



# AlterPath Integrator for HP OV NNM B.07.50 Integration Guide

## Contents

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Introduction	Page 1
Installing AlterPath IM onto an HP OpenView NNM server	Page 2
To Enable APM to Accept IM Requests	Page 2
To Install the Integration Module on Windows	Page 15
To Install the Integration Module on Linux	Page 19
To Install the Integration Module on Solaris	Page 22
Filling in the Schedule Fields	Page 24
Schedule Field Parameters	Page 25
Schedule Field Examples	Page 27
Connecting from OpenView NNM	Page 27

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## Introduction

Cyclades AlterPath™ Integrator for HP OpenView Network Node Manager (NNM) B.07.50 is the first out-of-band infrastructure (OOBI) integration module that links the AlterPath System to the HP OpenView systems management platform. The AlterPath Integrator allows IT administrators to securely access, diagnose and restore disconnected IT assets using Cyclades OOBI products (serial console, KVM over IP, power control appliances, service processor managers, and server blades) from within their HP OpenView window.

In order for the IM to work, the AlterPath Manager must have a current NNM license installed.

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**Note:** This guide assumes the reader is familiar with configuring the AlterPath Manager as an administrator. See the *AlterPath Manager E2000, 2500, and 5000 Installation, Configuration, and User's Guide* (hereinafter referred to as the *APM Guide*) for more information.

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# Installing AlterPath IM onto an HP OpenView NNM server

This process involves two primary steps:

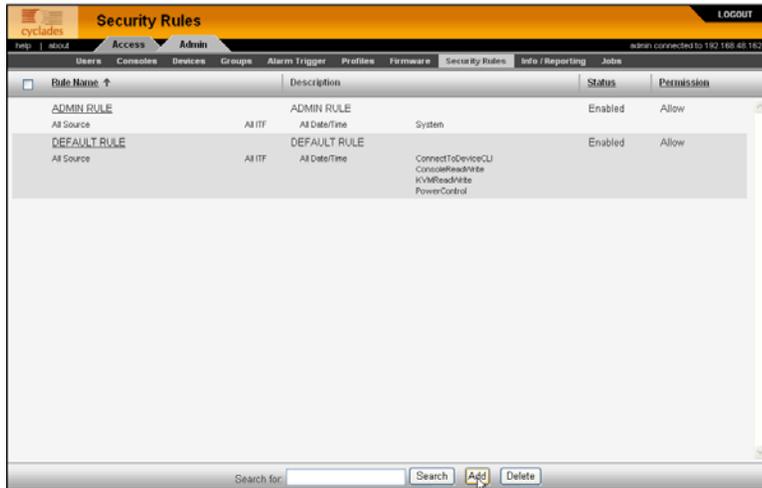
1. Configure the APM so it can accept Integration Module requests
2. Install the Integration Module on the HP OpenView NNM server. There is a separate procedure for:
  - a. An HP OpenView Server running on Windows®  
Supported Version: **Windows 2000 Server, Windows Server™ 2003**
  - b. An HP OpenView Server running on Linux®  
Supported Version: **Red Hat® Enterprise Server 2.1**
  - c. An HP OpenView Server running on Solaris™ Server  
Supported Version: **Solaris 8**

## ▼ *To Enable APM to Accept IM Requests*

1. Obtain the NNM license.
2. Place the license in the `/var/apm/licenses/data` directory.
3. Restart Tomcat for the change to take effect immediately.
4. Verify that the NNM license is recognized by the APM and get the APM version by entering the following command in the APM's serial console interface:  

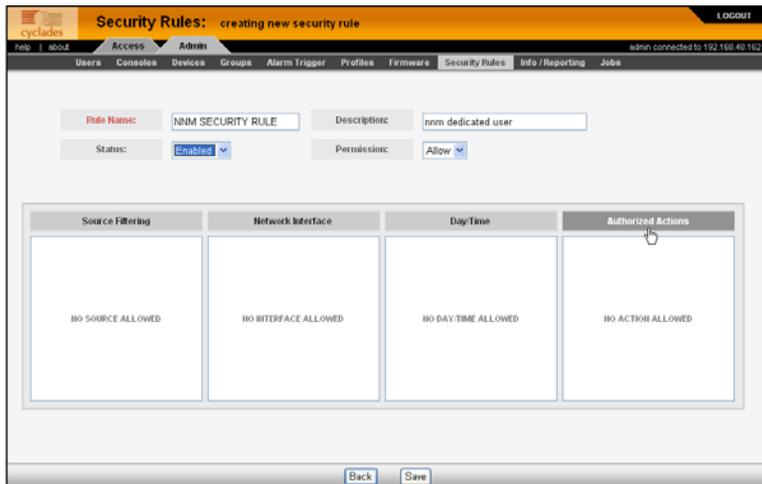
```
# sysinfo
```

This will display the hardware and software information about the APM, including the APM version, and a list of licenses.
5. For the NNM license, make sure the last parameter says "VALID=true"
6. Write down the exact string that follows the "APM Version" field. It should be similar to this: "V\_1.4.1 (Apr/07/2006)"
7. If the NNM license is recognized by the APM, log into the APM GUI as "admin".
8. Create a security rule "NNM SECURITY RULE" and add "HPNNM" to the "Selected actions" box. Follow these APM screens:
  - a. Select the "Security Rules" from the main menu bar (Figure 1).



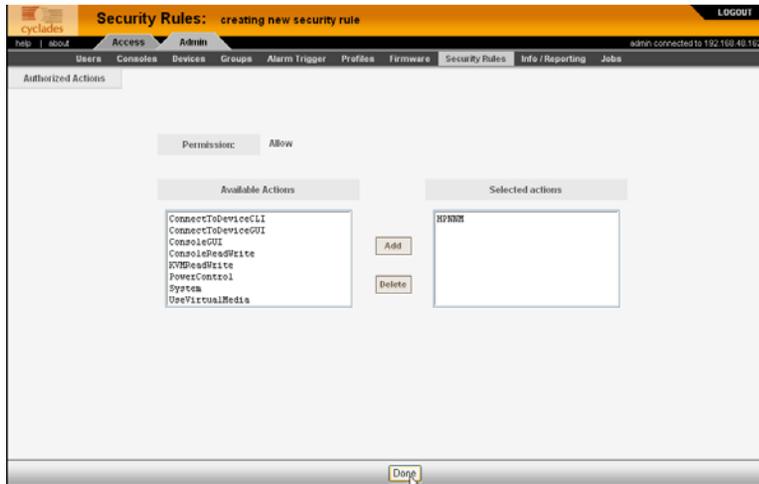
**Figure 1:** Security Rules List

- b. Left click on the “Add” button at the bottom of the screen.
- c. Enter a name into the “Rule Name” field. You have an option to fill in the “Description” field (Figure 2).
- d. Be sure the “Status” drop-down box is set to “Enabled”.
- e. Be sure the “Permission” drop-down box is set to “Allow”.



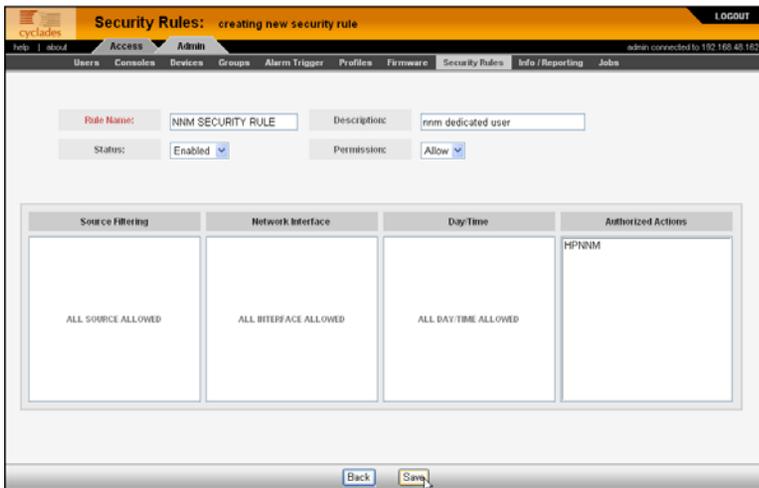
**Figure 2:** Security Rules Details Form

- f. Left Click on “Authorized Actions” shown in Figure 2.



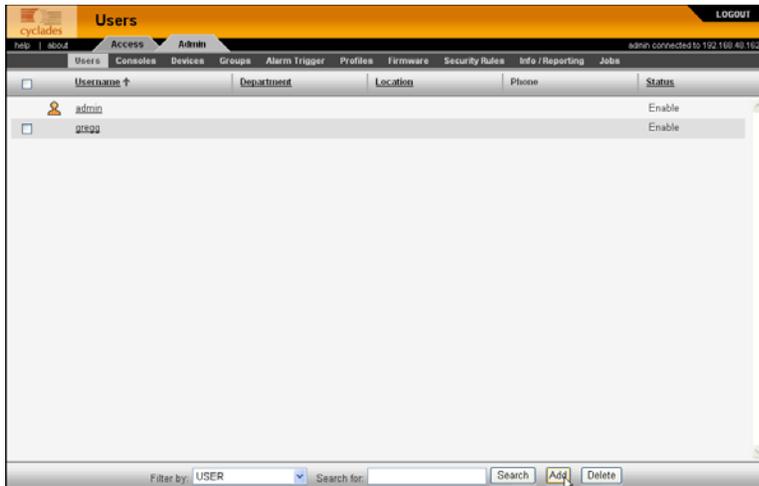
**Figure 3:** Adding HPNNM

- g.** Select “HPNNM” from the “Available Actions” box and click the “Add” button (Figure 3).
- h.** Click the “Done” button at the bottom of the screen.



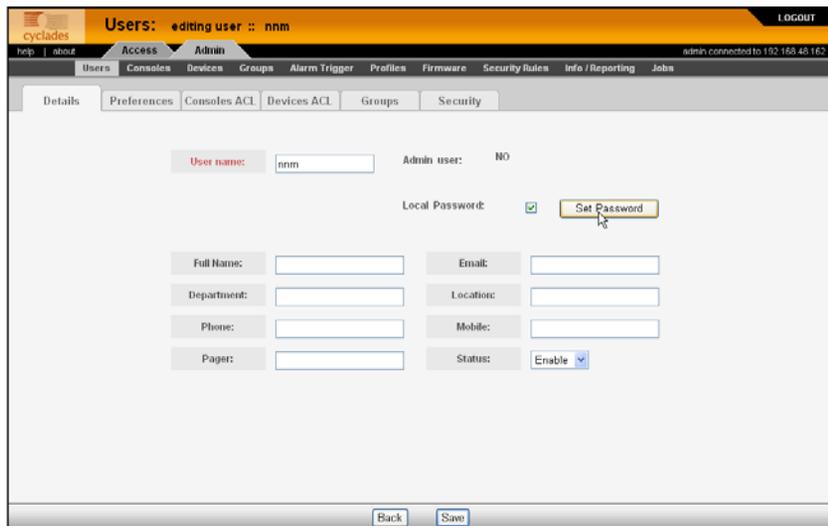
**Figure 4:** Security Rules Detail with HPNNM Rule

- 9.** Create an HPNNM user for the security rule that you just created in Step 8. Follow these APM screens:
  - a.** Select “Users” from the main menu bar (Figure 5).



**Figure 5:** User List

- b. Click on the “Add” button at the bottom of the screen.



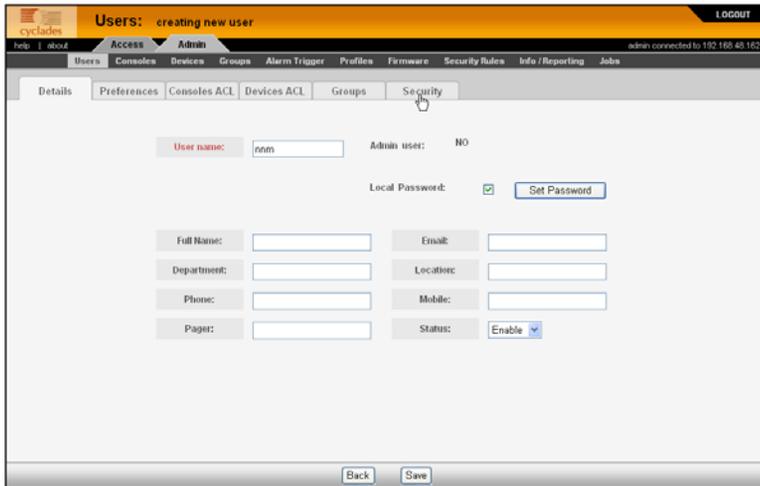
**Figure 6:** NNM User detail

- c. From the *User Details* screen (Figure 6) add a name to be used exclusively for an *NNM* user in the “User Name” field.
- d. Click the “Local Password” checkbox, and then click the “Password” button. Enter a password in the fields provided by the resulting dialog box, and click the “Set Password” button (Figure 7).

## Installing AlterPath IM onto an HP OpenView NNM server

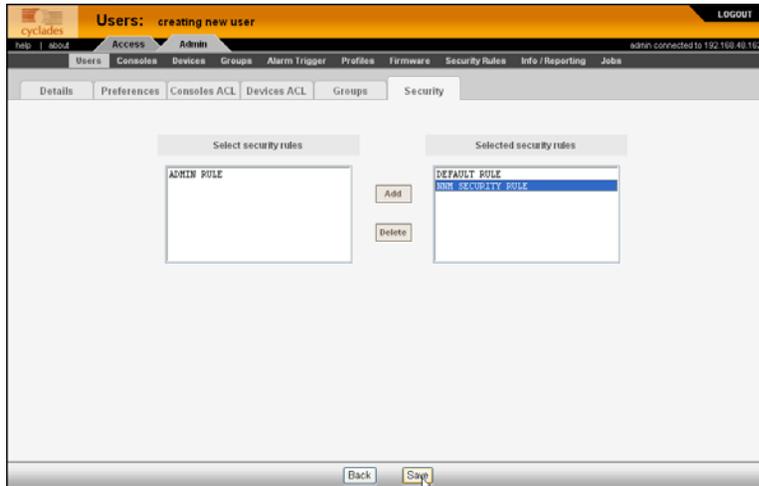


**Figure 7:** Password Dialog Box



**Figure 8:** Selecting the “Security” Tab

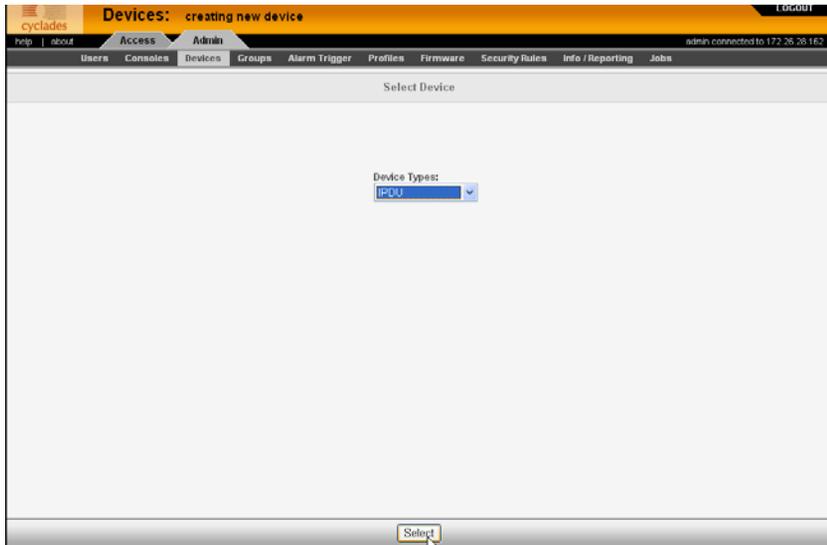
- e. Select the “Security” tab and click on it (Figure 8).



**Figure 9:** Adding NNM Security Rule

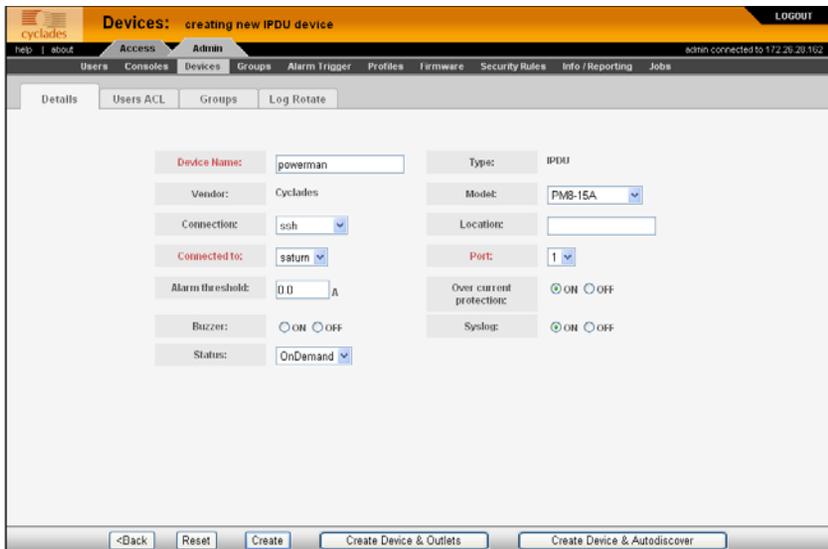
- f. Select “NNM Security Rule” from the “Select security rules” box and click on the “Add” button (Figure 9).
  - g. Click on the “Save” button at the bottom of the screen.
- 10.** If you plan on having the console you are configuring handle power management, configure your Intelligent Power Distribution Unit (IPDU) device at this time.
- a. Select IPDU from the Device Select form.

## Installing AlterPath IM onto an HP OpenView NNM server



**Figure 10:** Selecting the IPDU Device Type

- b.** Configure the IPDU for the AlterPath device to which it is physically connected.



**Figure 11:** Configuring the IPDU Device

**Note:** If the power outlets are to be controlled by a KVM console, the IPDU must be connected by an RJ45M to RJ45M cable to an AUX port of the controlling AlterPath KVM/net, KVM/net+, or OnSite. If the power outlets are to be controlled by a serial console, the IPDU must be connected by an RJ45M to RJ45M cable to an available serial port on the controlling AlterPath ACS, TS, or OnSite. (See the *APM Guide* for details.)

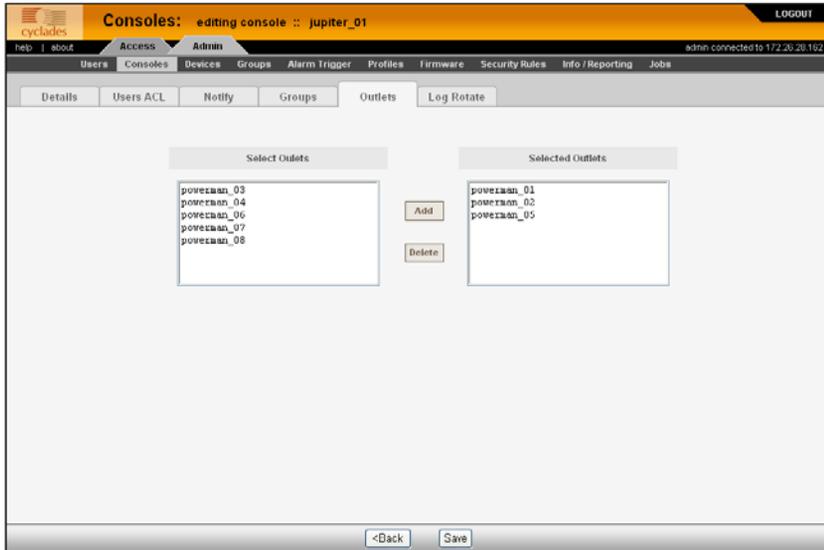
11. Create an *NNM Selection Name* and enter it into the “NNM Selection Name” field in the *APM Console Details* form.

**Note:** As an option, you can use the NNM Selection Name discovered by HP Open View (in Step 15). Then you can come back to the *APM Console Details* form to fill in this field with the name discovered by HP Open View.

The screenshot shows the 'Consoles: editing console :: jupiter\_01' form. The 'NNM Selection Name' field is highlighted with a red box and a callout, showing the value 'linux-gregg'. Other fields include Console Name (jupiter\_01), Device Name (jupiter), Port (1), Connection (ssh), Authentication (local), and Remote Data Buffer (0 bytes).

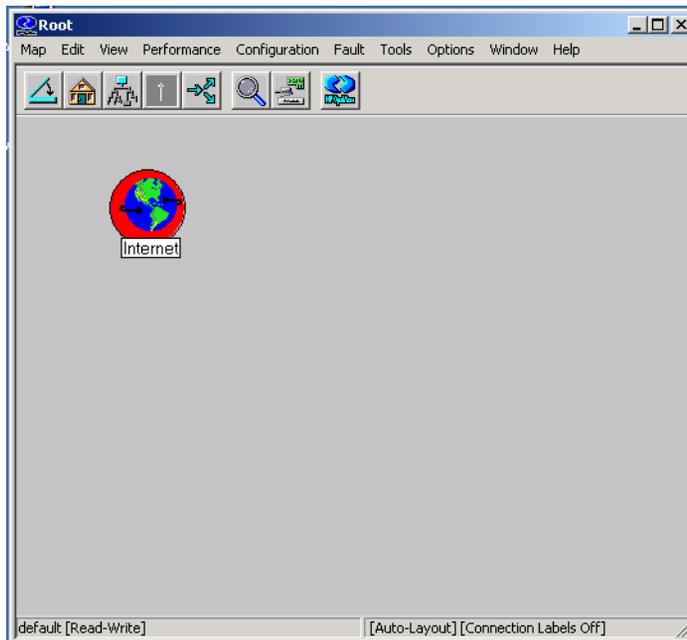
**Figure 12:** NNM Selection Name in Console Details Form

12. Click the “Save” button at the bottom of the Console Details form. Then upload the device configuration.
13. If you have configured an IPDU (Step 10), click on the “Outlets” tab. This opens a form from which you can select the outlets you want to control from your console port.
14. If you have configured an IPDU, save and upload the device and IPDU configuration.



**Figure 13:** Selecting Outlets to Control from the Console

15. From the *HP OpenView* server, make sure you can find the selection name of the server you wish to access from HP OpenView. This is usually derived from the host name of the server or the IP address, if no host name is available.
  - a. On HP OpenView, locate the server associated with the APM console you are configuring. After you start HP OpenView NNM, follow the prompts until you get to the “Root” window:



**Figure 14:** The Root Window

- b.** Open the Internet icon that is displayed in the “Root” window.

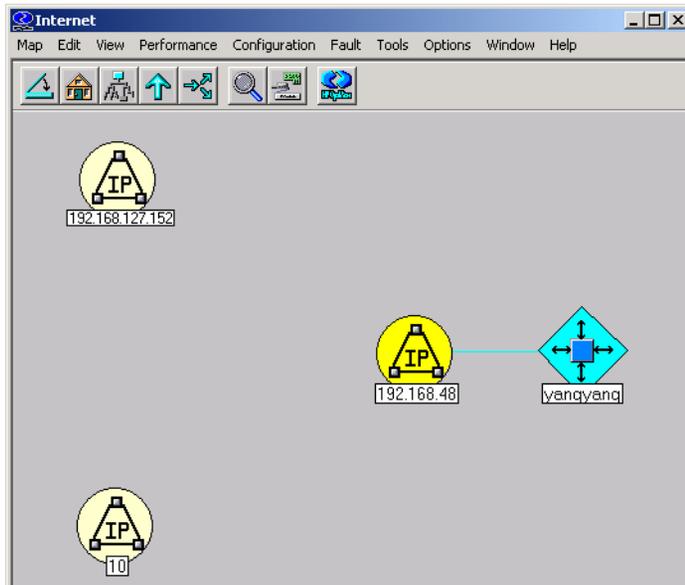
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**Note:** In Windows, either double-click on the icon, or highlight the icon and right click on it to open the next view.

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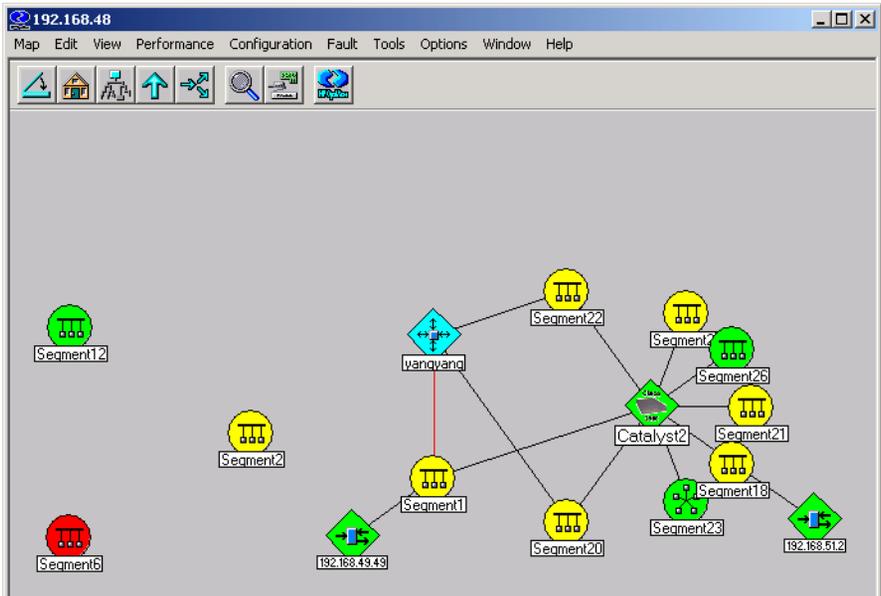
An “Internet” window launches:

## Installing AlterPath IM onto an HP OpenView NNM server



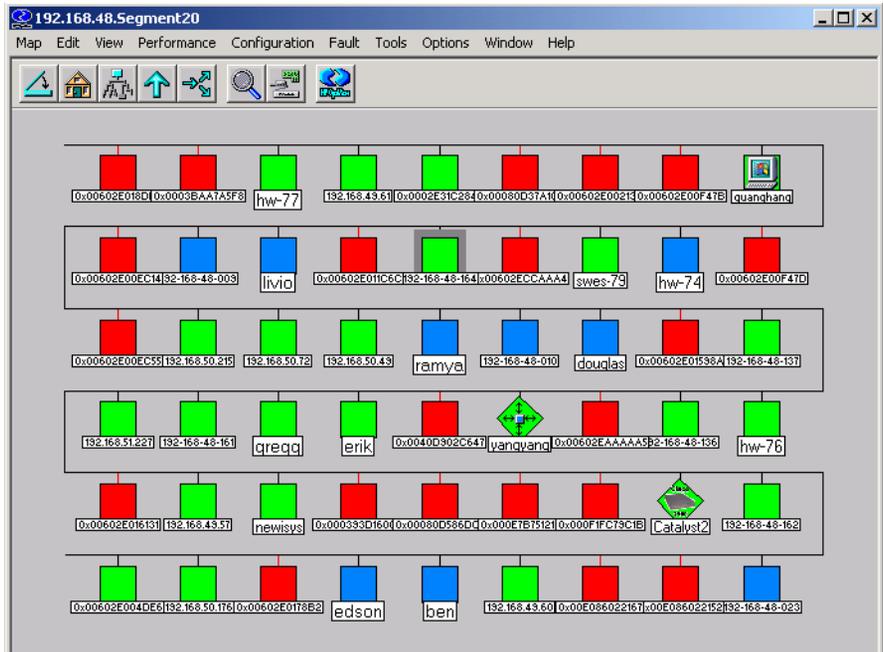
**Figure 15:** The Internet Window

- c. Open the IP icon associated with your network.  
The “Subnet” window appears.



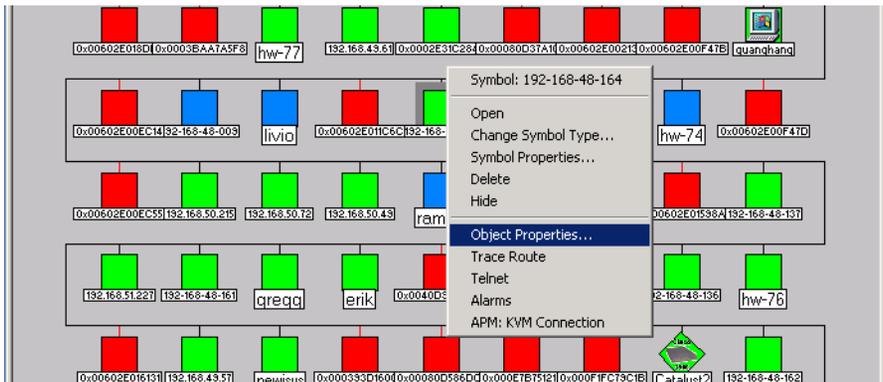
**Figure 16:** The Subnet Window

- d. Open the segment icon associated with your server.  
A server selection window appears.



**Figure 17: The Server Selection Window**

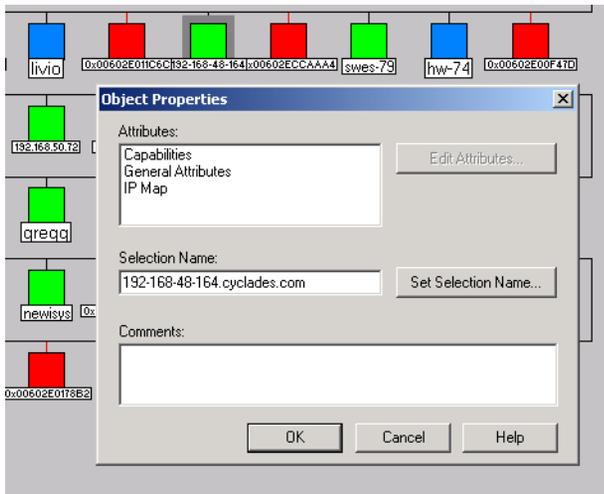
- e. Select the server icon associated with the APM console you are configuring.



**Figure 18: Selecting Object Properties**

- f. Right click on the server icon and select “Object Properties” from the resulting drop-down menu.

A dialog box that contains the “Selection Name” field appears:



**Figure 19:** The Selection Name Field

16. Edit (if necessary) the *Selection Name* so that it matches the entry that is in the “Selection Name” field (entered in Step 11) of the APM console that you are planning to access using HP OpenView.

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**Caution:** The *Selection Name* in the HP OpenView NNM Object Properties dialog and the *Selection Name* in the *APM Console Details* form must match when you finish with this configuration.

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17. Log out.

18. Go to the procedure “To Install the Integration Module on...” your particular platform (Windows, Linux, or Solaris) that follows.

## ▼ To Install the Integration Module on Windows

The Integration Module for Windows is installed with HP OV NNM already up and running on the Windows system. HP OV NNM is the package as you buy it from HP. Run the following commands from the Windows command line:

1. Log onto the server running HP OpenView NNM.
2. Enter the command: `C:\> mkdir \tmp_hp`

## Installing AlterPath IM onto an HP OpenView NNM server

3. Enter the command: `C:\> cd \tmp_hp`
4. Copy (or download) two files:
  - a. A self extracting, compressed “exe” file:  
`AlterpathIntegratorWindows.exe`
  - b. An md5 checksum of the exe file:  
`AlterpathIntegratorWindows.exe.md5sum`
5. View the contents of the md5sum file.
6. Enter the following command:  
`C:\tmp_hp> md5sum AlterpathIntegratorWindows.exe`

---

**Note:** You will need to download “md5sum.exe” from the internet. One popular URL for this file is: <http://www.etree.org/md5com.html>

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The resulting number generated by the command must match the md5sum file that you downloaded. This verifies the integrity of the “exe” file.

---

**Note:** If the numbers do not match, you must download the exe file again.

---

7. Uncompress the package by entering the following command:  
`C:\tmp_hp> AlterpathIntegratorWindows.exe`
8. Using “Notepad”, open the file,  
`C:\Program Files\Cyclades\IM\APMConfig.conf`

The file that appears will be filled in with the following template entries:

---

```
Start_APM:
apmUrl: https://192.168.48.150/
certificate_issuer=cyclades.com
username: nnm
password: apm
version: @(#)V_1.4.0 (03/16/2004)
log_enable: true
max_attempt_in_transaction: 3
transaction_interval: 2
max_transaction_attempt: 4
full_schedule:0 0 1 * * ?
partial_schedule:0 0/30 * * * ?
End_APM:
```

---

9. Edit the following fields in the `APMConfig.conf` file:

- a. `apmUrl: https://<APM_URL_or_IP_Address>/`

Be sure to include the final slash (/) after this parameter.

**Note:** You must use the APM interface “eth0” and the IP address associated with it to connect to HP OpenView. The port for “eth0” is physically labeled as “Eth1” on the APMs.

- b. `certificate issuer: <hostname>.<domainname>`

- i. To get the certificate issuer of your APM, go to your web browser and enter: `https://<your_apm's_IP_address>`.

This will launch a dialog box similar to the one shown here (this varies with the browser):



**Figure 20:** Security Alert Dialog

- ii. Click OK.

A Dialog box with a selection to view the certificate appears.



**Figure 21:** Security Alert Options Dialog

- iii. Either select “Yes” or select “View Certificate”

---

**Note:** If you select “Yes” here, a padlock icon appears at the bottom of your browser. In this case, double click on the icon.

---

The following dialog box appears:



**Figure 22:** The Certificates Dialog

- iv. View the certificate, and make note of the value in the “Issued by” field. This is the value of the certificate issuer to enter in the `APMConfig.conf` file.
- c. `username: <dedicated_HP_OpenView_user>` (from Step 9 on page 4).
- d. `password: <HP_OpenView_user’s_password>`
- e. `version: @(#)<exact_version_string>` (see Step 4 on page 2).

Set up the APM version in the `APMConfig.conf` file. Make sure it exactly matches the “APM Version:” (including date and parentheses) string from the “sysinfo” command issued from the APM console or from the WMI “about” selection.

- f. `full_schedule: <expression>` (Before you complete this field and the next one, see “Filling in the Schedule Fields” on page 24).  
AlterPath Integrator uses the Quartz format for scheduling.
- g. `partial_schedule: <expression>` (see “Filling in the Schedule Fields” on page 24).

---

**Note:** If you need to configure additional APMs, you should copy the block of lines starting from and including the “Start\_APM:” line and ending with the “End\_APM:” line. Then adjust the parameters in between them as necessary for the additional APM. Repeat this for each additional APM you configure.

---

## ▼ *To Install the Integration Module on Linux*

The Integration Module for Linux is installed with HP OV NNM already up and running on the Linux system. HP OV NNM is the package as you buy it from HP.

1. Log on to the HP OV NNM server as root.
2. Enter the command: # `mkdir /tmp_hp`
3. Enter the command: # `cd /tmp_hp`
4. Copy (or download) two files:
  - a. A tar file: `AlterpathIntegratorLinux.tar`
  - b. An md5 checksum of the tar file:  
`AlterpathIntegratorLinux.tar.md5sum`
5. View and save the contents of the md5sum file.
6. Enter the following command:  
# `md5sum AlterpathIntegratorLinux.tar`

The resulting number generated by the command must match the md5sum file that you downloaded. This verifies the integrity of the tar file.

---

**Note:** If the numbers do not match, you must download the tar file again.

---

## Installing AlterPath IM onto an HP OpenView NNM server

7. Uncompress the package by entering the following command:

```
# tar -xf AlterpathIntegratorLinux.tar
```

A directory will be created. It has a name: `cyclades_installation`

8. Enter the command:

```
# cd cyclades_installation/
```

9. Enter the command:

```
# ./install
```

10. When prompted, install the IM in the default directory:

```
/opt/Cyclades/IM
```

A file called: `APMConfig.conf` will be created in this directory.

11. Restart the AlterPath Integrator.

12. Edit the `APMConfig.conf` file.

When you view the file in `vi` or in another editing environment, the file will appear with the following parameters:

---

```
Start_APM:
apmUrl: https://192.168.48.150/
certificate_issuer=cyclades.com
username: nnm
password: apm
version: @(#)V_1.4.0 (03/16/2004)
log_enable: true
max_attempt_in_transaction: 3
transaction_interval: 2
max_transaction_attempt: 4
full_schedule:0 0 1 * * ?
partial_schedule:0 0/30 * * * ?
End_APM:
```

---

13. Edit the following fields in the `APMConfig.conf` file:

- a. `apmUrl: https://<APM_URL_or_IP_Address>/`

Be sure to include the final slash (/) after the URL.

---

**Note:** You must use the APM interface “eth0” and the IP address associated with it to connect to HP OpenView. The port for “eth0” is physically labeled as “Eth1” on the APMs.

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- b. `certificate issuer: <hostname>.<domainname>`

- i. To get the certificate issuer of your APM, go to your web browser and enter: **https://<your\_apm's\_IP\_address>**.

This will launch a dialog box (see Figure 20):

- ii. Click OK.

A Dialog box with a selection to view the certificate appears (see Figure 21).

- iii. Either select “Yes” or select “View Certificate”

---

**Note:** If you select “Yes” here, a padlock icon appears at the bottom of your browser. In this case, double click on the icon.

---

The “Certificates” dialog box appears (see Figure 22).

- iv. View the certificate, and make note of the value in the “Issued by” field. This is the value of the certificate issuer to enter in the `APMConfig.conf` file.
- c. username: **<dedicated\_HP\_OpenView\_user>** (from Step 9 on page 4).
- d. password: **<HP\_OpenView\_user's\_password>**
- e. version: **@(#)<exact\_version\_string>** (see Step 4 on page 2).

Set up the APM version in the `APMConfig.conf` file. Make sure it exactly matches the “APM Version:” (including date and parentheses) string from the “sysinfo” command issued from the APM console or from the WMI “about” selection.

- f. full\_schedule: **<expression>** (Before you complete this field and the next one, see “Filling in the Schedule Fields” on page 24).  
AlterPath Integrator uses the Quartz format for scheduling.
- g. partial\_schedule: **<expression>** (see “Filling in the Schedule Fields” on page 24).

---

**Note:** If you need to configure additional APMs, you should copy the block of lines starting from and including the “Start\_APM:” line and ending with the “End\_APM:” line. Then adjust the parameters in between them as

necessary for the additional APM. Repeat this for each additional APM you configure.

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### ▼ **To Install the Integration Module on Solaris**

The Integration Module for Solaris is installed with HP OV NNM already up and running on the Solaris system. HP OV NNM is the package as you buy it from HP.

1. Log on to the HP OV NNM server as root.
2. Enter the command: # `mkdir /tmp_hp`
3. Enter the command: # `cd /tmp_hp`
4. Copy (or download) two files:
  - a. A tar file: `AlterpathIntegratorSolaris.tar`
  - b. An md5 checksum of the tar file:  
`AlterpathIntegratorSolaris.tar.md5sum`

5. View and save the contents of the md5sum file.

6. Enter the following command:  
# `md5sum AlterpathIntegratorSolaris.tar`

The resulting number generated by the command must match the md5sum file that you downloaded. This verifies the integrity of the tar file.

---

**Note:** If the numbers do not match, you must download the tar file again.

---

7. Uncompress the package by entering the following command:  
# `tar -xf AlterpathIntegratorSolaris.tar`  
A directory will be created. It have a name similar to:  
`cyclades_installation`
8. Enter the command:  
# `cd cyclades_installation/`
9. Enter the command:  
# `./install`
10. When prompted, install the IM in the default directory:  
`/opt/Cyclades/IM`

A file called: `APMConfig.conf` will be created in this directory.

**11.** Restart the AlterPath Integrator.

**12.** Edit the `APMConfig.conf` file.

When you view the file in `vi` or in another editing environment, the file will appear with the following parameters:

---

```
Start_APM:
apmUrl: https://192.168.48.150/
certificate_issuer=cyclades.com
username: nnm
password: apm
version: @(#)V_1.4.0 (03/16/2004)
log_enable: true
max_attempt_in_transaction: 3
transaction_interval: 2
max_transaction_attempt: 4
full_schedule:0 0 1 * * ?
partial_schedule:0 0/30 * * * ?
End_APM:
```

---

**13.** Edit the following fields in the `APMConfig.conf` file:

**a.** `apmUrl: https://<APM_URL_or_IP_Address>/`

Be sure to include the final slash (/) after the URL.

---

**Note:** You must use the APM interface “eth0” and the IP address associated with it to connect to HP OpenView. The port for “eth0” is physically labeled as “Eth1” on the APMs.

---

**b.** `certificate issuer: <hostname>.<domainname>`

i. To get the certificate issuer of your APM, go to your web browser and enter: `https://<your_apm's_IP_address>`.

This will launch a dialog box (see Figure 20):

ii. Click OK.

A Dialog box with a selection to view the certificate appears (see Figure 21).

iii. Either select “Yes” or select “View Certificate”

**Note:** If you select “Yes” here, a padlock icon appears at the bottom of your browser. In this case, double click on the icon.

---

The “Certificates” dialog box appears (see Figure 22).

- iv. View the certificate, and make note of the value in the “Issued by” field. This is the value of the certificate issuer to enter in the `APMConfig.conf` file.
- c. `username: <dedicated_HP_OpenView_user>` (from Step 9 on page 4).
- d. `password: <HP_OpenView_user’s_password>`
- e. `version: @(#)<exact_version_string>` (see Step 4 on page 2).

Set up the APM version in the `APMConfig.conf` file. Make sure it exactly matches the “APM Version:” (including date and parentheses) string from the “sysinfo” command issued from the APM console or from the WMI “about” selection.

- f. `full_schedule: <expression>` (Before you complete this field and the next one, see “Filling in the Schedule Fields” on page 24).  
AlterPath Integrator uses the Quartz format for scheduling.
- g. `partial_schedule: <expression>` (see “Filling in the Schedule Fields” on page 24).

---

**Note:** If you need to configure additional APMs, you should copy the block of lines starting from and including the “Start\_APM:” line and ending with the “End\_APM:” line. Then adjust the parameters in between them as necessary for the additional APM. Repeat this for each additional APM you configure.

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## ***Filling in the Schedule Fields***

The `full_schedule:` and `partial_schedule:` fields will probably need some adjusting, especially if more than one APM is going to be accessed by HP OpenView NNM. Keep two things in mind when configuring these fields for multiple APMs:

1. It is best to avoid conflicting “full\_schedules” among the different APMs. In other words, the full schedule of one APM should trigger at a time or times different from the times of other APM full schedule trigger times.
2. It is best to avoid “partial\_schedules” that conflict with *any* full schedule of *any* APM, and with the partial schedule of any other APM.

## Schedule Field Parameters

The schedule fields and the values allowed for each as well as the special characters allowed for each are shown in the tables that follow:

**Table 1-1:** Schedule Field Values and Special Characters

	Seconds	Minutes	Hours	Day of Month	Month	Day of Week	Year (optional)
Allowed Values	0-59	0-59	0-23	1-31	1-12 or JAN-DEC	1-7 or SUN-SAT	null, 1970-2099
Allowed Special Characters	, - * /	, - * /	, - * /	, - * ? / L W C	, - * /	, - * ? / L C #	, - * /

**Table 1-2:** Meanings of Special Characters

Character	Meaning
*	Specifies all values. For example, “*” in the minute field means every minute.
?	Allowed in day-of-month and day-of-week fields. Specifies no specific value. Used when specifying something in one of the of the two fields, but not the other.
-	Specifies a range. For example, “10-14” in the hour field means at 10, 11, 12, 13, and 14 (or on each hour 10:00 AM through 2:00 PM).
,	Specifies separation of individual values. For example, 1,5,9 in the minute field specifies minute 1, minute 5 and minute 9.

**Table 1-2:** Meanings of Special Characters

<b>Character</b>	<b>Meaning</b>
/	Specifies increments. For example 2/15 in the minute field means starting at 2 minutes, increment every 15 minutes, or minute 2, minute 17, minute 32, and minute 47.
L	<p>Specifies “last.” In the month field, this means the 31st day for January, March, May, July, August, October, and December. It means the 28th day for February (or the 29th for leap year) and the 30th day for the remaining months.</p> <p>In the week field, when combined with the day, as in 6L, it means “the last Friday of the month.” By itself, “L” in the week field means “7” or “SAT”</p>
W	<p>Specifies a weekday nearest a specified date in the month field. For example, “15W” means the nearest weekday to the 15th of the month (or the weekday that falls on the 15th of the month).</p> <p>L and W can be combined in the month to mean the last weekday of the month.</p>
#	<p>Placed in the day of the week field. Specifies the nth XXX day of the month. For example, 5#3 means the 3rd Thursday of the month.</p> <p><b>Note:</b> If you specify #5 for a day and there is no 5th occurrence of that day in that month, no triggering will occur.</p>
C	<p>Specifies a day of the month or day of the week associated with the calendar.</p> <p>Example 1: “5C” in the day of month field means the first day included by the calendar on or after the 5th.</p> <p>Example 2: “1C” in the day of week field means the first day included by the calendar on or after Sunday.</p> <p><b>Note:</b> This is not fully supported.</p>

## Schedule Field Examples

The following table contains some sample schedule fields.

**Table 1-3:** Schedule Field Examples

Schedule Field	Meaning
0 0 1 * * ?	Trigger at 1:00 AM (01:00 hour) every day. This is the default for the “full_schedule:” field.
0 0/30 * * * ?	Trigger every 30 minutes starting from 12:00 AM (00:00 hour) through 11:30 PM (23:30) every day. This is the default for the “partial_schedule:” field.
0 10 1 * * ?	Trigger at 1:10 AM every day. This is a possible setting for a second “full_schedule:”
0 3/30 * * * ?	Trigger every 30 minutes starting from the 3rd minute of the day (12:03 AM) through 23:33 every day. This is a possible setting for a second “partial_schedule:”
0 10,44 14 ? 3 4 or 0 10,44 14 ? 3 WED	Trigger at 2:10 PM and at 2:44 PM every Wednesday in the month of March.
0 15 10 ? * 6#3	Trigger at 10:15 AM on the 3rd Friday of every month.
0 15 10 ? * 6L	Trigger at 10:15 AM on the last Friday of every month.
0 15 10 ? * 6L 2002-2005	Trigger at 10:15 AM on the last Friday of every month.

For more detailed information on the Quartz format, which is used to configure the schedule fields in the APMConfig.conf file, see the website: <http://quartz.sourceforge.net/javadoc/org/quartz/CronTrigger.html>

## Connecting from OpenView NNM

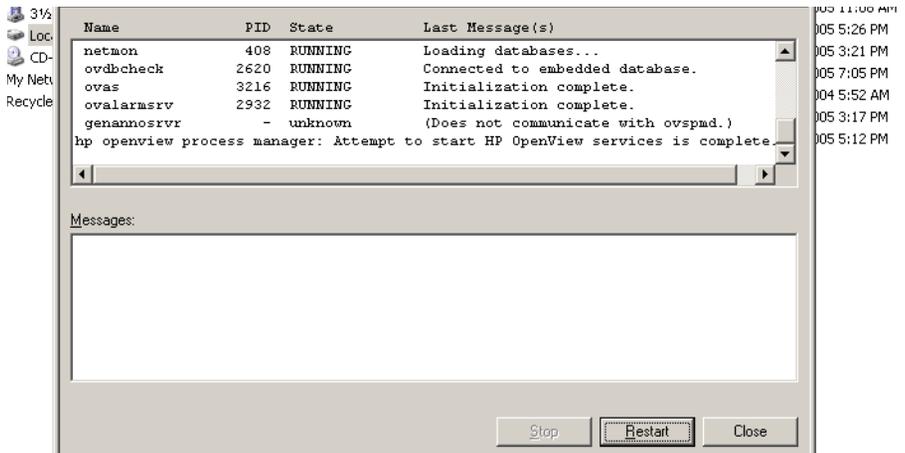
You are now ready to connect to the configured server from HP OpenView NNM. If HP OpenView is currently running, you must stop the program.

### ▼ To Connect from HP OpenView NNM

1. Start the HP OpenView NNM

The NNM Services window will launch and show the startup process.

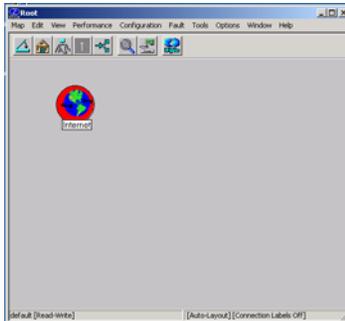
## Installing AlterPath IM onto an HP OpenView NNM server



**Figure 23:** HP OpenView NNM Services Window

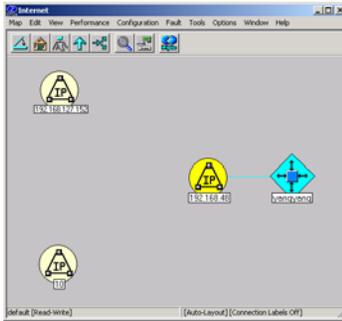
**Note:** Some windows that appeared earlier in this document are shown in a reduced size.

2. Follow the prompts until the “Root” window appears:



**Figure 24:** The Root Window with the Internet Icon

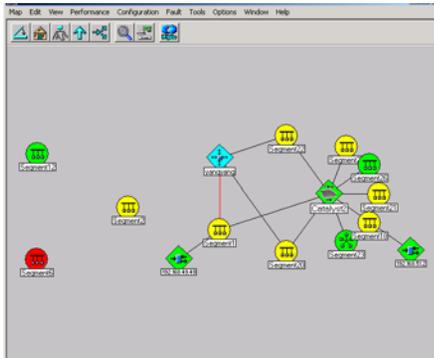
3. Open the “Internet” icon to launch the “Internet” window.



**Figure 25:** The Internet Window

4. Open the IP icon that corresponds to the network where the server you are selecting resides.

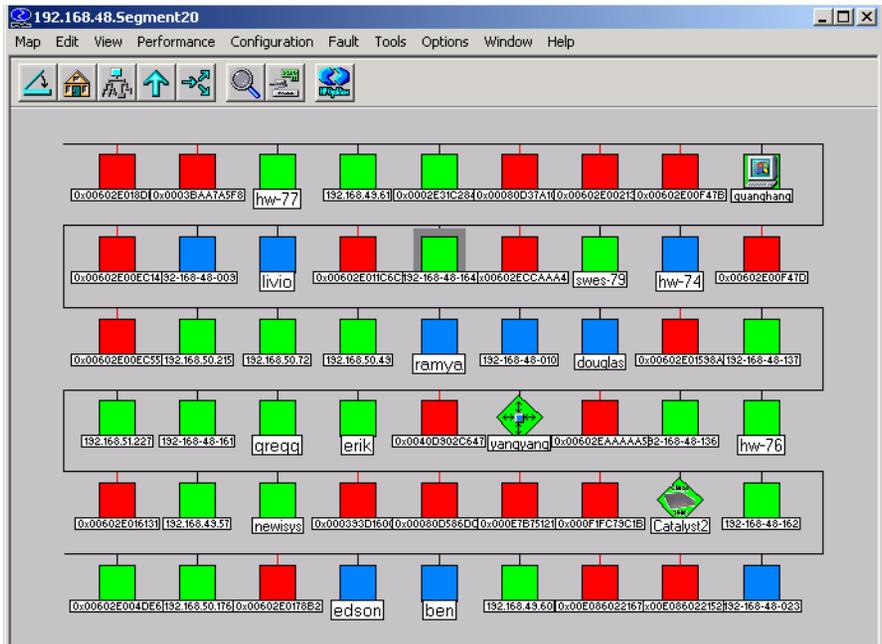
The subnet window appears:



**Figure 26:** The Subnet Window

5. Open the icon that corresponds to the segment where the server you are selecting resides.

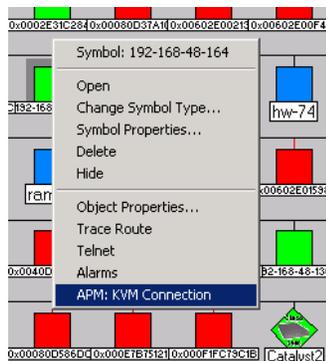
The server selection window appears:



**Figure 27:** HP OpenView NNM Device Access Window

**Note:** To access a node in Windows, you must select (highlight) the node first and then right click on it.

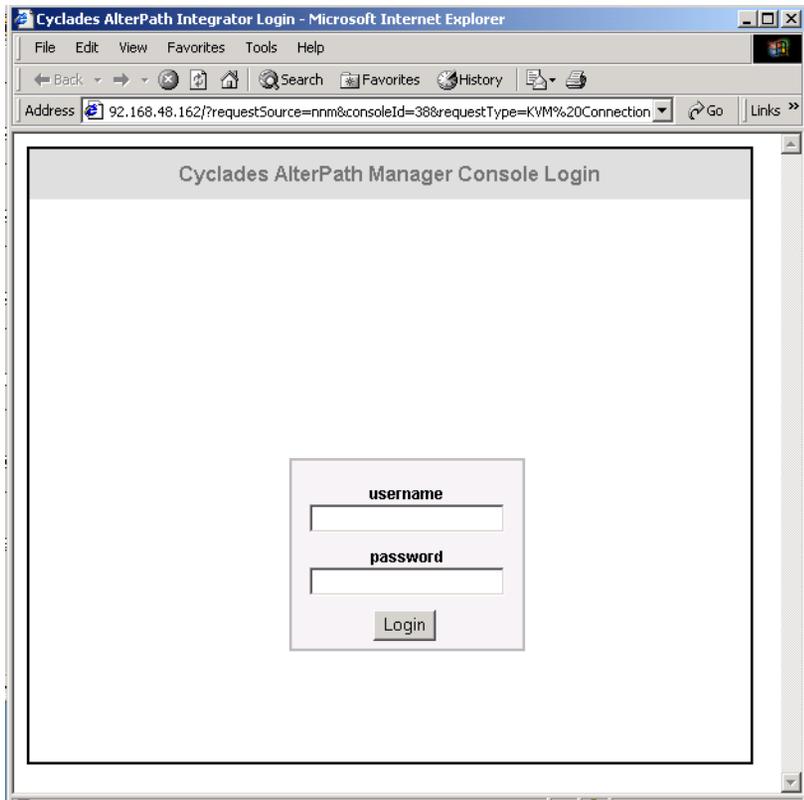
- Right click on the icon of the server you configured and scroll down the drop-down menu to the “APM: KVM Connection” line.



**Figure 28:** HP OpenView NNM Server Drop-down Menu

- Right click on “APM: KVM Connection”.

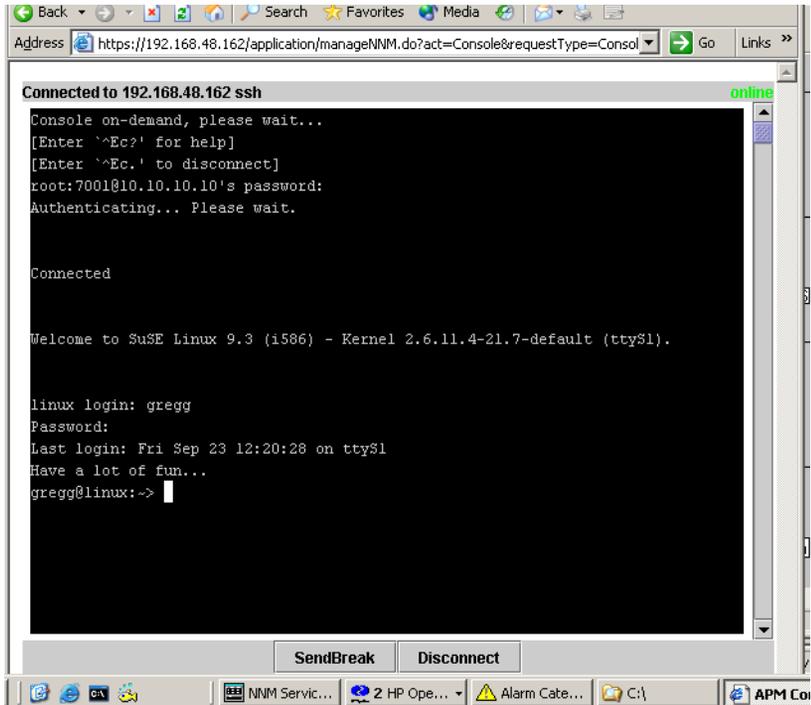
The HP OpenView NNM AlterPath Manager login window appears.



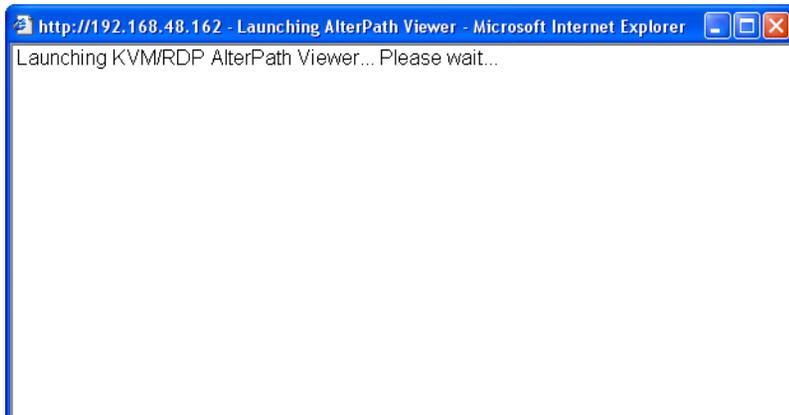
**Figure 29:** AlterPath Manager Login Screen (via HP OpenView)

8. Log onto the APM as an authorized APM user.
9. The appropriate AlterPath console window appears.

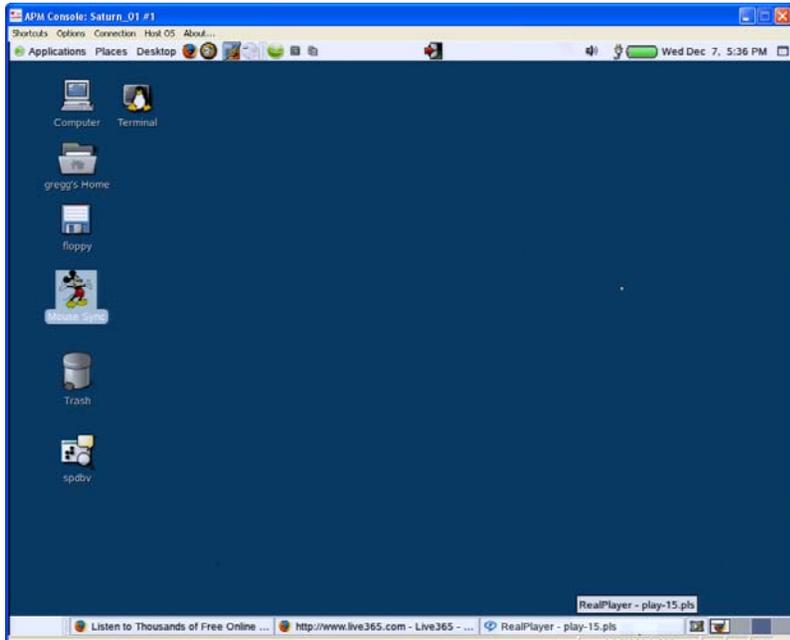
## Installing AlterPath IM onto an HP OpenView NNM server



**Figure 30:** Serial Console Window via HP OpenView NNM IM



**Figure 31:** Launching KVM Viewer



**Figure 32:** KVM Viewer Window

## Installing AlterPath IM onto an HP OpenView NNM server

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Part Number: PAC0436

Release Date: April 2006