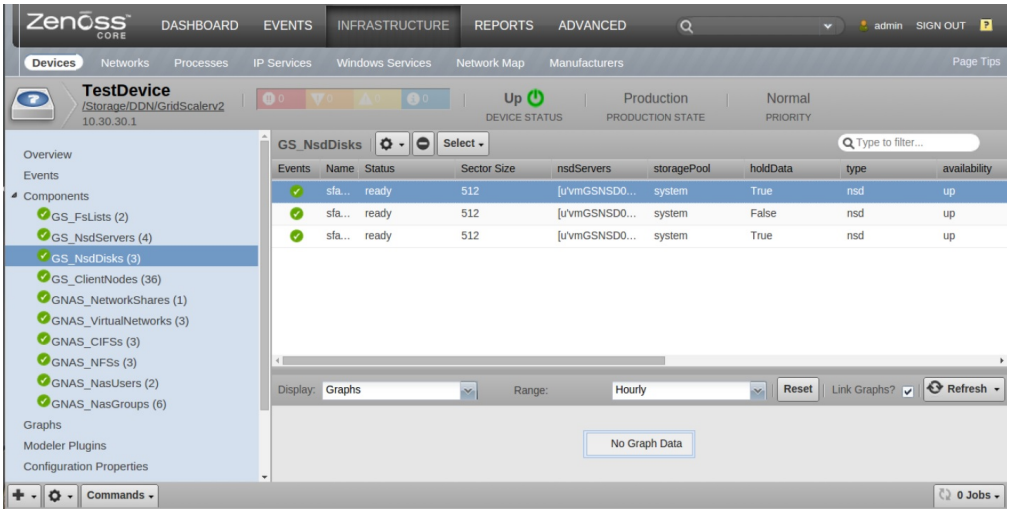
Figure 3. GS_NsdServers Screen



7.2.3 GS_NsdDisks

Figure 4 shows the list of GRIDScaler NSD disks screen.

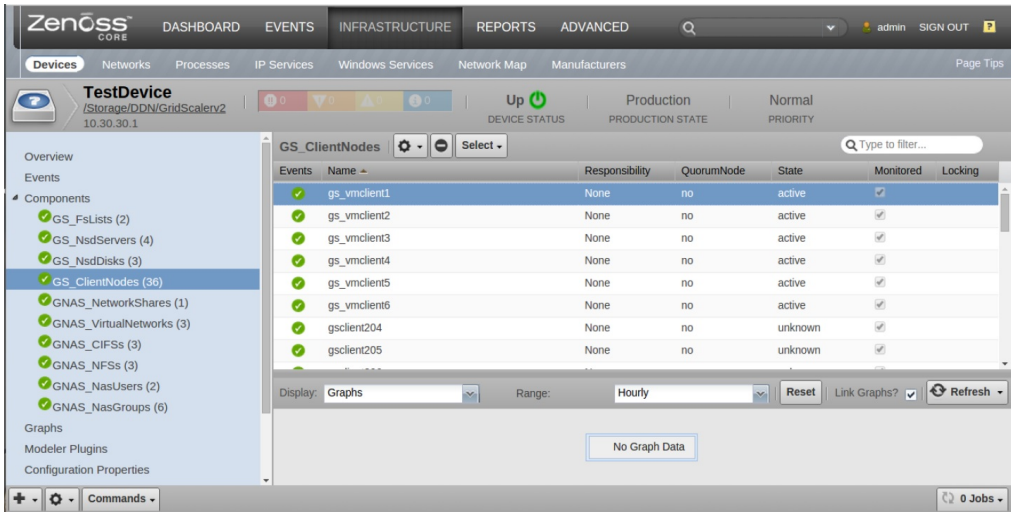
Figure 4. GS_NsdDisks Screen



7.2.4 GS_ClientNodes

Figure 5 shows the list of GRIDScaler client nodes screen.

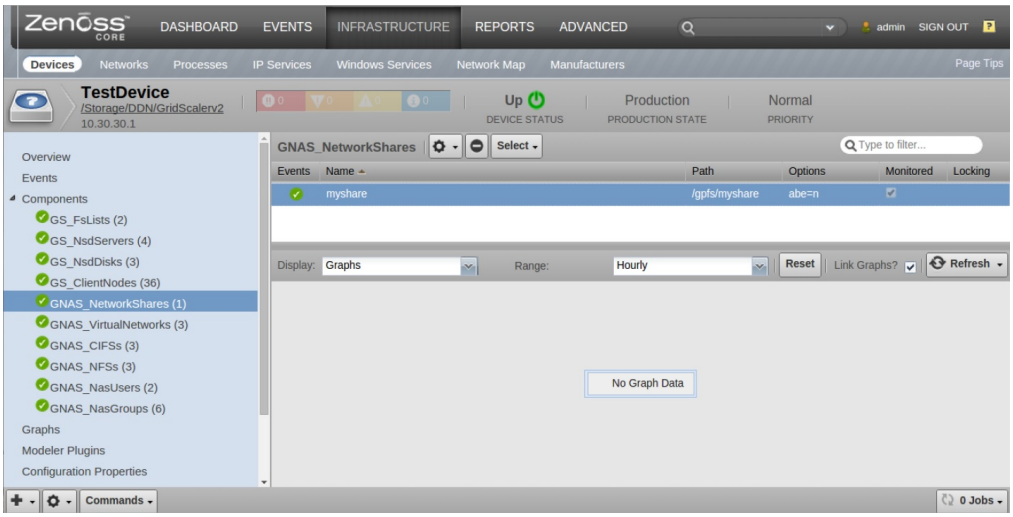
Figure 5. GS_ClientNodes Screen



7.2.5 GNAS_NetworkShares

Figure 6 shows the list of GridNAS network shares screen. This screen is only visible if the solution is also configured as GridNAS.

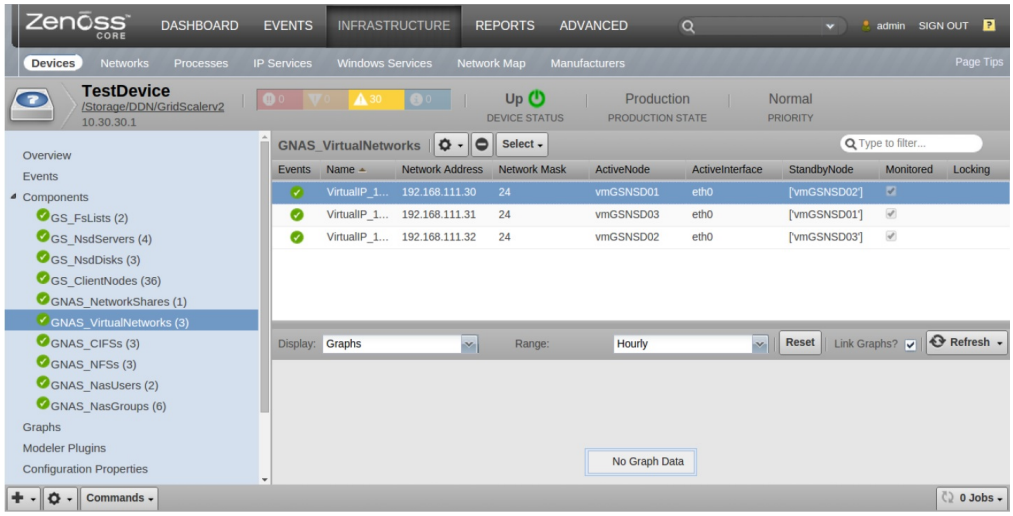
Figure 6. GNAS_NetworkShares Screen



7.2.6 GNAS_VirtualNetworks

Figure 7 shows the list of GridNAS virtual networks screen. This screen is only visible if the solution is also configured as GridNAS.

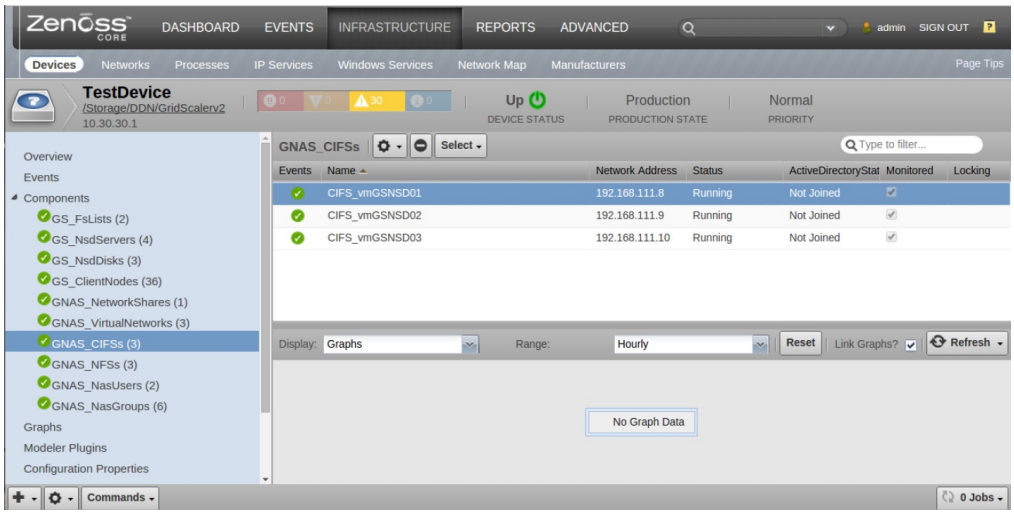
Figure 7. GNAS_VirtualNetworks Screen



7.2.7 GNAS_CIFS

Figure 8 shows the list of GridNAS CIFSs screen. This screen is only visible if the solution is also configured as GridNAS.

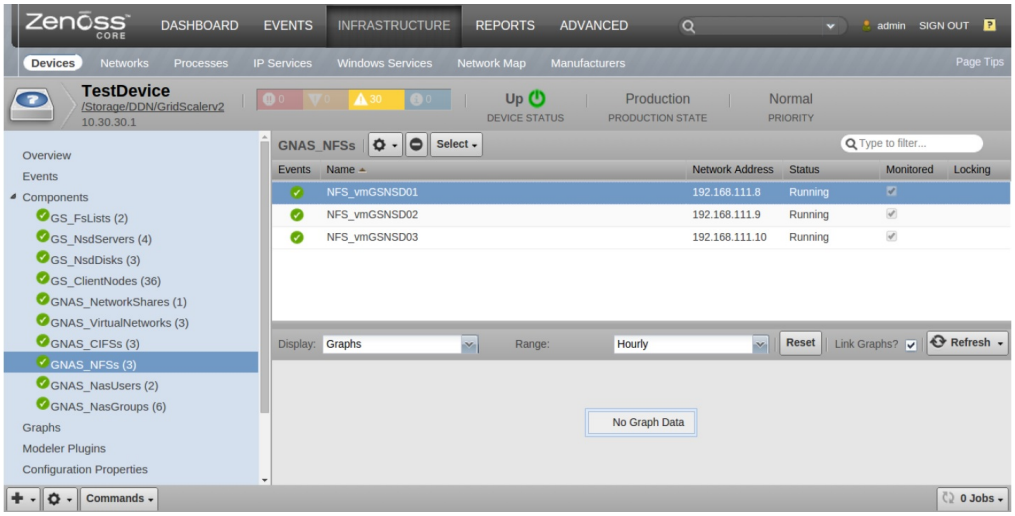
Figure 8. GNAS_CIFS Screen



7.2.8 GNAS_NFSs

Figure 9 shows the list of GridNAS NFSs screen. This screen is only visible if the solution is also configured as GridNAS.

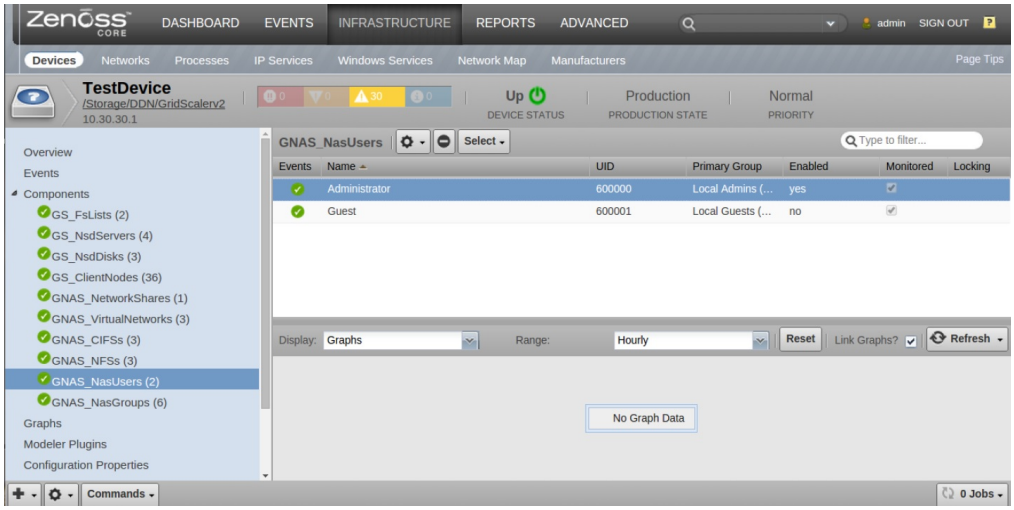
Figure 9. GNAS_NFSs Screen



7.2.9 GNAS_NasUsers

Figure 10 shows the list of GridNAS NAS users screen. This screen is only visible if the solution is also configured as GridNAS.

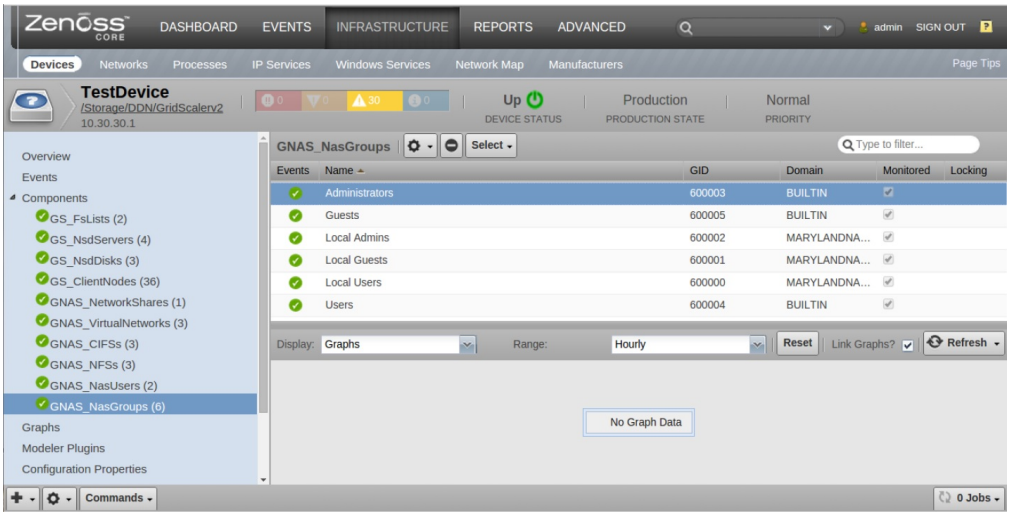
Figure 10. GNAS_NasUsers Screen



7.2.10 GNAS_Groups

Figure 11 shows the list of GridNAS NAS groups screen. This screen is only visible if the solution is also configured as GridNAS.

Figure 11. GNAS_Groups Screen



8. ZenPack Installation

Follow these steps to install DDN GRIDScaler ZenPack:

1. Download the appropriate .egg file for the version of the Zenoss you are running.
2. Ensure that you are logged in as Zenoss user.
   su - zenoss
3. Install ZenPack:
   - Zenoss 4
     zenpack --install ZenPacks.DDN.Gridscalerv2-*.egg
   - Zenoss 5
     sudo serviced service run zenpack install ZenPacks.DDN.Gridscalerv2-*.egg
4. Restart Zenoss:
   - Zenoss 4
     zenoss restart
   - Zenoss 5
     sudo serviced service stop *service-name*
     (Get the service name by running command "**sudo serviced service status**")
     sudo serviced service start *service-name*

8.1 Listing All Installed ZenPacks

Use the following commands to list all installed ZenPacks:

- Zenoss 4
  zenpack -- list
- Zenoss 5
  sudo serviced service run zope zenpack list

8.2 Steps to Uninstall ZenPacks

Use the following commands if you need to uninstall ZenPacks:

- Zenoss 4
  zenpack -- remove *zenpack-name*
- Zenoss 5
  sudo serviced service run zope zenpack uninstall *zenpack-name*

9. Modeling GRIDScaler through Zenoss

Since a GRIDScaler solution is a cluster of devices, it cannot be modeled and monitored directly like other devices. This ZenPack expects a pseudo network device to be created locally. This pseudo network device will be used to register the cluster. A **zProperty** (**`zGSNSDList`**) is defined to map the network address of NSD Servers in the cluster.

Follow these instructions to model a GRIDScaler solution through Zenoss:

1. Create a pseudo network device. For example:

   ```
   sudo ip link add link em1 address 44:44:44:44:44:44 em1:10 type macvlan

   sudo ifconfig em1:10 10.1.1.4 netmask 255.255.224.0
   ```

   NOTE : Change the IP and MAC addresses accordingly for your network environment.

2. Create a device using this newly created IP (10.1.1.4 in the above example).

3. Update the **zProperty** accordingly before modeling.

   For example, if you have four NSD nodes reachable at addresses IP1, IP2, IP3, and IP4 (management interfaces), you can either add all four or at least two of the addresses to ensure connectivity during node failure. Using one valid IP will also complete the modeling successfully.

World Headquarters 9351 Deering Avenue, Chatsworth, CA 91311 | ddn.com | Phone: +1.818.700.7600 Fax: +1.818.700.7601