

# How to Deploy a CloudGen Firewall Vx using Firewall Install on a VMware Hypervisor

#### https://campus.barracuda.com/doc/96026597/

The OVA package uses a default configuration that may not be suitable for your deployment. If you want to use multiple network interfaces, a different type of network adapter, or a bigger size for the virtual disk, use Barracuda Firewall Install to create the custom configuration files that you need to deploy the Barracuda CloudGen Firewall Vx with your specific settings.

# **Before You Begin**

- From the <u>Barracuda Download Portal</u>, download the following:
  - The ISO image for the Barracuda CloudGen Firewall Vx version that you want to install. There is only one ISO for the Barracuda CloudGen Firewall and Barracuda Firewall Control Center.
  - Barracuda Firewall Install for the firmware version that you are going to install.
- <u>Download and install WinImage</u> or a comparable utility to create *flp* floppy images.
- You must install the <u>Visual C++ Redistributable for Visual Studio 2012</u> on your computer to use Barracuda Firewall Install.
- Decide on the sizing requirements for your Barracuda CloudGen Firewall Vx. For more information, see <u>Virtual Systems (Vx)</u>.

#### Step 1. Create Configuration Files with Barracuda Firewall Install

Create the configuration files with Barracuda Firewall Install.

- 1. Start Barracuda Firewall Install.
- 2. Select the **Full** wizard mode, and then click **Next**.



Barracuda Firewall Install	×
	Welcome to Barracuda Firewall Install 7.2
	This wizard assists in creating a new firewall configuration for a Barracuda CloudGen Firewall.
	Please choose a wizard mode Auto Installation USB flash drive Full Create Kickstart only
	Use only with release 7.2 Barracuda Firewall Install is licensed under GPL
	< Back Next > Cancel

3. On the **Box Type Settings** page, select the **Product Type** and **Model** for your virtual appliance. You can configure Barracuda CloudGen Virtual Appliances and Barracuda Firewall Control Centers. After making your selections, click **Next**.

# Barracuda CloudGen Firewall



Firewall Settings		
Product Type	Model	
Hardware Appliance Virtual Appliance Control Center Standard Edition Control Center Enterprise Edition Control Center Global Edition  Standard Hardware	VF10 VF25 VF50 VF100 VF250 VF500 VF1000 VF2000 VF2000 VF4000 VF4000 VF8000 VFC2	
show legacy models		

#### 4. On the **Systems Settings** page:

- 1. Enter the following settings:
  - Hostname Enter a hostname (e.g., CloudGen Firewall VF50).
  - **Timezone** Select the timezone that the appliance is in.
  - **Keyboard Layout** Select the keyboard layout for the console of the Barracuda CloudGen Firewall Vx.
  - **DNS** Enter the DNS servers for your network.
  - Domain Suffix Enter the domain that your appliance is in.
  - Use NTP & IP Enable NTP and enter the IP address for the NTP server.
- 2. Click Next.

#### 5. On the **Partition Settings** page:

- 1. In the **Fixed Disk Capacity** field, enter the virtual disk size in gigabytes. Barracuda Networks recommends that you use disks that are at least the sizes recommended in <u>Firewall Settings</u>.
- 2. Click **Suggest** to adjust the partitions to your disk size.



	Usabl	e disk sp	ace 46478 M	В	
Partition	Size (MB)	Disk	FS-Type	Grow	
/boot	200	sda	ext3		
swap	1024	sda	swap		
/art	2048	sda	ext3		
1	14402	sda	ext3		
/phion0	28804	sda	ext3	ves	

- 3. Click Next.
- 6. On the Network Device Settings page:
  - 1. Click Add and then specify these settings in the NIC reseller list window:
    - Reseller Select Virtual.
    - Network adapter Automatic driver selection.
    - Number Select the number of network interfaces.

NIC reseller list		×	
please se	lect your network adapter		
<u>R</u> eseller	Network adapter	<u>N</u> umber 1 ₽	
3Com AMD Broadcom Intel RealTek SysKonnect VIA Virtual	Automatic driver selection vmxnet3 virtual NIC		
		OK Cancel	

- 2. Click **OK**.
- 3. Double-click the **eth0** network interface in the **Network Adapter** table and then specify these settings in the **NIC adapter configuration** window:
  - Management IP address Enter the IP address that you want to use as the management IP address.
  - Subnet mask Enter the subnet mask.
  - (Optional) Configure an Additional Gateway route.



	🖌 De	fau	ult NI	С			
Management IP address	10		0		10		120
Subnet mask	255		255		255		0
	Ad	diti	onal	ga	tewa	y n	oute
Target network	0		0		0		0
Subnet mask	0		0		0		0
Gateway IP	0		0		0		0

#### 

5. Click Next.

<

7. On the **Security Settings** page, enter the **Password** and **Service Login Password** and then click **Next**.

Properties.

>

- 8. On the **Software Packages** page, click **Next**.
- 9. On the **Script Settings** page, enter the destination for your configuration files in the **Save to** field.

Installation-script files			
Write USB flash drive	No	~	
Save to	C:\NG Install Configuration Files		Browse

- 10. Click Next.
- 11. Click Finish.

After the configuration files are created, a message appears confirming that the configuration files were written successfully.

The following configuration files are created in the destination that you selected:



*		
Name	Date modified	Туре
bootloader.conf	12.12.2013 14:19	CONF File
box.conf	12.12.2013 14:19	CONF File
boxadm.conf	12.12.2013 14:19	CONF File
boxlic.conf	12.12.2013 14:19	CONF File
boxnet.conf	12.12.2013 14:19	CONF File
🖉 boxpriv.pem	12.12.2013 14:19	Privacy Enhanced
ks.cfg	12.12.2013 14:19	CFG File

# Step 2. Create a Floppy Image with WinImage

Add the configuration files that you created with Barracuda Firewall Install to a floppy image FLP file. You will attach this image to the VMware virtual machine during installation.

- 1. Start Winlmage.
- 2. Locate the configuration files that you created with Barracuda Firewall Install.
- 3. Select all the Barracuda Firewall Install configuration files and drag them to the WinImage window.
- 4. In the Format selection window, select **1.44 MB** from the Standard format list and then click **OK**.

Format selection	×
Format Standard format: 160 KB 310 KB 320 KB 360 KB 720 KB	
<ul> <li>○ 1.2 MB</li> <li>● 1.44 MB</li> <li>○ 2.88 MB</li> <li>Non-standard format:</li> </ul>	
<ul> <li>820 KB</li> <li>1.72 MB (only compatible with Windows 95/98/Me)</li> <li>1.68 MB</li> <li>DMF (cluster 1024)</li> <li>DMF (cluster 2048)</li> </ul>	
Imported: Import format from image file Import format from currently selected disk Select custom image format	
OK Cancel	

5. In the **Inject** window, click **Yes**.





- 6. Click the **Save** icon.
- 7. In the **Save as** window:
  - 1. Select Virtual floppy Image (\*.vfd,\*.flp) from the Save as type list.
  - 2. Enter a **File name** with the .flp extension (e.g., NGInstallFloppy.flp). Otherwise, WinImage saves the floppy image with the .vfd extension, which cannot be used by the VMware hypervisor.

File name:	NGInstallTechlib.flp	~	Save
Save as type:	Virtual floppy Image (*.vfd,*.flp)	*	Cancel

3. Click Save.

#### Step 3. Create a New Virtual Machine

On the VMware server, create a new virtual machine for the Barracuda CloudGen Firewall Vx.

- 1. Using VMware vSphere Client, log into your VMware hypervisor.
- Right-click the VMware server that you want to deploy the Barracuda CloudGen Firewall Vx image on and select New Virtual Machine. The Create New Virtual Machine window opens.
   On the Configuration provides the select New Virtual Machine window opens.
- 3. On the **Configuration** page, select **Typical** and then click **Next**.

Configuration Name and Location Storage Guest Operating System Network	Configuration <ul> <li>Typical</li> <li>Create a new virtual machine with the most common devices and configuration options.</li> </ul>
Create a Disk	C Custom
Ready to Complete	Create a virtual machine with additional devices or specific configuration options.

4. On the **Name and Location** page, enter a **Name** for the virtual machine (e.g., BarracudaNGFirewallVF50) and then click **Next**.

Configuration	Name:
Name and Location	BarracudaNGFirewallVF50
Storage	, Virtual machine (VM) names may contain up to 80 characters and they must be unique within each
Guest Operating System	vCenter Server VM folder.
Network	
Create a Disk	VM folders are not viewable when connected directly to a host. To view VM folders and specify a location for this VM, connect to the vCenter Server.
Ready to Complete	for alls via, connect to ale voenter server.

- 5. On the **Storage** page, select the datastore where the virtual disk should be created and then click **Next**.
- 6. On the Guest Operating System page:
  - 1. From the Guest Operating System list, select Linux.
  - 2. From the Version list, select Other 2.6.x Linux (64-bit).
  - 3. Click Next.



Configuration Name and Location	Guest Operating System:
Storage	C Windows
Guest Operating System Network	• Linux
Create a Disk	C Other
Ready to Complete	Version:
	Other 2.6.x Linux (64-bit)
	Identifying the guest operating system here allows the wizard to provide the appropriate defaults for the operating system installation.

- 7. On the **Network** page:
  - 1. Select the number of network interfaces from the **How many NICs do you wan to connect** list. The number must match the number of network interfaces that you selected in <u>Step 1. Create Configuration Files with Barracuda Firewall Install</u>.
    - You can only add four network interfaces in the **Create New Virtual Machine** wizard. If you need more than four virtual network interfaces, add the additional NICs by editing the finished virtual machine configuration. VMware limits the number of virtual network interfaces per guest OS to 10.
  - 2. For every NIC, specify these settings:
    - **Network** Select the virtual network that the virtual interface will connect to.
    - Adapter Select VMXNET 3. The adapter must match the Barracuda Firewall Install configuration. Barracuda Networks recommends using the VMXNET3 driver.
    - Connect at Power On Select this check box to connect the NIC to the VM.
  - 3. Click Next.

Configuration Name and Location Storage Guest Operating System		twork Connections	•						
Network		Network		Adapter		onnect at ower On			
Create a Disk				Adapter					
Ready to Complete	NIC 1:	Int Network	•	VMXNET 3	•	<b>v</b>			
	NIC 2:	HQ-ISP1	-	VMXNET 3	•	▼			
	NIC 3:	HQ-ISP2	-	VMXNET 3	•				
	NIC 4:	HQ-DMZ	-	VMXNET 3	•				
	If supported by this virtual machine version, more than 4 NICs can be added after the virtual machine is created, via its Edit Settings dialog. Adapter choice can affect both networking performance and migration compatibility. Consult the VMware KnowledgeBase for more information on choosing among the network adapters supported for various guest operating systems and hosts.								

#### 8. On the Create a Disk page:

- 1. Enter the Virtual disk size. For more information, see Firewall Settings.
- 2. Select Thick Provision Eager Zeroed.
- 3. Click Next.

Configuration Name and Location	Datastore:	Datastore2
R <u>esource Pool</u> Storage	Available space (GB):	3513,6
Guest Operating System Network	Virtual disk size:	50 🕂 GB 💌
Create a Disk Ready to Complete	C Thick Provision Lazy Zero	ed
,	Thick Provision Eager Zer	oed
	C Thin Provision	



- On the Ready to Complete page, click Finish. Depending on your virtual disk size, it can take a couple of minutes for the VM to be created. You can view the status of the Create Virtual Machine task in the Recent Tasks pane at the bottom of the vSphere Client window.
- 10. Right-click the VM that you created and then select **Edit Settings**.
- 11. In the Virtual Machine Properties window:
  - 1. Configure the **Memory** and **CPUs** according to your Barracuda CloudGen Firewall Vx model.

Do not assign more than the licensed number of vCPUs to your virtual machine. For more information, see <u>How to License a CloudGen Firewall</u>.

2. Click **OK**.

Your virtual machine is now listed in the left pane under the VMware server that you created it on.

<b>F</b>	6
E E	<ul> <li>Documentation</li> <li>Infrastructure</li> <li>Techlib</li> <li>Barracuda NG Firewall VF50</li> </ul>

#### Step 4. Start the Virtual Machine

Connect the Barracuda CloudGen Firewall Vx ISO and the floppy image to the virtual machine for the automated installation.

- 1. Using VMware vSphere Client, log into your VMware hypervisor.
- 2. Power on your Barracuda CloudGen Firewall Vx virtual machine.
- 3. From the taskbar, click the CD icon (), click CD/DVD Drive 1, and then select Connect to ISO image on local disk.
- 4. Select the Barracuda CloudGen Firewall Vx ISO file on the local hard disk and then click **Open**.

€ ∋ - ↑	Libraries	s ⊧ Doo	uments → NG Images	~ C	Search NG Images			Q
Organize 🔻	New folder				*** # 1 - 4	•		0
ጵ Favorites 强 Copy 🔳 Desktop		< >	GWAY-5.4.1-194.iso	GWAY-5.4.2-108.iso				
	File name:	GWAY-	5.4.2-108.iso	~	ISO Image files (*	.iso)		¥
					Open		Cancel	

- 5. Press **Ctrl + Alt + Ins** to reboot the VM.
- 6. At the **Welcome to Barracuda CloudGen Firewall** boot prompt, press any key except <Enter> to stop the 10 second timeout.

# Barracuda CloudGen Firewall



i.	
	Welcome to Barracuda NG Firewall 5.4.2-108 <mark>GA</mark>
	Please insert the kickstart-disc and press <enter>.</enter>
	WARNING ! WARNING ! WARNING ! All information on your disks will get destroyed during installation.
	Barracuda Networks, Inc. mail: info@barracuda.com 3175 Winchester Blvd Campbell, California 95008 United States
	<pre>[F1-Main] [F2-Options] [F3-Kernel] [F4-Rescue]</pre>

- 7. From the taskbar, click the **Floppy** icon () and select **Connect to floppy image on local disk**.
- 8. From your local hard disk, select the floppy image (e.g., NGInstallFloppy.flp) that you created in <u>Step 2. Create a Floppy Image with WinImage</u>.

€ 🦻 ד ↑	→ ↑ ↓ NGInstallTechlib						Techlib	)	P
Organize 🔻	New folder					-	≣ ▼		0
🚖 Favorites		^	Name	Date modifi	ied	Туре		Size	
🖳 Сору			NGinstallFloppy.flp	12.12.2013 1	6:23	FLP File		14	440 K
📃 Desktop		~							
File name: NGinstallFloppy.flp 🗸					✓ Floppy Image files (*.flp) ✓				
						Onen		Cancel	

- 9. Press **Enter** to start the installation.
- 10. After the installation completes, press **Enter** to reboot.



# Adding or Removing a Network Interfaces on a Virtual Firewall on the VMware Hypervisor

If you are required to add or remove a network interface on the virtual firewall, the initial order of the interfaces might get disrupted. This happens because the assignment of interfaces to MAC addresses causes these interfaces to be sorted differently on the hypervisor.

For more information on how to handle network interfaces of a CloudGen firewall in conjunction with a



VMware hypervisor, see <u>How to Add or Remove Network Interfaces on a Virtual Firewall on the</u> VMware Hypervisor.

### **Next Step**

After you deploy the Barracuda CloudGen Firewall Vx unit, continue with <u>Get Started</u> and optionally <u>Best Practice - Performance Tuning on VMware Hypervisors</u>.



#### Figures

- 1. NGISelectFull.png
- 2. NGISelectModel.png
- 3. NGIDiskSize.png
- 4. automatic\_nic\_driver\_selection.png
- 5. NGIEnterMIP.png
- 6. dynmod\_ko.png
- 7. NGISaveTo.png
- 8. NGIConfFiles.png
- 9. WIFormat.png
- 10. WIInject.png
- 11. WISaveFile.png
- 12. VMConfigurationTypical.png
- 13. VMEnterName.png
- 14. VMSelectOS.png
- 15. VMConfigNICs.png
- 16. VMDatastore.png
- 17. VMListguestOSes.png
- 18. VMCdromIcon.png
- 19. VMSelectISO.png
- 20. VMBootPrompt.png
- 21. VMFloppyIcon.png
- 22. VMSelectFLP.png
- 23. VMReboot.png

© Barracuda Networks Inc., 2024 The information contained within this document is confidential and proprietary to Barracuda Networks Inc. No portion of this document may be copied, distributed, publicized or used for other than internal documentary purposes without the written consent of an official representative of Barracuda Networks Inc. All specifications are subject to change without notice. Barracuda Networks Inc. assumes no responsibility for any inaccuracies in this document. Barracuda Networks Inc. reserves the right to change, modify, transfer, or otherwise revise this publication without notice.