Active Fabric Manager Installation Guide 1.5



## Notes, Cautions, and Warnings

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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. 尒

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2013 - 05

Rev. A0X

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## 1

# 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<sup>™</sup>. 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. <u>Review the Prerequisites</u>
- 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

MOTE: 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<sup>™</sup> 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 •
- ٠ 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 <a href="http://kb.vmware.com/selfservice/microsites/search.do?language=en\_US&cmd=displayKC&externalId=1010376">http://kb.vmware.com/selfservice/microsites/search.do?language=en\_US&cmd=displayKC&externalId=1010376</a> 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™.
- 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.

finportant: 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:

 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.

• AFM1.5.0.0		•	Search AFM1.	5.0.0		
organize 👻 New folder				8== •		6
🔶 Favorites	ame	Date modified	Туре	Size		
Desktop Downloads Downloads Decent Places Libraries Documents Music Pictures Videos	AFML5	5/24/2013 11:46 PM	Open Virtualizatio		36 KB	
My_T_Tran WN7X6 Local Disk (C:) DVD RW Drive (D ▼						
File name:	AFM1.5		✓ All image files	(*.vmx,*.	vmtm,*	. •
			Onen		Cancel	_

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.

License Agreement for AFM1.5_464	X
To import "AFM1.5_464" you must read and accept the following license agreement(s):	
Dell Global EULA - Application Software - Revision Date 2-18-12 DELL END USER LICENSE AGREEMENT Ver. 1.3 TYPE-A SOFTWARE	* H
THIS IS A LEGAL AGREEMENT BETWEEN YOU (EITHER AN INDIVIDUAL OR AN ENTITY) AND DELL PRODUCTS L.P. ORDELL GLOBAL B.V. (SINGAPORE BRANCH), ON BEHALF OF DELLINC. AND ITS WORLDWIDE SUBSIDIATES AND AFFILIATES (COLLECTIVELY, "Dell" or "DELL"), WHICH GOVERNS YOUR USE OF THE SOFTWARE. THE SOFTWARESHALL MEAN COLLECTIVELY THE SOFTWARE PROGRAM, THE ASSOCIATED MEDIA, PRINTED MATERIALS, ONLINEOR ELECTRONIC DOCUMENTATION, AND ANY COPIES THEREOF, TO WHICH THIS AGREEMENT IS ATTACHED ROTHERWISE ASSOCIATED (the "Software" or "SOFTWARE"). PLEASE READ THE TERMS AND CONDITIONS OF THISAGREEMENT CAREFULLY, WHICH AGREEMENT (SATTACHED NOTHERWISE ASSOCIATED (the "Software" or "SOFTWARE"). PLEASE READ THE TERMS AND CONDITIONS OF THISAGREEMENT (CAREFULLY, WHICH ARE HEREBY MADE PART OF THIS SOFTWARE, NOT SUPPLEMENTAL TERMS AND CONDITIONSAPPEARING OR REFERENCED BELOWOADING, INSTALLING, ACTIVATING AND/OR OTHERWISE USING THE SOFTWARE. BY EXPRESSLY ACCEPTING THESE TERMS OR DOWNLOADING, INSTALLING, ACTIVATING AND/OR OTHERWISE USING THE SOFTWARE, YOU ARE AGREEING THAT YOU HAVE READ, AND THAT YOU AGREE TO COMPLY WITH AND TO BE BOUND BY THE TERMS AND CONDITIONS OF THIS EULA. NID ALL APPLICABLE LAWS AND REGULATIONS IN THEIR ENTITIENT WITHOUT LIMITATION OR QUALFICATION. IF YOU DO NOT AGREE TO BEBOUND BY THE TERMS AND CONDITIONS OF THIS EULA, NED YOU MAY NOT DOWNLOAD, INSTALL ACTIVATE ORTHERWISE USE ANY OF THE SOFTWARE AND YOU MAY NOT DOWNLOAD, INSTALL, ACTIVATE ORTHERWISE USE ANY OF THE SUTURE AND YOU MAY NOT DOWNLOAD, INSTALL, ACTIVATE ORTHERWISE USE ANY OF THE SOFTWARE AND YOU MAY NOT DOWNLOAD, INSTALL, ACTIVATE ORTHERWISE USE ANY OF THE SOFTWARE AND YOU MAY NOT DOWNLOAD, INSTALL, ACTIVATE ORTHERWISE USE ANY OF THE SOFTWARE AND YOU MAY NOT DOWNLOAD, INSTALL, ACTIVATE ORTHERWISE USE ANY OF THE SOFTWARE AND YOU MAY NOT DOWNLOAD, INSTALL, ACTIVATE ORTHERWISE USE ANY OF THE SOFTWARE AND YOU MAY STRENDERTY. RESELLER (IF APPLICABLE) FOR A FULLREFUND. IF YOU ARE AN INDIVIDUAL REPRESENTING AN ENTITY, YOU ACKNOWLEDGE TI INT YOU IN TH	
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Figure 3. AFM License Agreement

5. Click the **Accept** button.

The Virtual Network Editor screen displays.

Virtual Ne	twork Edit	or			X
Name	Туре	External Connection	Host Connection	DHCP	Subnet Address
VMnet0	Bridged	Auto-bridging	-	-	-
VMnet1	Host-only		Connected	Enabled	192.168.7.0
VMnet8	NAT	NAT	Connected	-	192.168.149.0
VMnet Infor	mation			Add Netwo	rk Rem <u>o</u> ve Network
O Bridged	(connect VI	Is directly to the external ne	etwork)		
Bridged	I to: Autor	natic		-	Automatic Settings
) <u>N</u> AT (sh	ared host's	IP address with VMs)			NAT <u>S</u> ettings
O Host-on	ly (connect	VMs internally in a private ne	etwork)		
Connect Host vir	t a host <u>v</u> irt rtual adapte al <u>D</u> HCP serv	ual adapter to this network er name: VMware Network Ad vice to distribute IP address	dapter VMnet8 to VMs		DH <u>C</u> P Settings
Subnet IP:	192.1	168 . 149 . 0 Subnet <u>m</u> a	sk: 255.255.255.0		
<u>R</u> estore Def	ault	(	OK Cano	el	Apply Help

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.

rdware Options		
Device	Summary	3D graphics
Memory	4 G8	Accelerate 3D graphics
Processors	2	
Hard Disk (SCSI)	40 GB	Monitors
CD/DVD (IDE)	Auto detect	<ul> <li>Use host setting for monitors</li> </ul>
Floppy	Using drive A:	Specify monitor settings:
Display	Auto detect	Number of monitors:
		1
		Maximum resolution of any one monitor:
		2560 x 1600
		What type of network adapter do you want to add?
		Network connection
		O Bridged: Connected directly to the physical network
		Replicate physical network connection state
		NAT: Used to share the host's IP address
		Host-only: A private network shared with the host
		Custom: Specific virtual network
		VMnet8 (NAT)
	Add	
		Device status
		Connect at power on

Figure 5. Virtual Machine Settings

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

The Virtual Machine Settings screen displays.

Virtual Machine Settings	5	
Hardware Options		
Hardware Options          Device         Im Memory         Im Processors         Hard Disk (SCSI)         Im CD/DVD (IDE)         Floppy         Im Network Adapter         Im Display	Summary 4 GB 2 40 GB Auto detect Using drive A: Custom (VMnet8) Auto detect	Device status
	Add <u>R</u> emove	
		OK Cancel Help

Figure 6. Virtual Machine Hardware Settings

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

The Network Adapter Advanced Settings screen displays.

Incoming Transfer	
Bandwidth:	Unlimited 🔹
Kbps:	A V
Packet Loss (%):	0.0
Outgoing Transfer	
Bandwidth:	Unlimited 🔹
Kbps:	A V
Packet <u>L</u> oss (%):	0.0
MAC Address	
00:0C:29:41:BF:	10 <u>G</u> enerate

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.

	Select Action Device configuration DNS configuration	
	Save&Quit Quit	
<tab>/<alt-tab> between e</alt-tab></tab>	lements   <space> selects</space>	¦ <f12> next screen</f12>

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.

Network Co	nfiguration
Name Device Use DHCP Static IP Netmask Default gateway IP Primary DNS Server Secondary DNS Server	eth0 eth0 [ ] 192.168.149.30 255.255.255.0 192.168.149.1
<pre> (Tab&gt;/<alt-tab> between elements ;</alt-tab></pre>	Cancel (Space) selects   (F12) next screen

Figure 10. Network Configuration

- 18. Ping the IP address assigned to the AFM to verify connectivity. For information about configuration additional network settings, see <u>Active Fabric Manager (AFM) Virtual Appliance</u>.
- 19. On your browser, enter the IP address of your AFM and login to perform initial configuration using the **AFM Setup** wizard. See <u>Performing Initial Configuration</u>.
- 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. IJ

- Start the VM by clicking on its name and choosing **Power > Power On**. 1.
- Open the VM Console by right clicking on its name and choosing Open Console. 2.
- 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:

- <u>Configure the System</u>
- <u>Change the AFM superuser password</u>
- Update the AFM Server
- Set AFM Software to the Next Reboot
- <u>Restart AFM Application</u>
- 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.

🚱 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:</down></up>	
Configure System	
Change AFM superuser Password	
Update AFM Server	
Set AFM Software to Next Reboot	
Restart AFM Application	
Transfer File	
Edit File	
Upload Switch Software Image	
Restore Database	
Log out	
	1
Press <enter> to continue.</enter>	
	1

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.

```
PuTTY 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.

Select Action Device configuration DNS configuration Save&Quit Quit	
<tab>/<alt-tab> between elements   <space> selects   <f12></f12></space></alt-tab></tab>	next screen

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.

Network C	onfiguration
Name Device Use DHCP Static IP Netmask Default gateway IP Primary DNS Server Secondary DNS Server	eth0 eth0 192.168.149.30 255.255.255.0 192.168.149.1 r
<tab>/<alt-tab> between elements {</alt-tab></tab>	<space> selects   <f12> next screen</f12></space>

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.



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.



- 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.



To use the new RPM on the active partition, <u>Set the AFM Software to Next Reboot</u> and then <u>Restart the AFM</u> <u>Application</u>.

### 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.

🖉 192.168.127.138 - PuTTY 📃 💭 💭
UPLOAD Switch Software Image
Use <ctrl+c> key to return to previous page.</ctrl+c>
Choose a switch model:
1. MXL Blade 2. 54810 5. 54920-T
1. 515 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
5. 560 6. 2900
Enter switch model option (1, 2, 3, 4, 5 or 6): 5
Enter URL location (https:// <ipaddress>/<switch image="">.bin, ftp://<ipaddress>/<switch image="">.bin, sftp://<ipaddress>/<s image="" witch="">.bin).</s></ipaddress></switch></ipaddress></switch></ipaddress>
URL(https://1.2.3.4/ <switch image="">.bin): ftp://10.162.168.73/bbb.bin</switch>
User Name (optional): wnm Password (optional):
File transferringSuccess Success
Upload switch software image was successful. Press <enter> to return main menu.</enter>

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.

> Introduction	Introduction
	Middame In Artists Palatic Hanness (IPH) solve
	The AFM setup wizard will guide you through the basic configuration, Basic configuration includes the
	following settings:
	management IP adress     service protocols
	<ul> <li>a magnetic substance</li> <li>a MTB server</li> <li>a MTP/FTP server</li> <li>b DFCP server</li> </ul>

Figure 26. AFM Setup Introduction Screen

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

Introduction	✓ License Agreement
> License Agreemen	
	DEL GIDBA EULA - Application Software - Kevision Date 1-30-13 DELL END USER LICENSE AGREEMENT Ver. 1.5.0 TYPE-A SOFTWARE
	THIS IS A LEGAL AGREEMENT BETWEEN YOU (EITHER AN INDIVIDUAL OR AN ENTITY) AND DELL PRODUCTS L.P. OR
	DELL GLOBAL B.V. (SINGAPORE BRANCH), ON BENALF OF DELL INC. AND ITS WORLDWIDE SUBSIDIARIES AND AFEILIATES (COLLECTIVELY, "DAY: OP THE LT), WHICH COVERNS YOUR USE OF THE SOFTWARE, THE
	SOFTWARESHALL MCAN COLLECTIVELY THE SOFTWARE PROGRAM, THE ASSOCIATED MCDIA, PRINTED MATERIALS, ONLINEOR ELECTRONIC DOCUMENTION, AND ANY COREST ENERGENT, TO WHICH THIS ARGEMENT IS ATTACHED OROTHERWISE ASSOCIATED LINE "Software" or "SOFTWARE", PLEASE READ THE TERMS AND CONDITIONS OF THIS AGREEMENT CAREFULLY, INCLUIDING, WITHOUT LINETITATION, ANY SUPEMENTIAL TERMS AND CONDITIONS APPEARING OR REFERENCED BELOW, WHICH ARE HERETY MADE PART OF THIS END USER LICENSE WISHERNTT, COREFUTURY, "INCLUME, BEFORE DOWNLOADING, INSTALLING, ACTIVATING AND/OR OTHERWISE USING THE SOFTWARE, YOU ARE AGREEING THAT YOU HAVE READ, AND THAT YOU ACREE I accept the terms of the license Agreement. I do NOT accept the terms of the license Agreement.
	(m) (m)

Figure 27. License Agreement

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

Introduction	~	System and AFM	User		
License Agreement	~	Select the management	IP address for the AFM.		
> System	_	System Information			
		System Hostname	WN7X64-30MH3R1		
		System IP Address	10.156.184.109		

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.

Introduction	~	Service Protocols			-
License Agreement	~	TFTP/FTP Settings			
System	~	C Local - Provisioned the	e AFM as a TFTP or FTP	server	
> Service Protocols		Remote - Use an exter	nal TFTP or FTP server		
		File Transfer Protocol	TFTP		
		IP Address			
		NTP Server Settings			
		Primary IP Address			
		Secondary IP Address			
		DHCP Server Settings			

Figure 29. Service Protocols

Introduction	~	C Local - Provisioned the	AFM as a TFTP or FTP server	
License Agreement	~	Remote - Use an exter	nal TFTP or FTP server	
System	~	File Transfer Protocol	TFTP	i i
> Service Protocols		IP Address		
		NTP Server Settings		
		Primary IP Address		E
		Secondary IP Address		
		DHCP Server Settings		
		O Local - Provision the A	FM as a DHCP server	
		Demote - Use an exter		ų.

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.

Introduction	~	Syslog IP Addresses
LICENSE AGREEMENT	~	Enter up to 8 syslog IP Addresses. Data will be logged to the addresses provided.
System	~	
Service Protocols	~	Syslog IP Address(es)
> Syslog IP Addresses		
		Step 5 of 6

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.

Introduction	~	System Information:		
LICENSE AGREEMENT	1	System Hostname	WN7X64-30MH3R1	
		System IP Address	10.156.184.95	
System	~			
Service Protocols		TFTP/FTP Settings:		
Jervice Protocold		Server Location	local	
Syslog IP Addresses	~	File Transfer Protocol	TFTP	1
		IP Address	10.156.184.95	
> Summary		NTD Commen Cottinger		
		NTP Server Settings:		
		Primary IP Address	1.2.3.4	
		Secondary IP Address	1.2.3.5	
		DHCP Server Settings:		
		Server Location	local	
		Syslog IP Address(es)	10 101 101 00	

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.
- 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 <u>http://www.force10networks.com/CSPortal20/Main/Login.aspx</u> and select the <b>Service Request</b> .
	Your name, company name, phone number, and E-mail address
	<ul> <li>Preferred method of contact</li> <li>Model number</li> <li>Serial Number</li> <li>Software version number</li> <li>Symptom description</li> <li>Screen shots illustrating the symptom, including any error messages. These can include: <ul> <li>Output from the show tech command or the show tech linecard command.</li> <li>Output from the show trace command or the show trace linecard command.</li> <li>Console captures showing the error messages.</li> <li>Console captures showing the troubleshooting steps taken.</li> </ul> </li> </ul>
	<ul> <li>Saved messages to a syslog server, if one is used.</li> </ul>
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: <a href="mailto:Dell-Force10_Technical_Support@Dell.com">Dell-Force10_Technical_Support@Dell.com</a>
	Web: www.force10networks.com/support/
	Telephone: US and Canada: 1.866.965.5800 /International: 1.408.965.5800