

Active Fabric Manager Installation Guide 1.5



Notes, Cautions, and Warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Configure Active Fabric Manager as a Virtual Appliance

Starting with Release 1.5 of Active Fabric Manager (AFM), you can deploy the AFM as virtual appliance on a VMware® ESX® virtual machine or Workstation™. In this guide, you learn how to configure the AFM as a virtual appliance. The instructions in this document assume you have already installed and configured an ESX host or workstation where you plan to run AFM. For additional information about installing and configuring the ESX virtual host machine or Workstation, consult the VMware documentation.

To configure AFM as a virtual appliance:

1. [Review the Prerequisites](#)
2. [Deploy the OVF Template](#)
3. [Start the AFM VM](#)
4. [Manage the AFM Virtual Appliance](#)
5. [Perform Initial Configuration](#)

Prerequisites

 **NOTE:** If you are using the AFM VM as a syslog and a TFTP or FTP server, you do not need to gather the following information.

Before you begin, gather the following information:

- Syslog IP addresses — IP address of remote syslog server.
- TFTP or FTP server address — IP address of TFTP or FTP server for the Dell Networking Operating System (FTOS) software images and configuration files during bare metal provisioning (BMP). If you are using an FTP server, obtain the user name and password.

Hardware Requirements

Disk Space	1TB 7.2K RPM SATA 3.5 Hot Plug Hard Drive
System Type	64-bit operating system
Processor	Intel® Xeon® E5620 2.4Ghz, 12M Cache, Turbo, HT, 1066MHz Max Memory
Memory	32GB Memory (8x4GB), 1333MHz Dual Ranked LV RDIMMs for 2 Processors, Advanced ECC


Virtual Appliance Requirements

AFM runs as a virtual appliance. It requires the following software to host the solution:

- VMware® Workstation™ version 8.0.5 and higher

 **NOTE:** VMware® Workstation™ does not support HA and FT.


- VMware® vSphere® Hypervisor (ESXi) 5.0 and higher (must meet virtual appliance, port access, and listening port requirements)

 **NOTE:** VMware® vCenter™ is required for HA and FT.

Deploy the OVF with HA and FT

The following are required to implement High Availability (HA) and Fault Tolerance (FT) using a VMware® ESX® Virtual Machine :


- VMware® vCenter™ 5.0 Standard License
- ESXi® 5.0 Enterprise Plus License
- Dell M1000e chassis, if you are using MXL Blade switches.
- iSCSI or Fiber Channel Central Storage
- Shared storage for the OVF

 **NOTE:** By default, the AFM VM CPU is set to 2. To use the HA feature, change the virtual CPU to 1.

Deploy the OVF without HA and FT

The following are required to deploy AFM without the HA/FT solution, using a VMware® ESX® Virtual Machine:


- VMware® ESXi® 5.0 Open Source License
- Servers (rack or blade switch). If you are using MXL blade switches, requires a M1000e blade chassis)
- Shared storage for the OVF

 **NOTE:** By default, the AFM VM CPU is set to 2.

Deploy the OVF with HA

When you deploy the AFM with HA only using a VMware® ESX® VM, the requirements are as follows:

- VMware® ESXi® 5.0 Open Source License
- Shared storage for the OVF

 **NOTE:** By default, the AFM VM CPU is set to 2. To use the HA feature, change the virtual CPU to 1.

AFM Client Browser Requirements

- Internet Explorer® 9
- Firefox® 12 and higher

Port Usage

To troubleshooting connectivity issues with the AFM server, use the following table

Table 1. Ports

Port	Description
20 & 21	FTP
22	SSH and SCP (communication to switches and CLI access to AFM server)
23	Telnet (communication to switches)
67 & 68	DHCP
69	TFTP
80	AFM server ports used to take request from client (browser)
123	NTP
161	For the SNMP get and set protocol between AFM server and switch.
162	For the SNMP trap listener between AFM server and switch.
443	For the HTTPS communication protocol where the AFM takes requests from the client browser.
5432	Database server
8080	TCP/UDP
61616	ActiveMQ

Disabling VMotion on an ESX/ESXi Host

For information on how to disable VMotion® on an VMware® ESX/ESXi® host, see the VMware documentation at http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010376 or perform a search in the VMware knowledge using the key words “Disabling VMotion® on an ESX/ESXi host”.

Step 1: Deploy the OVF Template


You can deploy the Open Virtualization Format (OVF) template with the VMware ESX virtual machine or Workstation 8.0.5 64-bit.

This section contains the following topics:

- [Deploy the OVF Template using the VMware ESX Virtual Machine](#)
- [Deploy the OVF Template Using Workstation 8.0.5](#)

Deploy the OVF Template Using a VMware ESX Virtual Machine

Before you can configure and use AFM, deploy the provided OVF template on a VM on your ESX/ESXi server.


 **Important:** By default, the AFM VM CPU is set to 2. To use the HA, FT, or both, change the virtual CPU to 1.

To deploy the AFM OVF with the vSphere client:

1. Start the VMware® vSphere 5.1 client on your ESX® server or vCenter™.
2. Copy the AFM OVF template files from the directory where you have stored the AFM package to the location that the vSphere client can access it.


 **NOTE:** If you are using HA or HA with FT, make sure that the OVF uses shared storage. To enable FT, select the virtual host and then right click to select the **Fault Tolerance > Turn On Fault Tolerance** option.

3. In the vSphere client, select **File > Deploy OVF Template**.
4. Choose the **Deploy from file** option and browse to where you copied the AFM OVF file.
5. Select the **AFM1.5.ovf** file and then click the **Next** button.

 **Important:** At the **Disk Format** screen, make sure you select the **Thick Provision Lazy Zero** option to ensure that the AFM has the required disk space for all storage to be immediately allocated.

6. Start the VM. See [Step 2: Start the VM](#).

Deploy the OVF Template Using Workstation 8.0.5

 **NOTE:** Workstation 8.0.5 is primarily used for pre-sales engagements. It does not support HA or FT.

To deploy the AFM OVF template using workstation:

1. On the VMware Workstation, navigate to the **File > Open** menu and specify the path of the VM AFM file with the **.ovf** extension. For example, **AFM1.5.ovf**.

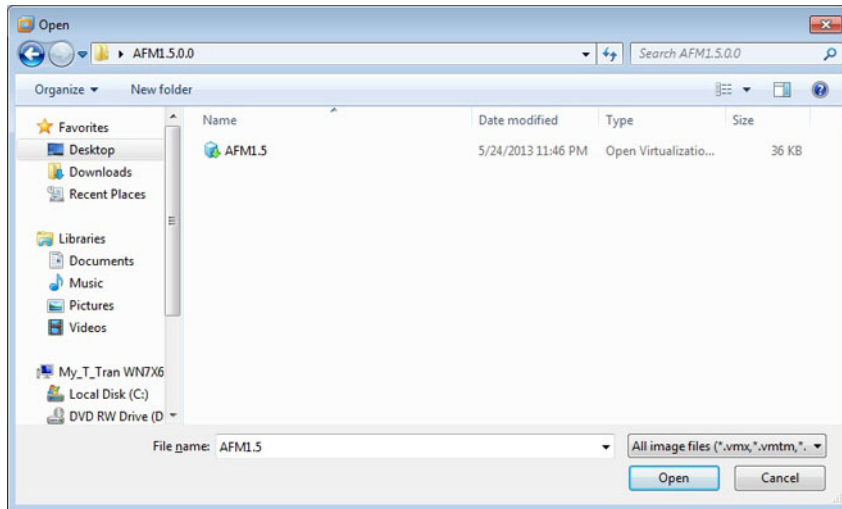


Figure 1. Import VM AFM File

2. Click the **Open** button.

The **Import Virtual Machine** screen displays.

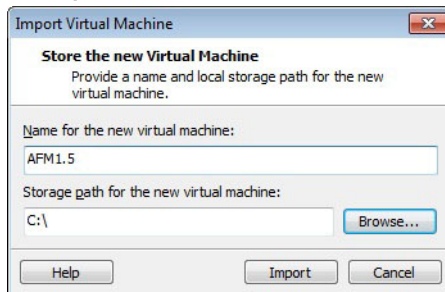


Figure 2. Import Virtual Machine

3. In the **Name for the new virtual machine** field, enter the name of the new virtual machine (VM).
4. Click the **Import** button to import the OVF file.

The **License Agreement** screen is displayed.

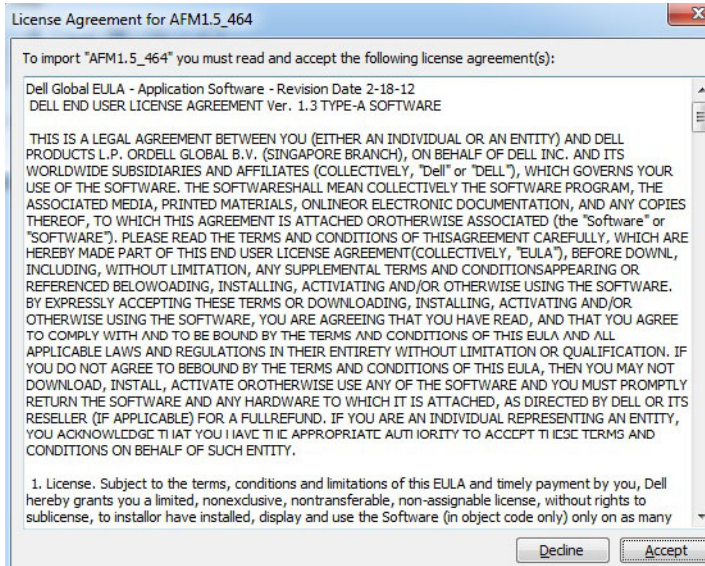


Figure 3. AFM License Agreement

5. Click the **Accept** button.

The **Virtual Network Editor** screen displays.

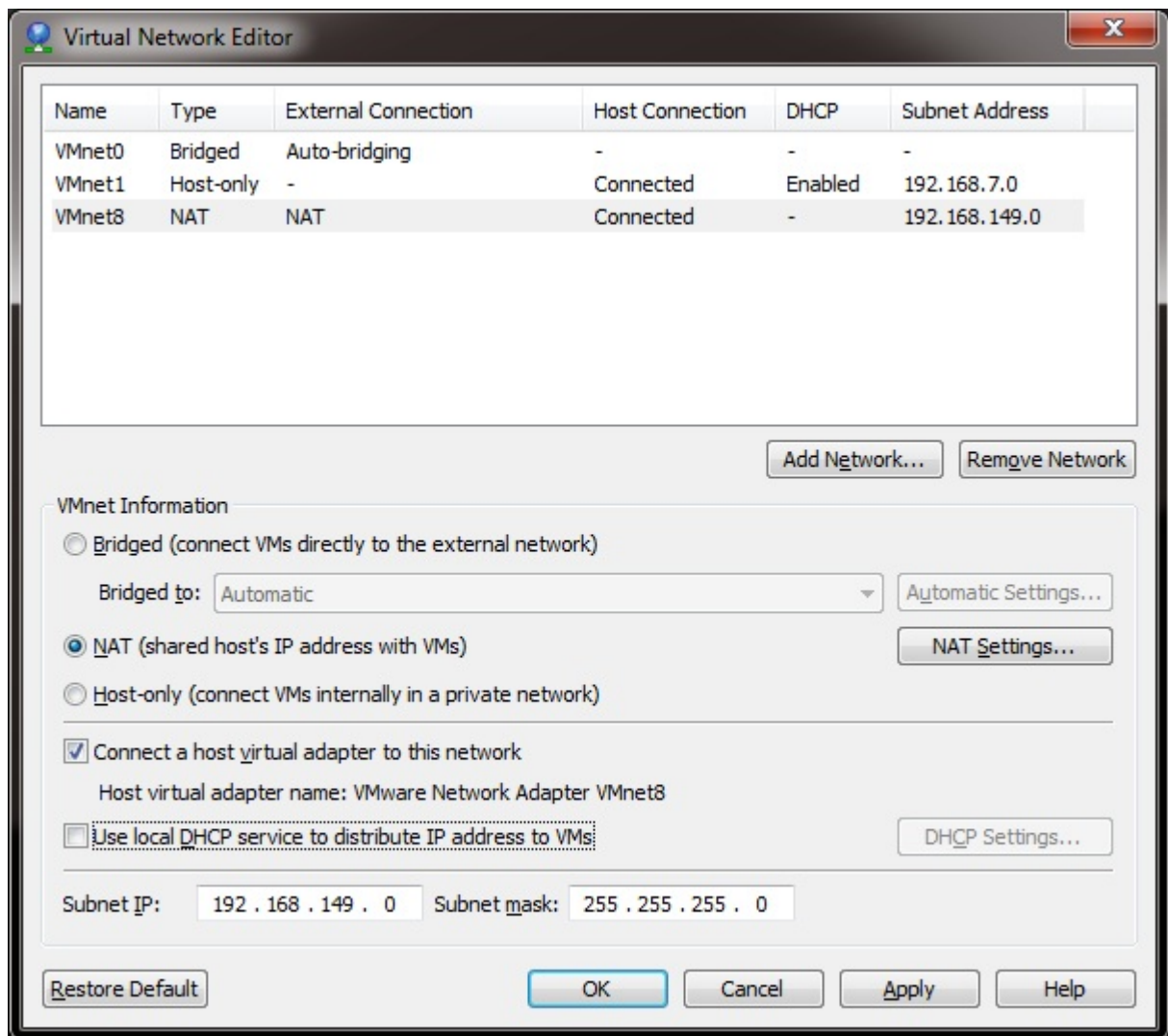


Figure 4. Virtual Network Editor

6. Use the **Edit** menu for the **Virtual Network Editor**.
7. Make sure that the "Vmnet8 adapter" is available and do the following:
 - Select the **NAT (Share host's IP address with VMs)** radio button.
 - Check the **Connect a Host virtual adapter to this network** option.
 - Uncheck (disable) the **Use Local DHCP service to distribute IP address to VMs** option.
8. On the VM, right click on the **Settings** option.
9. Remove the current network adapter.
10. Click the **Add** button to add a new adapter.
The **Add Hardware Wizard** screen displays.

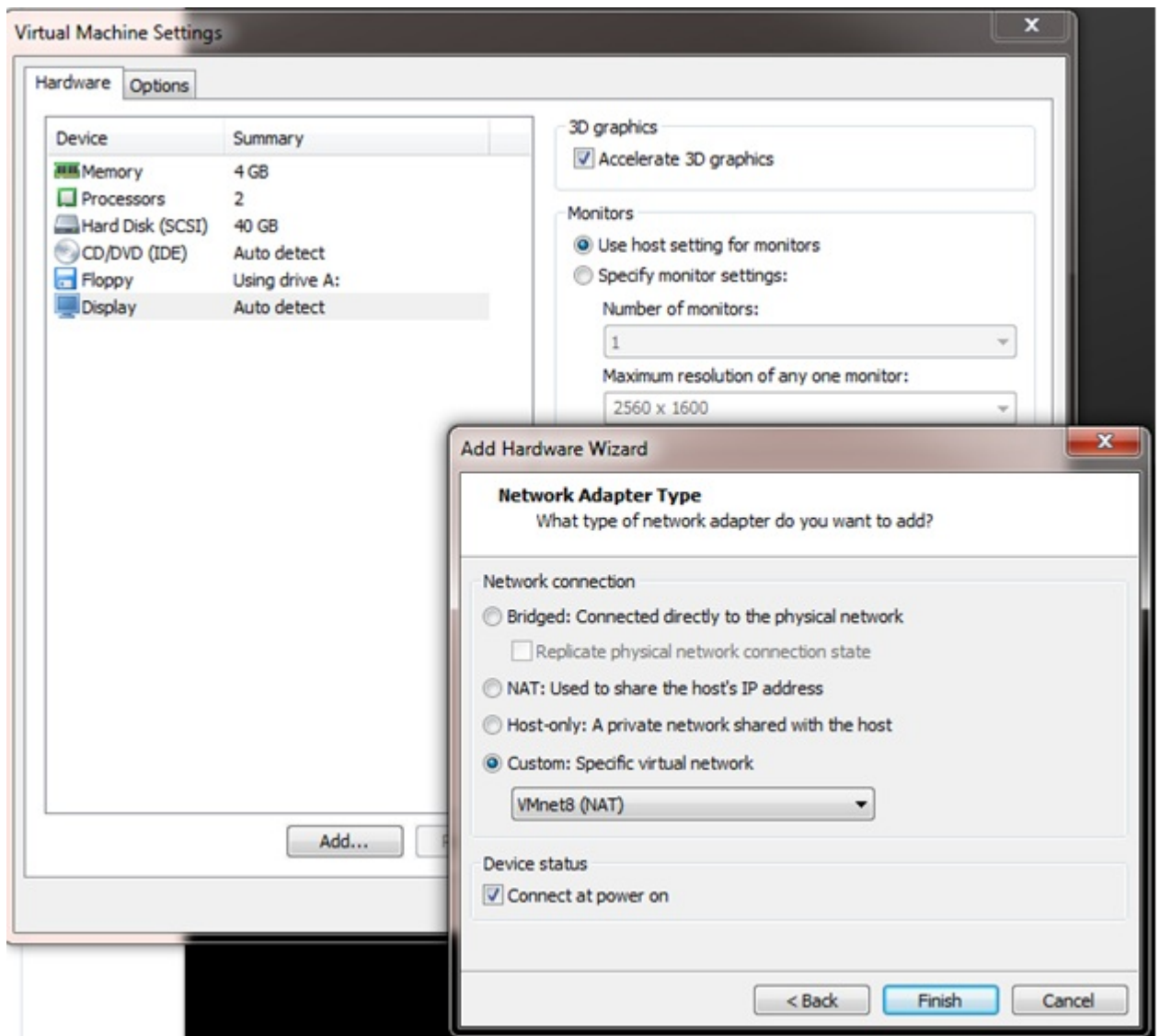


Figure 5. Virtual Machine Settings

- Select the **Custom: Specific virtual network** option and then select the **VmNet8(NAT)** from the pull-down menu.
- Check the **Connect at power on** option.
- Click the **Finish** button.

The **Virtual Machine Settings** screen displays.

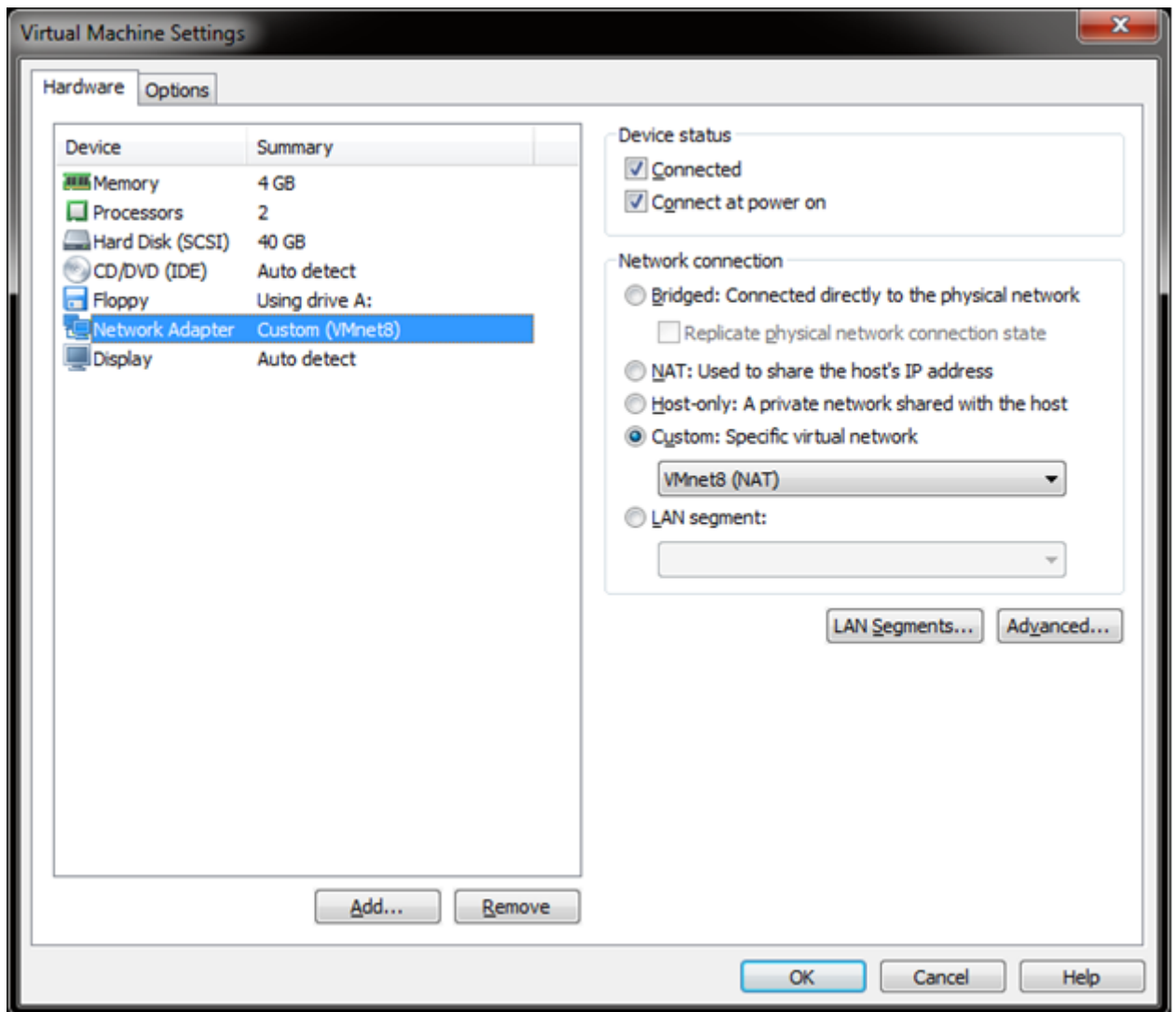


Figure 6. Virtual Machine Hardware Settings

11. Click the **Advanced ...** button.

The **Network Adapter Advanced Settings** screen displays.

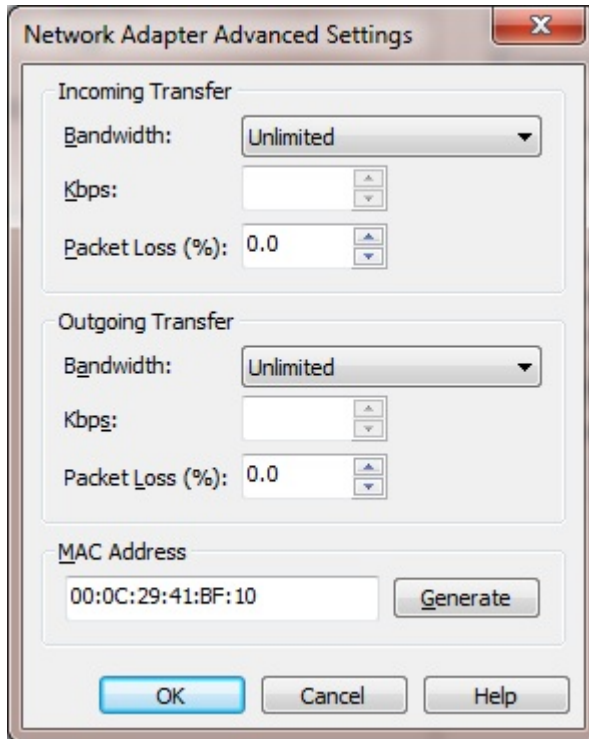


Figure 7. Network Adapter Advanced Settings

12. Click the **Generate** button to ensure that a MAC address is assigned to this interface.
13. Click the **OK** button. This creates a virtual adapter on the VM to use your laptop as a host machine and its network.
14. Power on the VM.
15. Go to the VM console.
The **Active Fabric Manager (AFM) Virtual Appliance** screen displays.

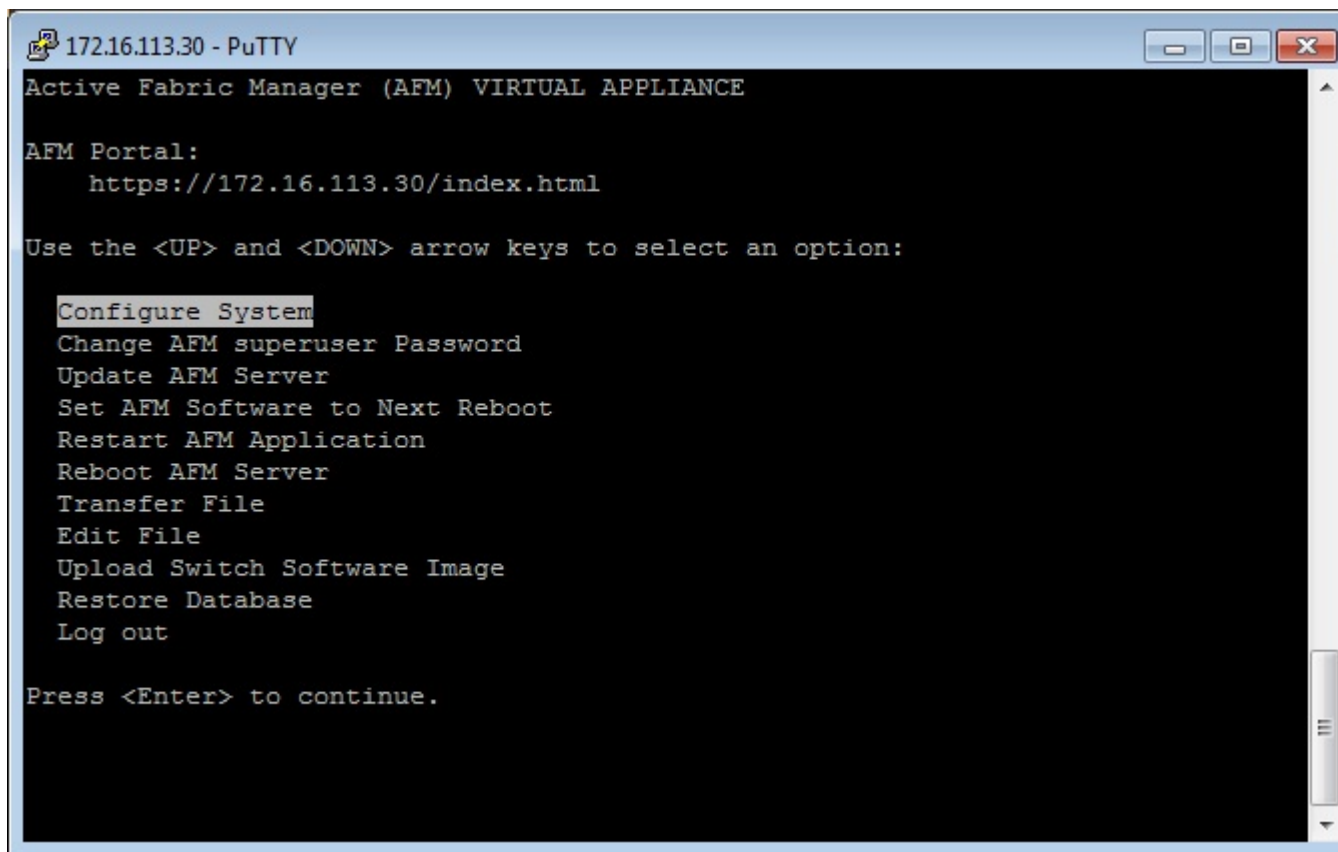


Figure 8. Active Fabric Manager (AFM) Virtual Appliance options

16. On the VM console, select the **Configure System** option.
The **Select Action** screen displays.

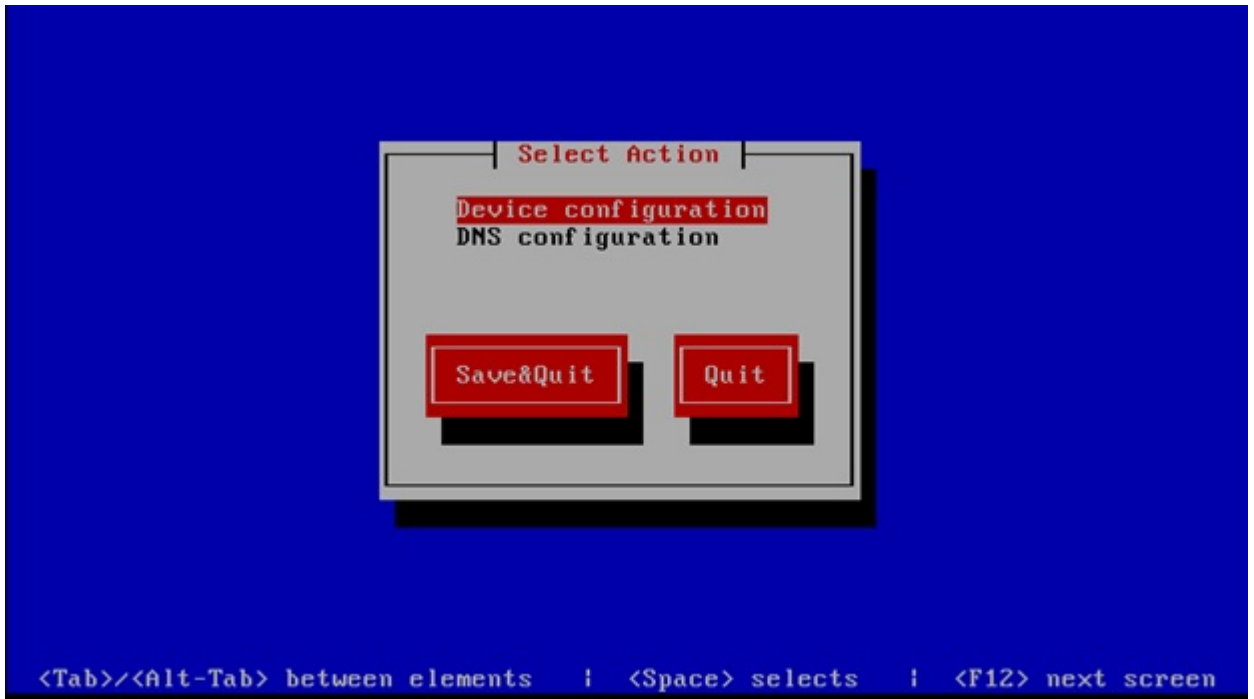



Figure 9. Select Action

17. Select the **Device configuration** option.

 **Important:** The IP to be assigned must be in the range as shown in the **vmNet8** on your virtual network editor in step 6.

The **Network Configuration** screen displays.

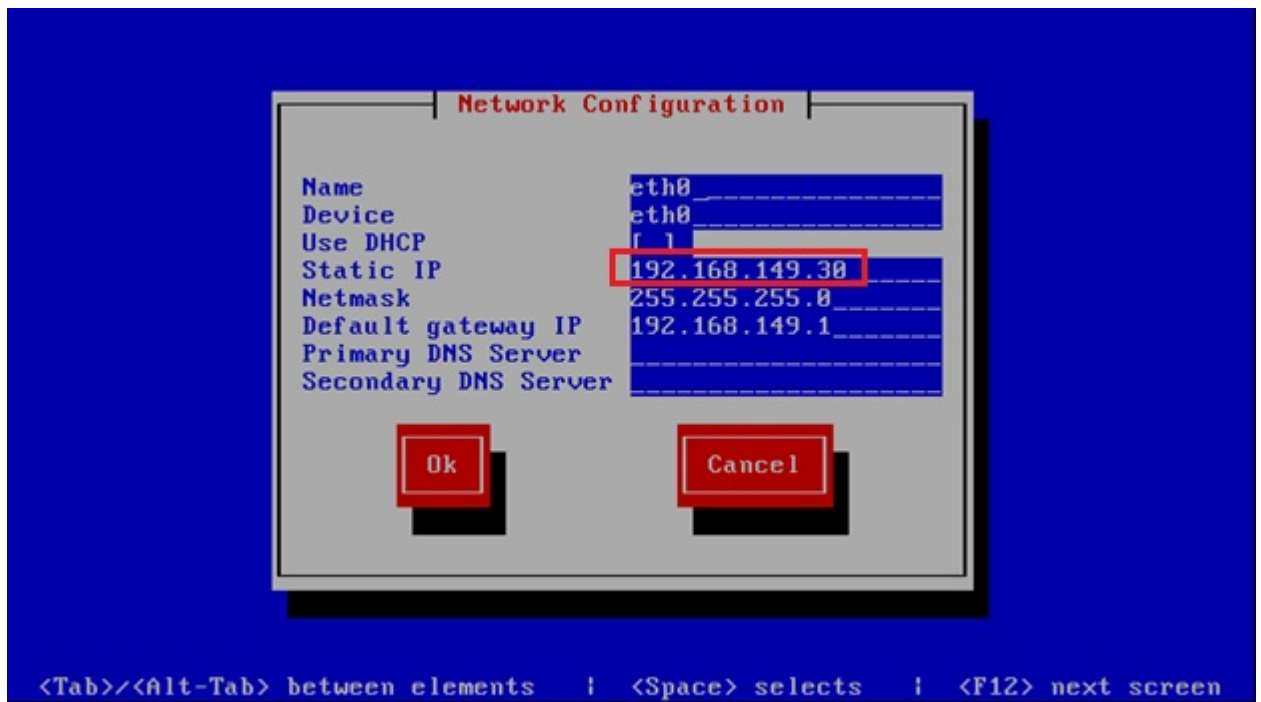


Figure 10. Network Configuration

18. Ping the IP address assigned to the AFM to verify connectivity. For information about configuration additional network settings, see [Active Fabric Manager \(AFM\) Virtual Appliance](#).
19. On your browser, enter the IP address of your AFM and login to perform initial configuration using the **AFM Setup** wizard. See [Performing Initial Configuration](#).
20. When you complete the initial configuration, the AFM console displays the **Getting Started** wizard.

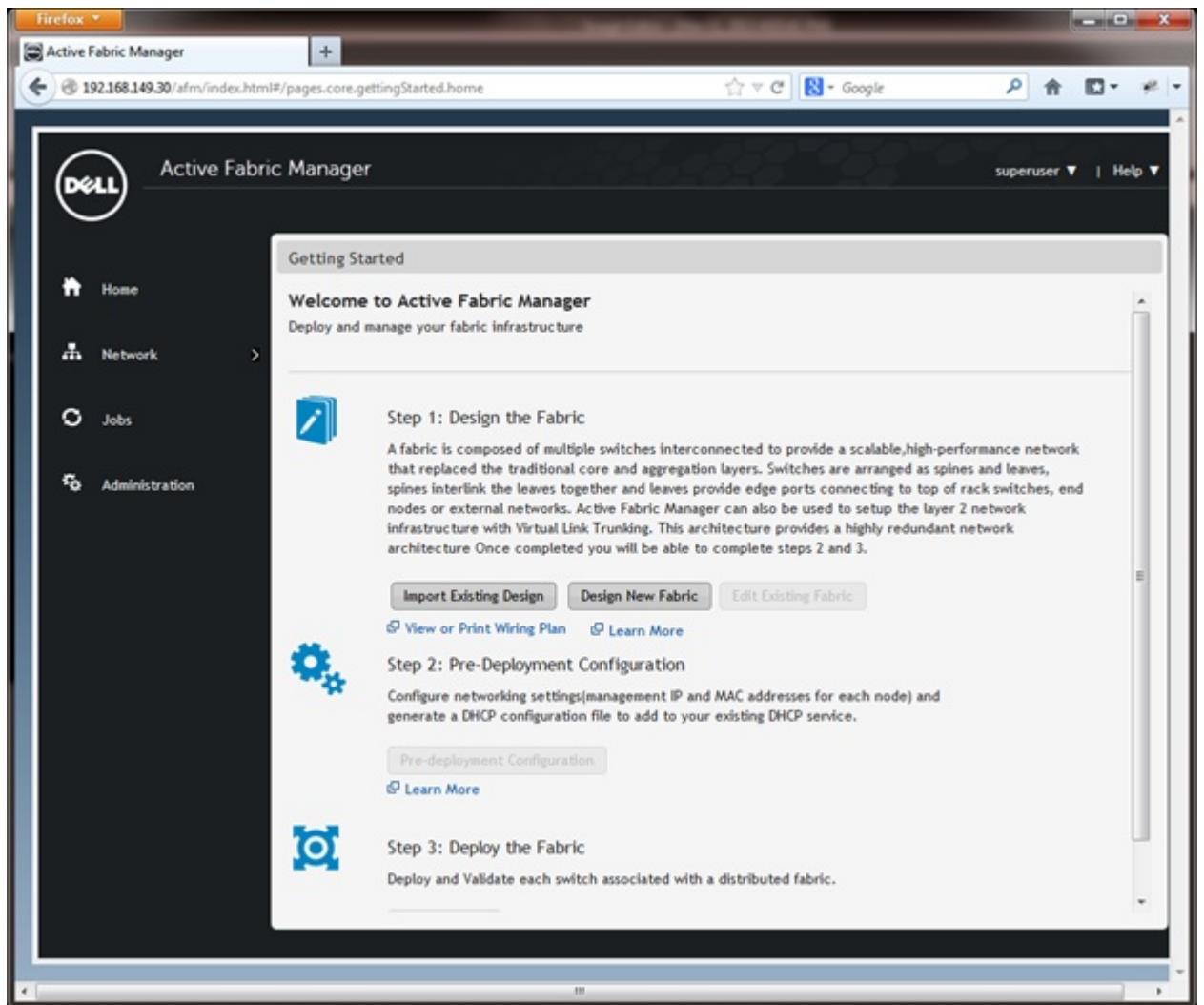



Figure 11. Getting Started Wizard


Step 2: Start the Virtual Machine

After you have completed the OVF wizard and finished deploying the template, you can start the AFM VM console.

 **NOTE:** Before you start the VM console, modify the VM settings as needed using the **Edit Settings** option.

1. Start the VM by clicking on its name and choosing **Power > Power On**.
2. Open the VM **Console** by right clicking on its name and choosing **Open Console**.
3. Open the Console, and log in with the default credentials.

The AFM user name is "superuser" and password is "Superuser1".

 **NOTE:** When the software requires an ESXi Shell CLI command, the ESXi Shell CLI user name is "superuser" and the password is "Superuser1".

4. Manage the AFM virtual appliance. See [Step 3: Manage the AFM Virtual Appliance](#)

Step 3: Manage the AFM Virtual Appliance

After you have deployed the AFM OVF and performed the initial configuration, you can use the AFM Virtual Appliance to perform the following tasks:

- [Configure the System](#)
- [Change the AFM superuser password](#)
- [Update the AFM Server](#)
- [Set AFM Software to the Next Reboot](#)
- [Restart AFM Application](#)
- [Reboot the AFM Server \(VM\)](#)
- [Transfer Files](#)
- [Edit Files](#)
- [Upload Switch Software Image](#)
- [Restore Database](#)
- [Log out](#)



NOTE: To access the AFM virtual appliance, go to the AFM VM, click the **Console** button and then login as superuser. The first time you log in from the console or SSH using "superuser", if there is an IP assigned to the VM, the AFM prompt you to change the password for "superuser". This password is used for both the web URL login and console login. If no IP is assigned to the VM (which means that the DHCP is not enabled), AFM prompts you to do the network configuration. The VM then reboots.

The AFM virtual appliance options are show in the following screen shot.

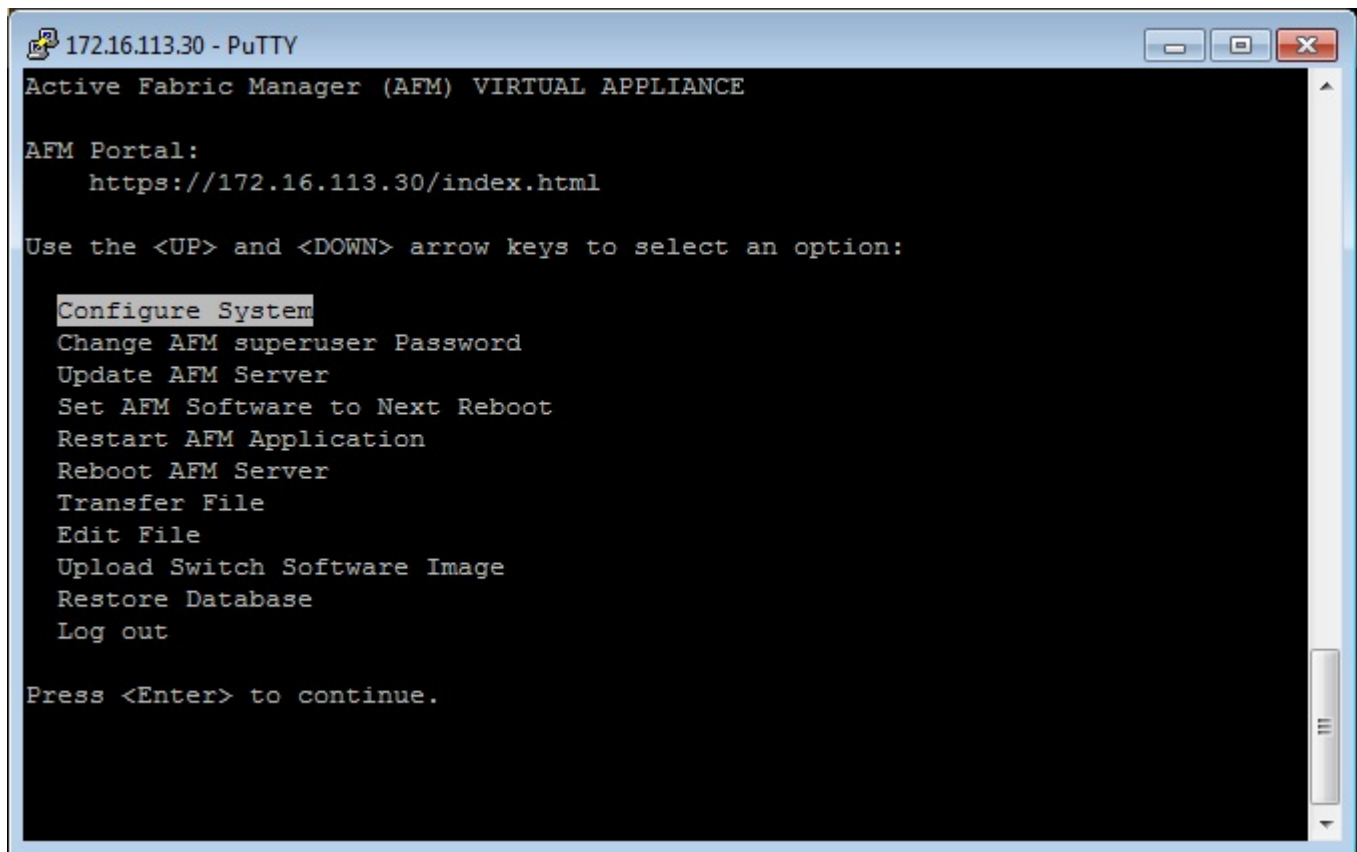


Figure 12. AFM Virtual Appliance Options

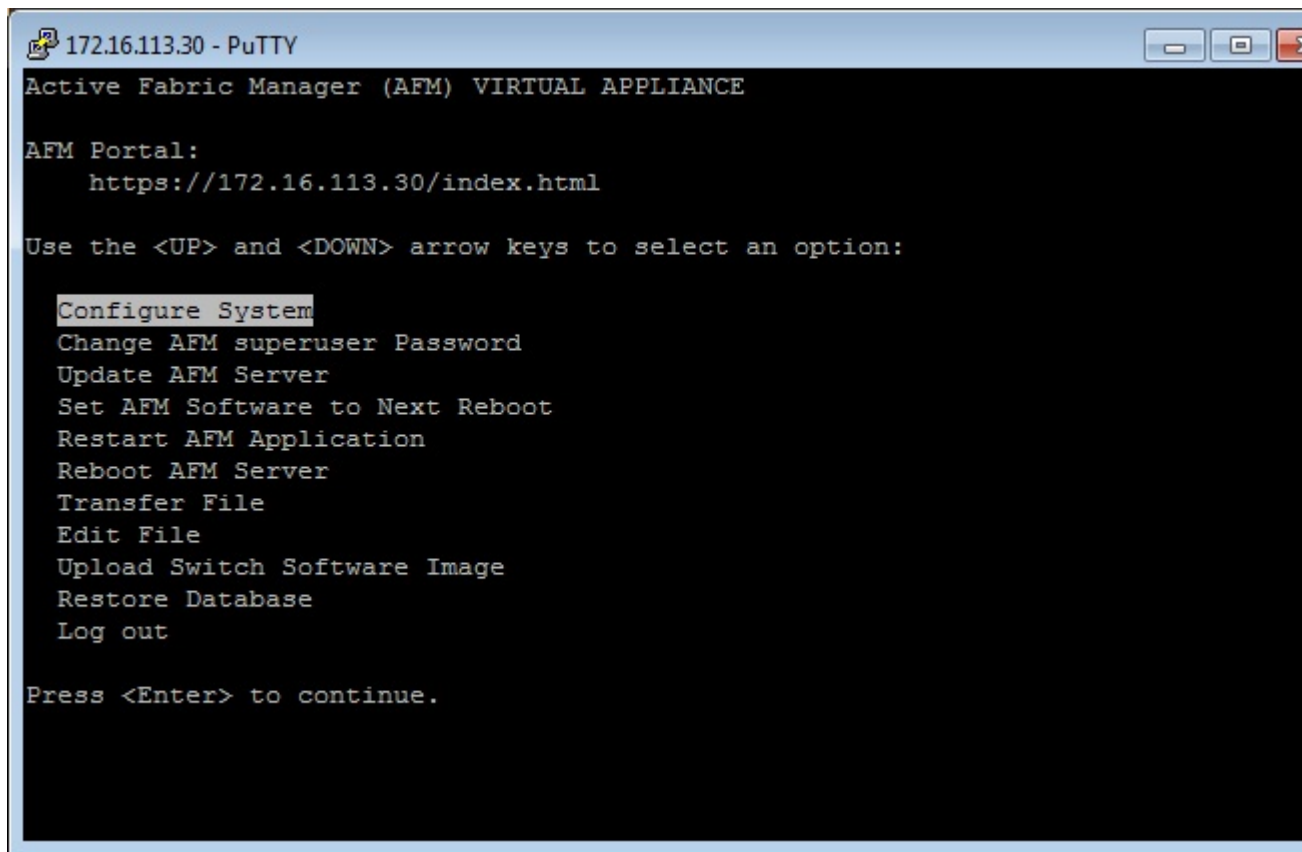
Configuring the System

To configure the device settings, use the **Configure System** option.

- **Device configuration** (Network Configuration) — Use this option to use a static IP to the AFM Ethernet controller, change another device **eth0** attribute, or add a new device such as a new interface.
- **DNS configuration** — Use this option to configure the AFM DNS settings.

To configure device settings:

1. Select the **Configure System** option and press the **Enter** button.



```
172.16.113.30 - PuTTY
Active Fabric Manager (AFM) VIRTUAL APPLIANCE

AFM Portal:
  https://172.16.113.30/index.html

Use the <UP> and <DOWN> arrow keys to select an option:

Configure System
Change AFM superuser Password
Update AFM Server
Set AFM Software to Next Reboot
Restart AFM Application
Reboot AFM Server
Transfer File
Edit File
Upload Switch Software Image
Restore Database
Log out

Press <Enter> to continue.
```

Figure 13. Configure System

The following network configuration warning message displays.

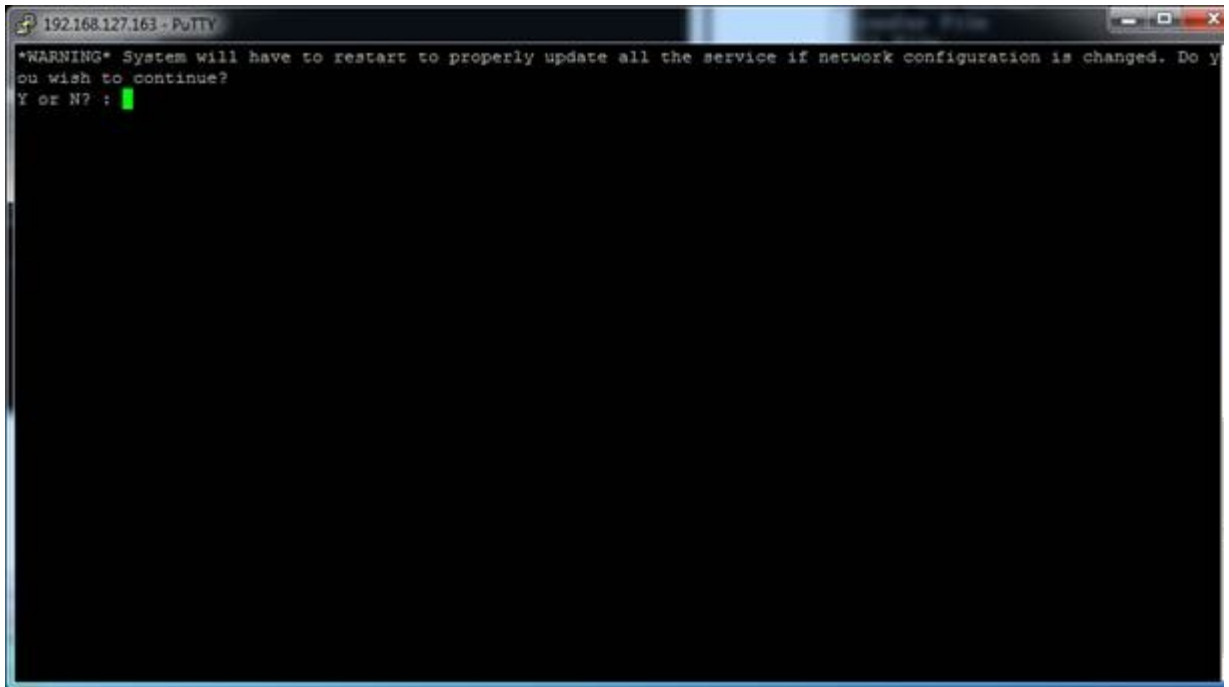


Figure 14. Network Configuration System Warning Message

2. Enter 'Y' to continue.

The **Select Action** screen displays.

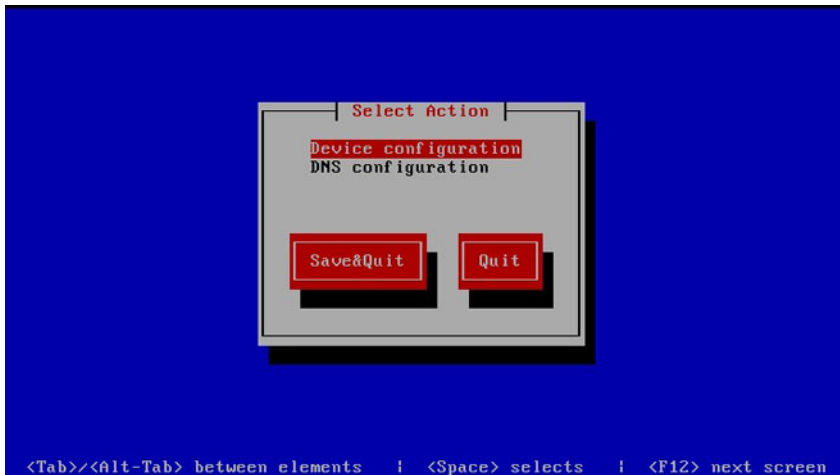


Figure 15. Select Action Screen

3. Select the **Device configuration** option. To navigate between elements, use the **Tab** and down arrow keys.
The **Network Configuration** screen displays.

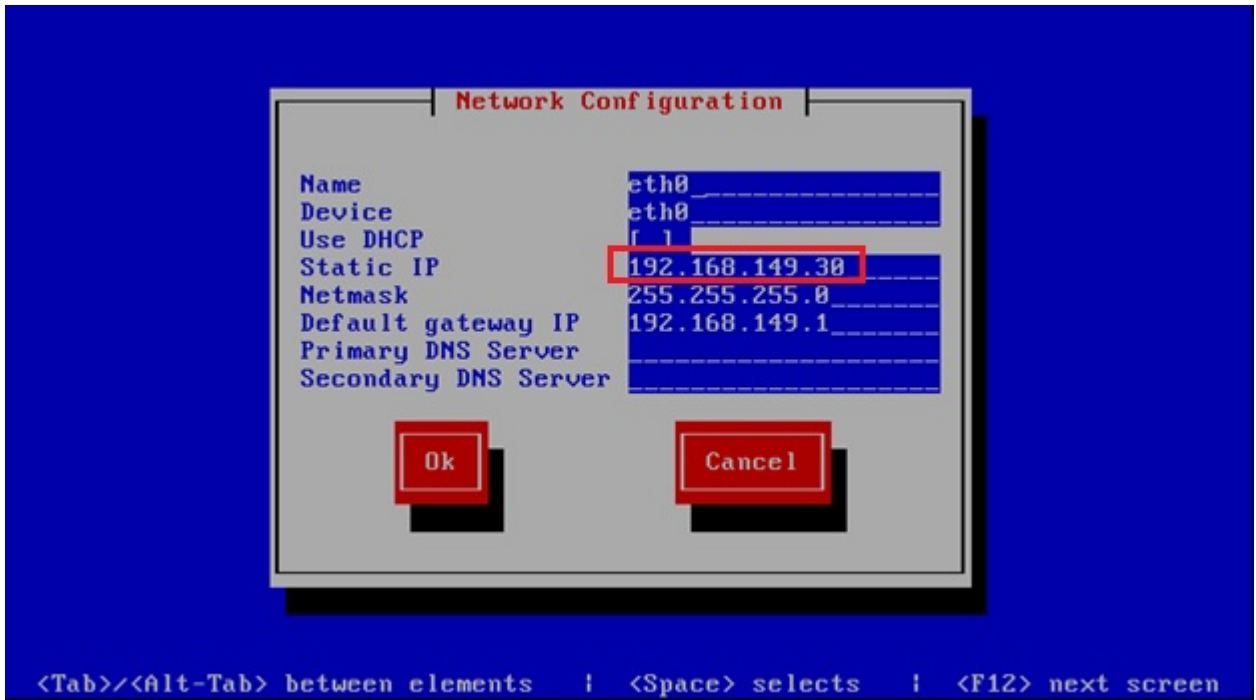



Figure 16. Network Configuration Settings

4. Modify the following settings as needed:

- **Name** — Assign the name of AFM Server
- **Device** — Assign or select the NIC Card to be used.
- **Use DHCP** — Select to enable DHCP to assign an IP address to the VM
- **Static IP** — Specify the static IP Address of the AFM server.
-  **NOTE:** To verify connectivity, ping the IP address assigned to the AFM. If the destination host is unreachable assign the same IP address.
- **Netmask** — Specify the subnet mask of the static IP address for the AFM Server.
- **Default gateway IP** — Specify the gateway IP Address of the AFM server.
- **Primary DNS Server** — Specify the primary DNS server address. To enable the DNS server on AFM Server, use this option.
- **Secondary DNS Server** — Specify the secondary DNS server address.

5. Select **OK** to save your changes.

6. Select **Quit** to exit this screen.

To configure AFM DNS settings:

1. Select the **Configure System** option.
2. Select the **DNS configuration** option.
To navigate between elements, use the **Tab** and down arrow.
3. Modify the following settings as needed:

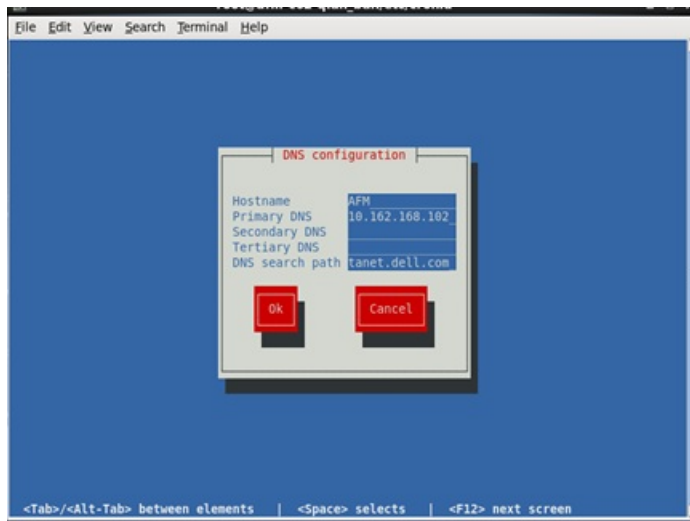


Figure 17. DNS Settings

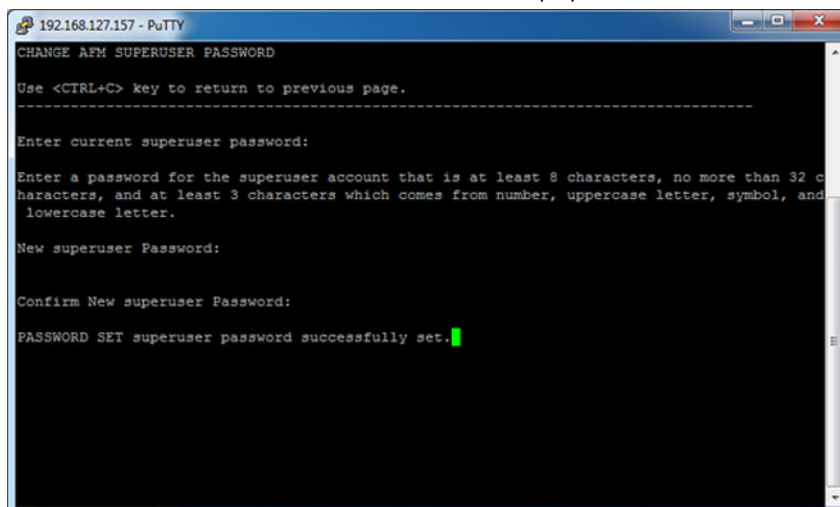
- **Hostname** — Configure the hostname for the AFM server.
 - **Primary DNS** — Configure the primary DNS.
 - **Secondary DNS** — (Optional) Configure the secondary DNS.
 - **Tertiary DNS** — (Optional) Configure Third DNS.
 - **DNS search path**—Configure the DNS search path.
4. Select the **OK** option to save your changes.
 5. Select **Quit** to exit this screen.

Changing the AFM Superuser Password

To change the AFM superuser password:

1. Select the **Change AFM Superuser Password** option.
2. Press the **Enter** button.

The **CHANGE AFM SUPERUSER PASSWORD** screen displays.



3. In the **Enter current superuser password** field, enter the superuser password. For example, **Superuser1**.

 **NOTE:**

The password must have 8 to 32 characters and include at least 3 categories from the following:

- a. lowercase alphabetic character
 - b. uppercase alphabetic character
 - c. digit number (0-9)
 - d. special character
4. Press the **Enter** button.
 5. In the **Confirm New Superuser Password** field, enter the new superuser password one more time to confirm the superuser password.
 6. Press the **Enter** button to return to the main menu.

Update the AFM Server

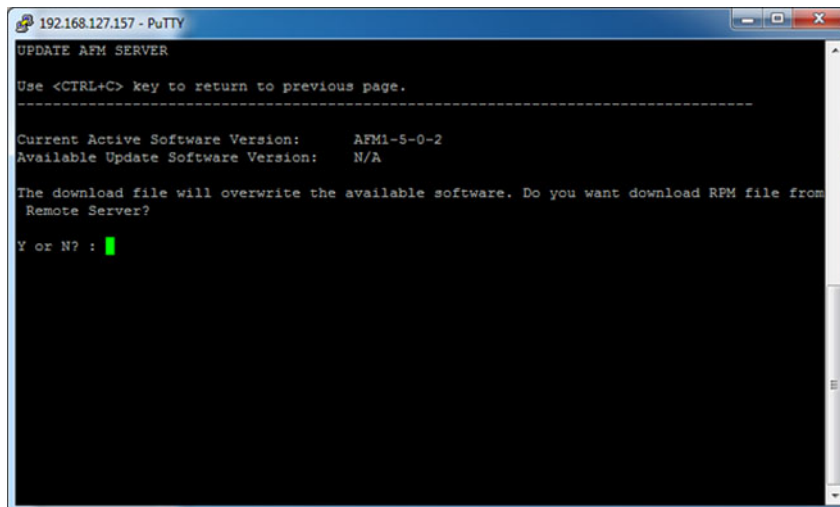
To upgrade the AFM server:

1. [Update the AFM Server](#)
2. [Set AFM Software to Next Reboot](#)
3. [Restart AFM Application](#) or [4. Reboot the AFM server.](#)

To update the AFM server:

1. Select the **Update AFM Server** option and press the **Enter** button.

The **UPDATE AFM Server** screen displays.



2. Enter 'y' to download the latest AFM software package (RPM format) file from remote URL to available partition or enter 'n' to download the (AFM software package RPM format) file from the local workstation (where the AFM console is launched) to the AFM server.
3. If the location is a remote server, enter the URL location of the RPM file on the remote server and then click the **Enter** button using the following formats:

- https://ipaddress/path_to_rpm.file
 - ftp://ipaddress/path_to_rpm.file
 - sftp://ipaddress/path_to_rpm.file
4. If the location is local, enter the absolute path of the RPM file and then click the **Enter** button.
 5. If required, enter you username and password.
 6. Press the **Enter** button to return to the main menu.



NOTE:

To use the new RPM on the active partition, [Set the AFM Software to Next Reboot](#) and then [Restart the AFM Application](#).

Setting the AFM Software to the Next Reboot

There are two versions of the AFM software package: one in the current partition and the other in the available partition.

To select the AFM software and partition for the next reboot:

1. Select the **Set AFM Software to Next Reboot** option and press the **Enter** button.
2. Enter 'y' and then the **Enter** button to apply the available update on the next reboot.
3. Press the **Enter** button to return to the main menu.

Restarting the AFM Application

To restart the AFM application:

1. Select the **Restart AFM Application** option and press the **Enter** button.

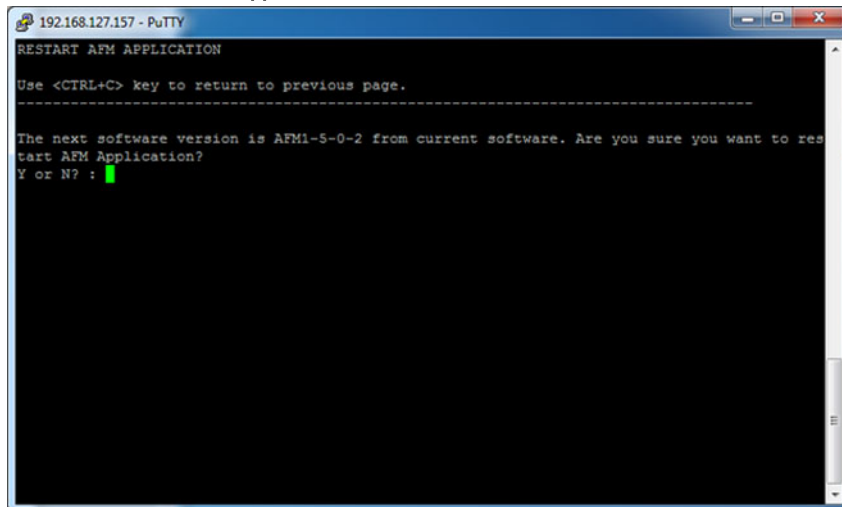


Figure 18. Restarting the AFM Application

2. Enter **y** to restart the application.
3. Press the **Enter** button to return to the main menu.


Rebooting the AFM Server (VM)

To reboot the AFM Server VM:

1. Select the **Reboot AFM Server** option and press the **Enter** button.
2. Enter **y** to reboot the AFM Server VM.
3. Press the **Enter** button to return to the main menu.

Transferring Files

To transfer all files from the AFM server to the remote server using the FTP or TFTP:

 **NOTE:** The FTP or TFTP was performed during the AFM server initial configuration set up.

1. Select the **Transfer File** option.

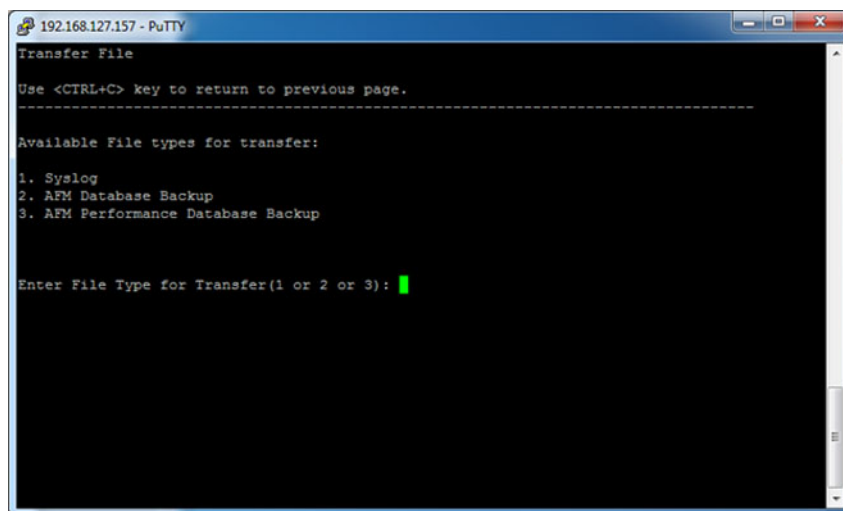


Figure 19. Transfer Files

2. Press the **Enter** button.
3. Enter the file type to transfer:
 - **1. Syslog**
 - **2. AFM Database Backup**
 - **3. AFM Performance Database Backup**
4. Press the **Enter** button.
5. Click **y** to upload all the files to the FTP or TFTP server.
6. Press the **Enter** button.
7. Press the **Enter** button to return to the main menu.

Editing AFM Files

To edit the following AFM system files, use the **Edit File** option.

- **1. logback.xml** — Enables or disables debugging.
- **2. config.properties** — Adjust system performance.

To edit an AFM system file:

1. Select the **Edit File** option.
2. Enter an edit file option (**1** or **2**):
 - **1. logback.xml**
 - **2. config.properties**

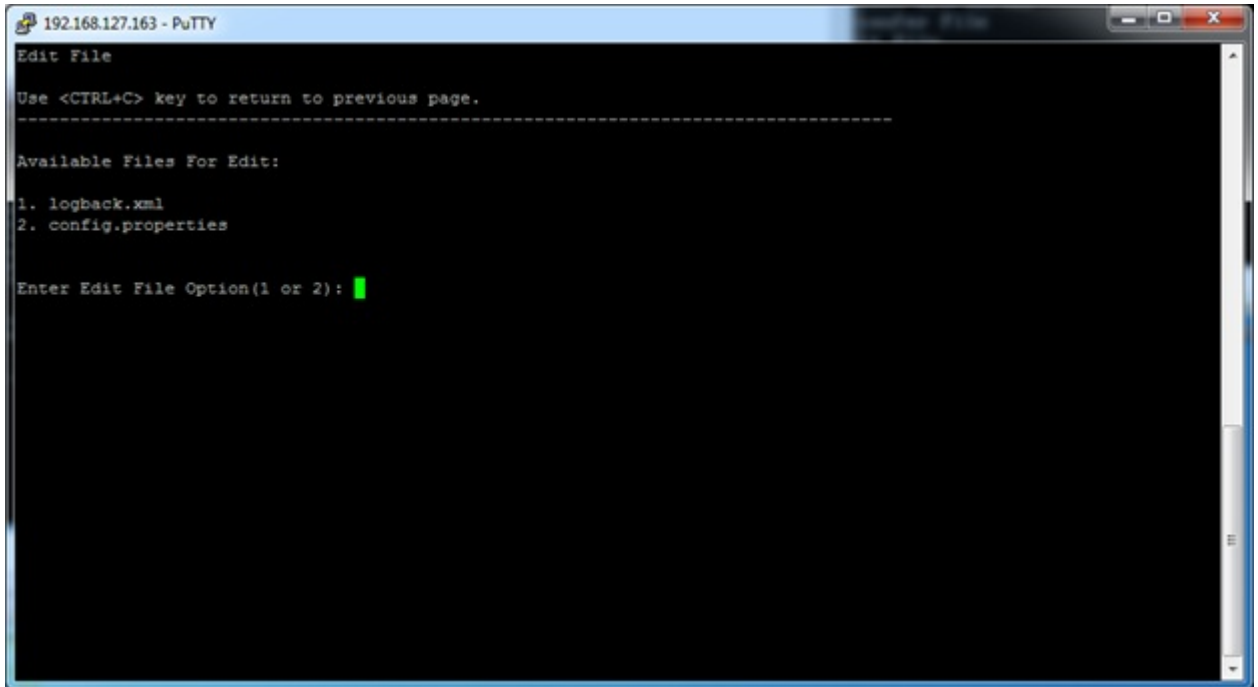


Figure 20. Edit AFM File System

3. Press the **Enter** button.
4. Edit and save the file using the **vi** editor commands such as **:w** (save file) and quit **:q**: (quit editing).
5. Press the **Enter** button to return to the main menu.

Uploading Switch Software Image

To upload a new switch software image (which is not already packaged as part of AFM server) to the AFM local FTP/TFTP server from a remote URL, use the **Upload Switch Software Image** option.

To upload switch software from the AFM:

1. Select the **Upload Switch Software Image** option and press the **Enter** button.

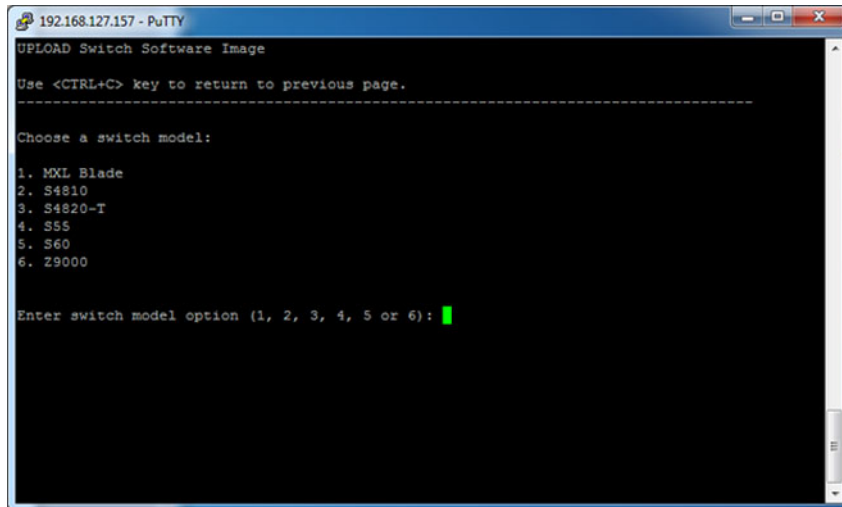


Figure 21. Upload Switch Software Image Screen: Choose Switch Model

2. Enter a switch model option: **1, 2, 3, 4, 5, or 6.**
 - 1. MXL Blade
 - 2. S4810
 - 3. S4820-T
 - 4. S55
 - 5. S60
 - 6. Z9000
3. Enter the URL location to upload the switch software image to using the formats listed in the **Upload Switch Software Image** screen.

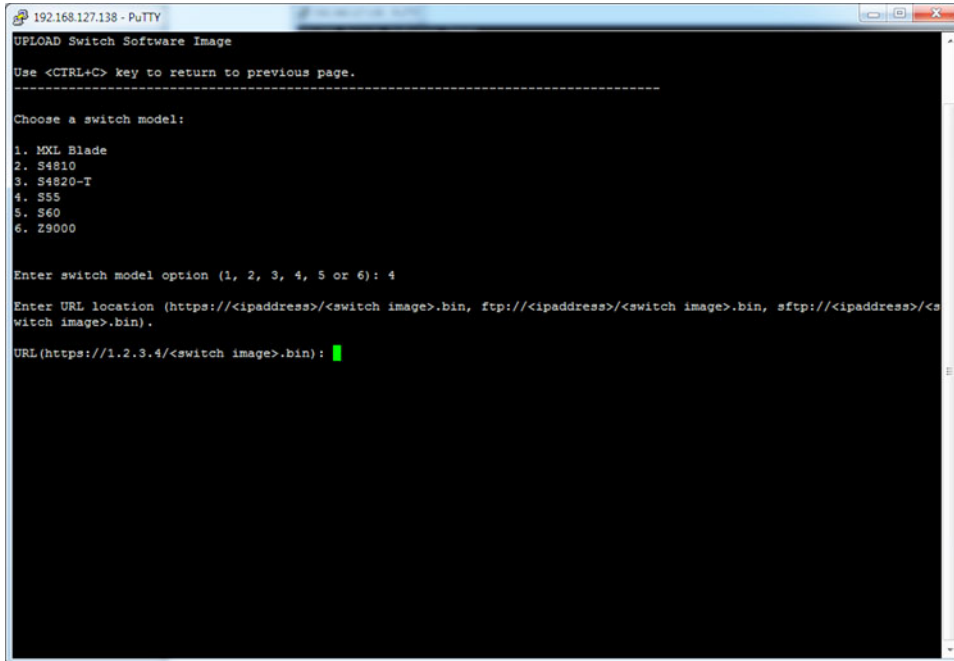


Figure 22. Upload Switch Software Image Screen: URL Location

4. For FTP, enter your user name and password.

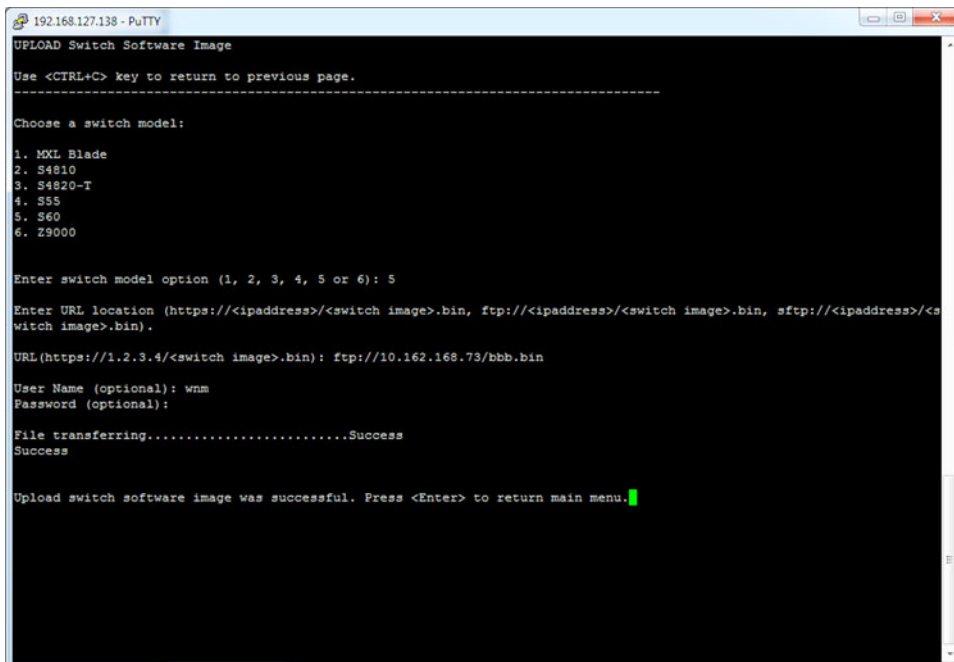


Figure 23. Upload Switch Software Image Screen: Successful Upload

5. Press the **Enter** button to return to the main menu.

Restoring Database

To restore the AFM configuration database:

1. Select the **Restore Database** option.

The **RESTORE DATABASE** screen displays.

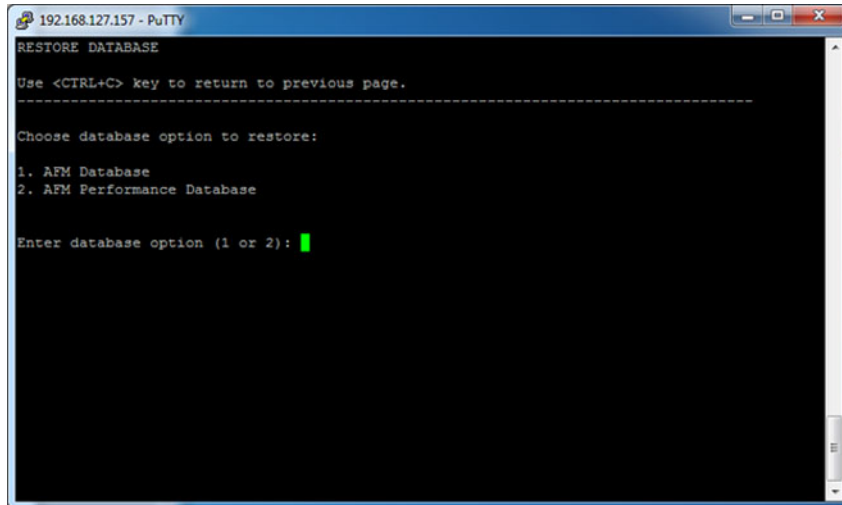


Figure 24. AFM Restore Database Options

2. Enter **1** for the **1. AFM Database** option.
The **AFM DATABASE FILES** screen displays.
3. Enter an AFM database file option.
4. Enter "Y" to restore the database process and restart the AFM application.

To restore the AFM performance database:

1. Select the **Restore Database** option.

The **RESTORE DATABASE** screen displays.

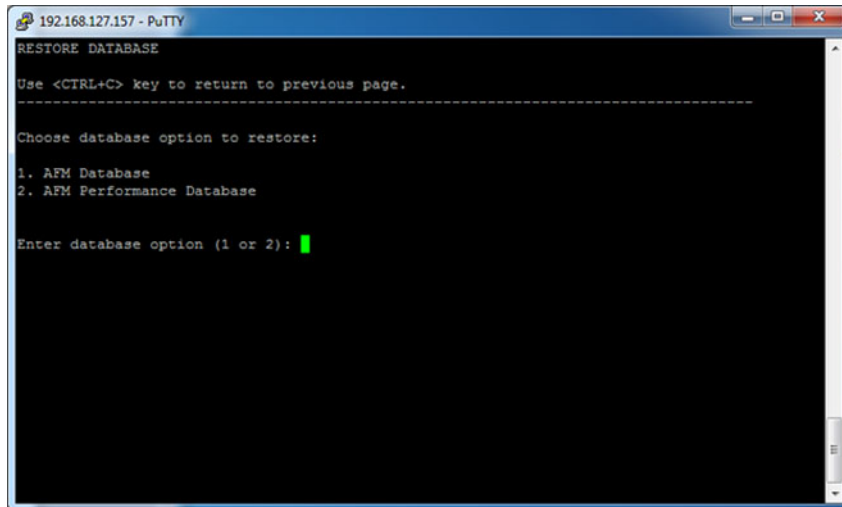


Figure 25. Restore Performance Database Option

2. Enter **2** for **2. AFM Performance Database** option.
The **PERFORMANCE DATABASE FILES** screen displays.
3. Enter a performance database file option. For example, enter "1".
4. Enter "Y" to restore the selected performance database and restart the AFM application.

Logging Out of the AFM Virtual Appliance

To log out from the AFM virtual appliance:

1. Select the **Log out** option.
2. Press the **Enter** button.

Step 4: Perform Initial Configuration

After you deploy the AFM server as a virtual appliance, the AFM Setup wizard starts when you first system login to the AFM. This wizard guides you through the AFM initial configuration.

To perform initial configuration:

1. Start a browser.
2. In the **URL** field, enter the following information using this format to login to the AFM using one of the following URL syntax:
 - `http://vm_ip_address`
 - `https://vm_ip_address`
3. Enter your username and password. The AFM Setup wizard starts and displays the **Introduction** screen.

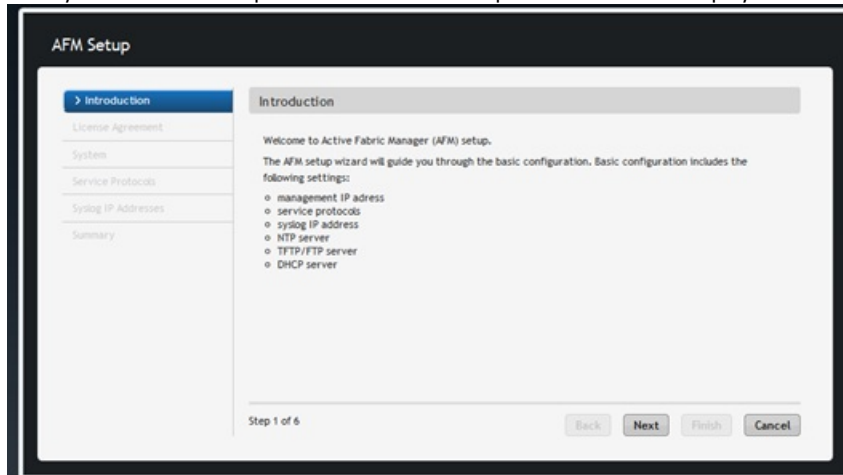


Figure 26. AFM Setup Introduction Screen

4. Review the **Introduction** screen.
5. Click the **Next** button to go to the **License Agreement** screen.

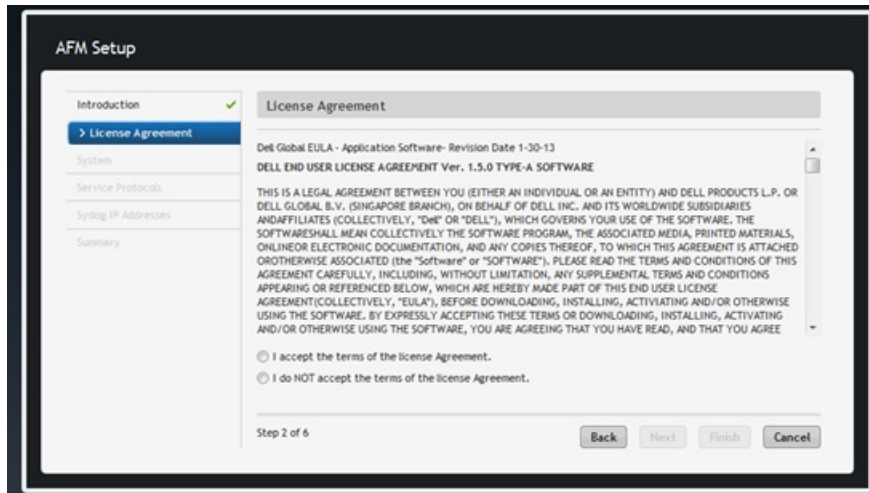


Figure 27. License Agreement

6. Click the **Accept** button.
7. To go to the **System** screen, click the **Next** button .

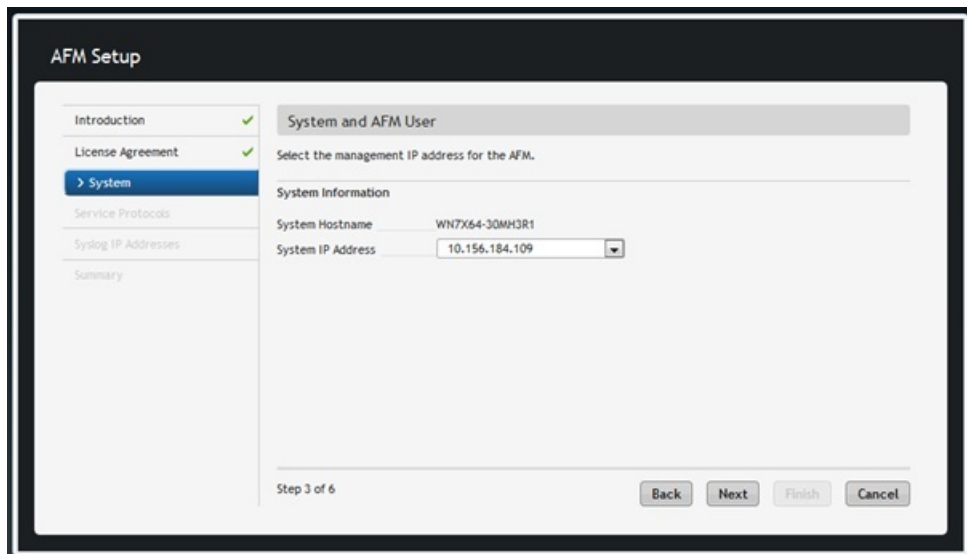



Figure 28. System and AFM User

8. From the **System IP Address**, select the IP address to manage the AFM.
-  **NOTE:** If there are multiple network interface card (NIC) adapter cards on the AFM, select the IP address to manage the AFM.
9. Click the **Next** button to go to the **Service Protocols** screen.

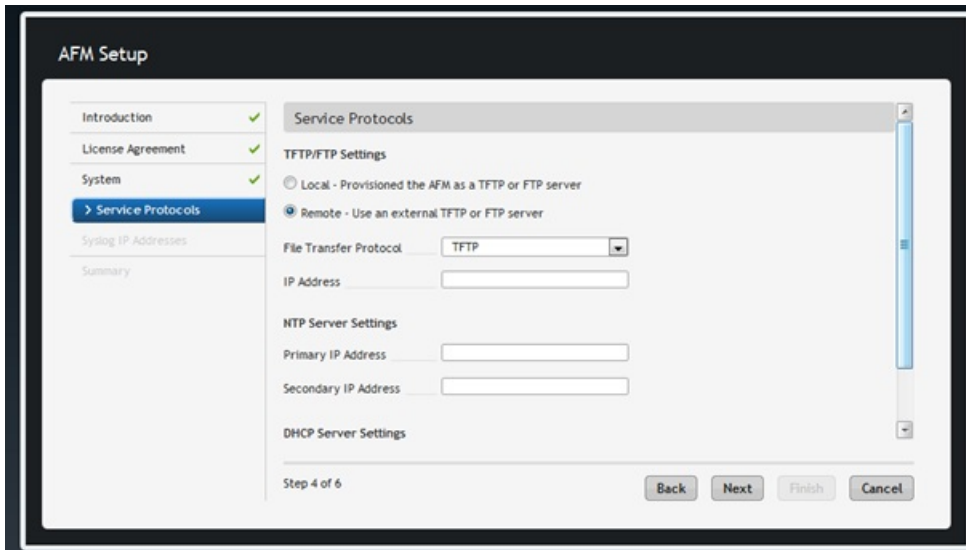


Figure 29. Service Protocols

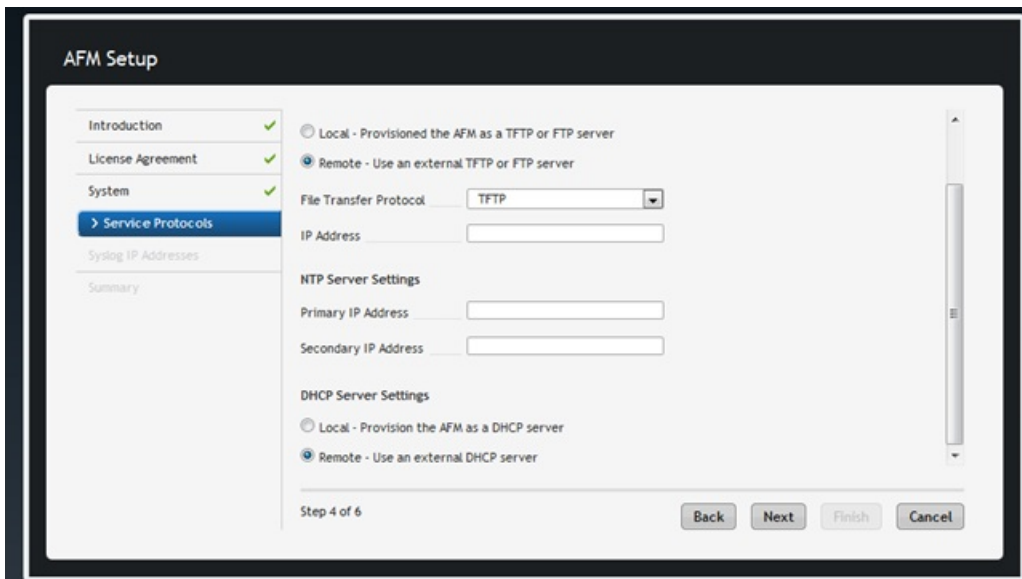



Figure 30. Service Protocols

10. From the **File Transfer Protocol** pull-down menu, select one of the following options:

- TFTP
- FTP (default)

11. In the **TFTP/FTP Settings** area, select one of the following options:

- **Local** — AFM provisioned as a TFTP/FTP server

 **Important:** When you use the **Local** option, the TFTP or FTP server must be in the same subnet.

* If you select the local TFTP server option, the TFTP server uses the AFM management IP address.

- * If you select the local FTP server option, the FTP server uses the AFM management IP address. Enter the AFM user name and password.
 - **Remote — External TFTP/FTP server**
 - * If you select the FTP protocol and remote options, enter the FTP server IPv4 address, user name and password.
 - * If you select the TFTP protocol and remote options, enter the TFTP IPv4 address.
12. Navigate to the **NTP Server Settings** area.
- To synchronize the system clock of the AFM Server to remote the NTP time servers:**
- In the **Primary IP Address** area, enter the primary NTP IPv4 address.
 - In the **Secondary IP Address** area, enter the secondary NTP IPv4 address.
13. Navigate to the **DHCP Server Settings** area and select one of the following settings:
- **Local — AFM provisioned as a DHCP server.** When you select this option, the AFM automatically integrates the generated **dhcpd.config** file into the DHCP server on the AFM during pre-deployment.
 - 👉 **Important:** AFM can be provisioned as a local DHCP server only when the AFM server belongs to the same subnet as the network switches management interface subnet.
 - **Remote — Use External DHCP server.** When you select this option, you must manually install the **dhcpd.conf** file that is generated during pre-deployment into the DHCP server before you deploy the fabric.
14. Click the **Next** button to go to the **Syslog IP Addresses** screen.

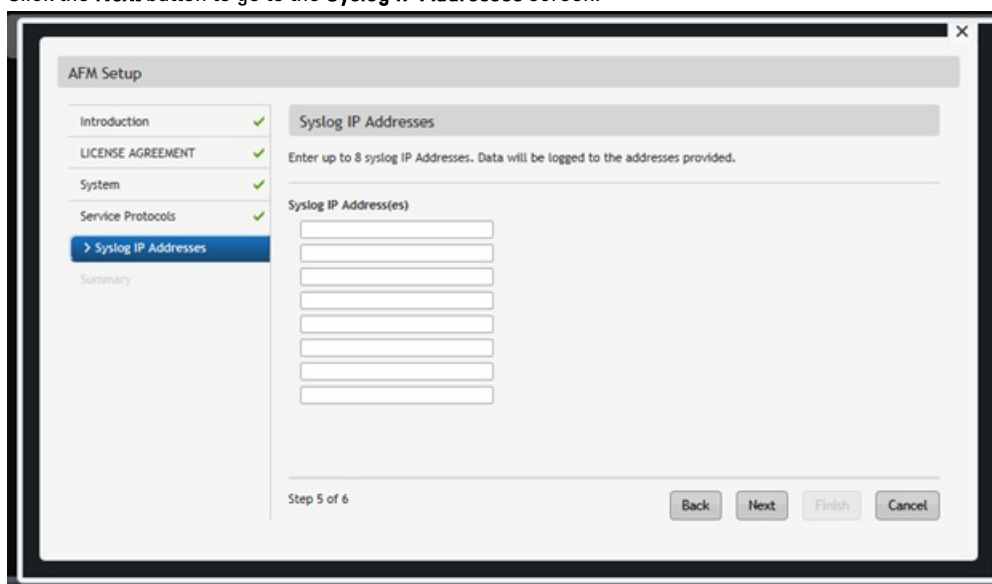


Figure 31. Syslog IP Addresses

15. In the **Syslog IP Addresses** area, you can configure up to 8 syslog IP addresses to log events on the switches in the fabric. By default, the first syslog IP address entry is the AFM system IP address. The AFM server logs all the system and switch events to the syslog server. The log file is located in the following directory: **/var/log/afm/afm.log**.
16. Click the **Next** button to go to the **Summary** screen.

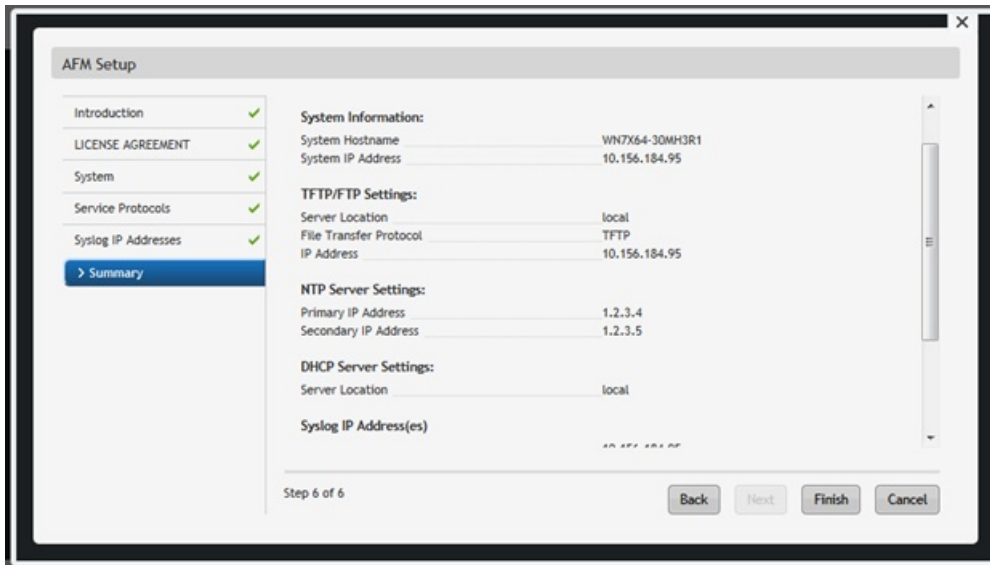



Figure 32. Summary of AFM Setup Settings

17. Carefully review your AFM setup settings and then click the **Finish** button. After you click the **Finish** button the AFM UI displays the **Getting Started** screen.

 **NOTE:** You can edit these settings later at the **Administration > Settings** screen.

Technical Support

iSupport provides a range of documents and tools to assist you with effectively using Dell Networking equipment and mitigating the impact of network outages. Through iSupport you can obtain technical information regarding Dell Networking products, access to software upgrades and patches, and open and manage your technical assistance center (TAC) cases. Dell Networking iSupport provides integrated, secure access to these services.

Accessing iSupport Services

The URL for iSupport is www.force10networks.com/support/. To access iSupport services you must have a user identification (userid) and password. If you do not have one, you can request one at the website:

1. On the Dell Networking iSupport page, click the **Account Request** link.
2. Fill out the **User Account Request** form, and then click **Send**. You will receive your user identification and password by E-Mail.
3. To access iSupport services, click the **Log in** link, and enter your user identification and password.

Contacting the Technical Assistance Center

How to Contact Dell Networking TAC

Log in to iSupport at <http://www.force10networks.com/CSPortal20/Main/Login.aspx> and select the **Service Request**.

Your name, company name, phone number, and E-mail address

- Preferred method of contact
- Model number
- Serial Number
- Software version number
- Symptom description
- Screen shots illustrating the symptom, including any error messages. These can include:
 - Output from the show tech command or the show tech linecard command.
 - Output from the show trace command or the show trace linecard command.
 - Console captures showing the error messages.
 - Console captures showing the troubleshooting steps taken.
 - Saved messages to a syslog server, if one is used.

Managing Your Case

Log in to iSupport and select the Service Request tab to view all open cases and RMAs.

Downloading Software

Log in to iSupport and select the Software Center tab.

Technical Documentation

Log in to iSupport, and select the Documents tab. This page can be accessed without logging in via the Documentation link on the iSupport page.

Contact Information

E-mail: Dell-Force10_Technical_Support@Dell.com

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