



Cisco WAAS Installation and Configuration Guide for ACNS on a Virtual Blade

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This document describes how to install and configure the ACNS on WAAS software. It includes the following sections:

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Overview

ACNS version 5.5.13 and later can run on a WAAS virtual blade and be managed from the Central Distribution Manager. ACNS 5.5.19 and later versions can run on a WAAS virtual blade supporting dual CPUs.



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Table 1 Virtual Blade Single/Dual CPU Support for ACNS/WAAS Releases

WAAS Releases →	4.1.3	4.2.1	
ACNS Releases ↓	Single CPU	Single CPU	Dual CPU
5.5.13	YES	YES	NO
5.5.15	YES	YES	NO
5.5.17	YES	YES	NO
5.5.19 and later	YES	YES	YES

You can install the ACNS-VB software on an existing WAAS device, or migrate your ACNS device to WAAS first, and then install the ACNS-VB software.

The ACNS migration to WAAS 4.1.3 is supported on the following:

- ACNS versions
 - 5.5.9 and later
- Supported hardware platforms for migration
 - WAE-7341
 - WAE-674-8G/4G
 - WAE-512
 - WAE-612

The following hardware platforms support the ACNS-VB software:

- WAVE-694-16G/24G
- WAE-674-8G/4G
- WAE-574-6G/3G
- WAVE-594-8G/12G
- WAE-474-3G
- WAE-274-3G
- WAVE-294-4G/8G

Before You Begin

Before you begin the migration process you, must download the software and become familiar with the information in the “Important Notes” section.

This section contains the following topics:

- [Obtaining the Software, page 3](#)
- [Important Notes, page 3](#)



Note

Before configuring a virtual blade, you must configure the Enterprise and Virtual Blade licenses on the WAAS device. You should also establish network connectivity, including registering the WAAS device with a WAAS Central Manager.

Obtaining the Software

You can obtain the ACNS to WAAS software and the ACNS image to install on a WAAS-VB by downloading the software from the Cisco Software Center, which is located at:

<http://www.cisco.com/cisco/software/navigator.html?a=http://www.cisco.com/public/sw-center/index.shtmli=rpm>

- ACNS2WAAS_migration-K9.bin—ACNS to WAAS migration image. This image is used on the ACNS box, running ACNS version 5.5.9 or later, to migrate to WAAS 4.1.3.
- ACNS-5.5.23-rescue-cdrom-K9.iso—Use this image to install ACNS on a WAAS-VB.

Important Notes

You should read the following important notes before you install the ACNS-VB software:

- The following redirections are supported:
 - Direct
 - Content Router
 - WCCP
- In-box redirecting (from ACNS to WAAS) is not supported. To optimize ACNS traffic, outgoing traffic from ACNS to WAAS is redirected.
- The following features are not supported:
 - Smart Filter (on and off box)
 - Websense (on and off box)
 - ICAP interface/protocol
 - IP Spoof Support on ACNS on Virtual Blade Content Engine
 - Port channel—(limited support) You must configure the port channel on WAAS first, and then on ACNS
 - Saved State Restart—You must shut down ACNS before restarting WAAS

Installing ACNS on a WAAS Virtual Blade using GUI

This section describes how to install the ACNS on WAAS software and contains the following topics:

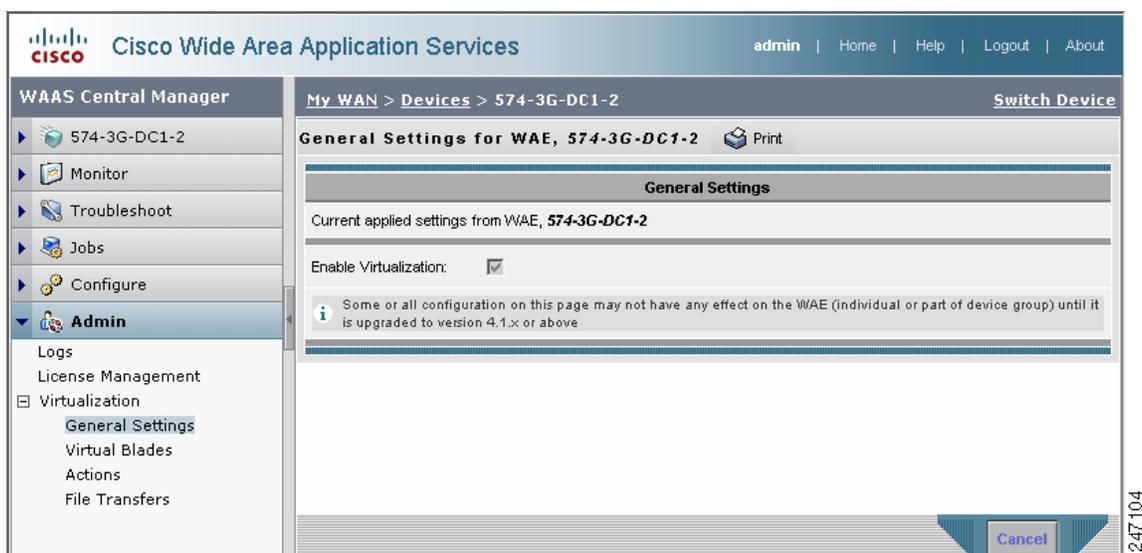
- [Configuring the Virtual Blade, page 4](#)
- [Enabling and Disabling Virtual Blades, page 8](#)
- [Copying a Disk Image to a Virtual Blade, page 9](#)
- [Installing the Image, page 10](#)
- [Configuring ACNS, page 10](#)
- [Launching the Content Distribution Manager GUI, page 11](#)

Configuring the Virtual Blade

To configure the virtual blade, perform the following steps:

- Step 1** Before starting the virtual blade configuration, you must first copy the ACNS on WAAS installer ISO image (ACNS-5.5.13-rescue-cdrom-K9.iso or later) to the /local1/vbs directory of the WAE device.
- Step 2** From the WAAS Central Manager GUI navigation pane, choose **My WAN > Manage Devices**.
- Step 3** Click the **Edit** icon next to the WAE device that you want to configure.
- Step 4** From the navigation pane, choose **Admin > Virtualization > General Settings**. The General Settings window appears (see [Figure 1](#)).

Figure 1 General Settings



To configure virtualization settings, verify that the **Enable Virtualization** check box is checked.

- Step 5** From the navigation pane, choose **Admin > Virtualization > Virtual Blades**. The Virtual Blade Entries window appears (see [Figure 2](#)).

Figure 2 Virtual Blade Entries

The screenshot shows the Cisco Wide Area Application Services (WAAS) Central Manager interface. The left sidebar contains navigation options: Monitor, Troubleshoot, Jobs, Configure, and Admin (with sub-options: Logs, License Management, Virtualization, General Settings, Virtual Blades, Actions, File Transfers). The main content area displays the 'Virtual Blade Entries for WAE, 574-3G-DC1-2'. A table lists the entries:

Blade Number	Description	Disk(s) (GB)	Memory (MB)	Status
1	NEW_VB	2 20 0 154	2048	RUNNING

Any existing virtual blades are displayed in the Virtual Blade Entries list.

**Note**

The status of a virtual blade that is running on WAAS version 4.1.1 shows NOT AVAILABLE on the Virtual Blade Entries list. To get the status of a virtual blade that is running on WAAS version 4.1.1, see the virtual blade Actions window (Figure 5).

Step 6

Click the **Edit** icon next to the virtual blade that you want to configure, or click the **Create** button to create a new virtual blade. The Virtual Blade configuration window appears (see Figure 3).

Figure 3 Virtual Blade Configuration

The screenshot shows the 'Virtual Blade Configuration' window for WAE, 574-3G-DC1-2. The configuration fields are as follows:

- Blade Number: 1
- Description: NEW_VB_DUAL_CPU
- AutoStart:
- Boot From: cd-rom
- CD Image: disk /local1/vbs/rescue-cdrom-1
- Floppy Image:
- Disk(s): 2 20 0 154 (Upto 4 disks - space separated (1-176) GB)
- Memory: 2048 (512-3072) MB
- Disk Emulation: IDE
- NIC Emulation: e1000
- CPU Emulation: qemu32
- Virtual CPU Allocation: CPU 1: CPU 2:

Below the configuration fields is a table for 'Virtual Interfaces':

Interface Name	Bridge Interface	MAC Address
1	GigabitEthernet 1/0	00:21:D8:AB:9C:DE

At the bottom of the window are 'Submit' and 'Cancel' buttons. A note at the bottom states: 'Note: * - Required Field'.

- Step 7** Configure the virtual blade system parameters as follows:
- a. If you are creating a new virtual blade, type the number of the virtual blade that you want to create in the Blade Number field.
 The number of virtual blades that you can configure depends on which model of WAAS appliance you are using and the amount of memory installed in that appliance.
 - b. (Optional) In the Description field, type a brief description of the virtual blade.
 - c. (Optional) Check **Autostart** to set the virtual blade to start automatically whenever the WAE starts.
 - d. Choose **cd-rom** (the default) to boot the virtual blade from a physical CD or a CD image (.iso image file stored in the /local1/vbs directory).
 - e. Choose **disk** to read the CD image from an ISO file on the WAE hard drive (for example, /local1/vbs/rescue-cdrom.iso). You can click the **Browse** button and choose the ISO file from the /local1/vbs directory. The Browse button is shown only if there are files in the /local1/vbs directory.
 - f. In the Disk Space field, allocate the amount of WAE hard disk space by specifying up to four disk values (separated by a space), in gigabytes, that you want allocated for the virtual blade (as shown in Figure 3, for example). See Table 2 for disk value descriptions.

Table 2 Disk Value Descriptions

Disk Value	Description
1	Amount of memory allotted for the flash (in gigabytes).
2	Size of disk00 in the virtual blade (in gigabytes).
3	Amount of memory allotted for the cd-rom (in gigabytes). Note: For IDE disk emulation, you must specify 0 for the size because this IDE bus position is used for a CD-ROM.
4	Size of disk01 in the virtual blade (in gigabytes).

To configure a virtual blade with two disks, you must configure disk values 1 through 4. For example, the entry 2 20 0 154 specifies a 2-GB flash, and two disks (20-GB disk00 and 154-GB disk01) for the virtual blade.

To create a virtual blade with a single disk, for example, configure only the first two disk values.

- g. In the Memory field, allocate the amount of WAE memory, in megabytes, that you want to make available for the virtual blade.
 The amount of memory that can be allocated for a virtual blade depends on the amount of memory in your WAE or WAVE appliance, and on the amount of memory that is assigned to other virtual blades. The minimum amount of memory that you can allocate for a single virtual blade running ACNS-VB is 1024 MB.
- h. In the Disk Emulation list, choose **IDE**.
 IDE specifies an IDE (ATA) type disk emulator, and Virtio specifies a generic disk controller emulator optimized for virtual machines.

Note ACNS-VB installation fails when the Virtio emulator is configured with the virtual blade.
- i. On the NIC Emulation list, choose **E1000**.

Rtl8139 specifies a Realtek network card emulator, E1000 specifies an Intel PRO/1000 network card emulator, and Virtio specifies a generic NIC emulator optimized for virtual machines.



Note ACNS-VB installation fails when the Virtio emulator is configured with the virtual blade.

- j. On the CPU Emulation list, choose **qemu32** (for a 32-bit processor emulator), which is the type of CPU emulation that the virtual blade uses.
- k. To allocate the number of CPUs for the virtual blade, check the appropriate CPU option associated with the Virtual CPU Allocation checkboxes. If you need to run ACNS-VB on a WAAS virtual blade supporting dual CPUs, check both the CPU checkboxes - CPU 1 and CPU 2.

Step 8 Configure the interface bridge that you want to use between the virtual blade and the physical interfaces on your WAE as follows:

- a. In the Virtual Interfaces pane, click **Add**. The Virtual Interface Add pane appears (see [Figure 4](#)).

Figure 4 Virtual Interface Add

- b. In the Interface Number field, enter the virtual blade interface to be bridged. Valid values are 1 or 2.
- c. In the Bridge Interface list, choose the physical WAE interface that the virtual blade interface is bridged to. Choose either **GigabitEthernet** or **PortChannel**.
- d. In the MAC Address field, enter the MAC address of the bridged interface or click **Generate** to have WAAS generate the MAC address for you.
- e. Click **Add to List** to add the virtual interface to the virtual blade interface list.

Step 9 Choose the virtual interface by clicking its radio button on the display.

Step 10 Click **Submit**.

For additional details on virtual blades, see Chapter 14, “Configuring Virtual Blades” in the [Cisco Wide Area Application Services Configuration Guide](#).

Enabling and Disabling Virtual Blades

To enable or disable a virtual blade on your WAE, follow these steps:

- Step 1** From the WAAS Central Manager GUI navigation pane, choose **My WAN > Manage Devices**.
- Step 2** Click the **Edit** icon next to the WAE device that you want to configure.
- Step 3** From the navigation pane, choose **Admin > Virtualization > Actions**. The Virtual Blade Actions window appears (see [Figure 5](#)).

Figure 5 Virtual Blade Actions

- Step 4** In the Virtual Blade list, choose the virtual blade that you want to enable or disable. The status of the virtual blade is displayed in the Status field.
The default selection for the Virtual Blade list is All. When All is selected, the Status field displays the current status for all virtual blades.
- Step 5** Click **Start Virtual Blade** to enable the selected virtual blade.
- Step 6** (Optional) In the Startup Delay field, enter a startup delay by typing a value, in seconds.
The startup delay can be used to give you time to connect a VNC session to the console before the virtual blade boots, so you can observe the initial startup.
- Step 7** Click **Stop Virtual Blade** to disable the selected virtual blade.
- Step 8** (Optional) In the Shutdown Timeout field, enter a value, in seconds, to give the virtual blade operating system time to shut down the virtual blade after you click the Stop Virtual Blade button.
The shutdown timeout provides a delay period in which the operating system can shut down gracefully. If the operating system has not shut down the virtual blade by the end of this period, WAAS forces the shutdown.



Note If you set the Shutdown Timeout to 0, the WAAS will force a shutdown immediately.

To avoid losing data in open programs running on the virtual blade, it is safer to have the operating system perform the shutdown.

- Step 9** Click **Refresh Status** to refresh the status of the virtual blade after you make a change.



Note

The operating system on your virtual blade does not shut down and restart when you reboot the WAAS device. When you reboot a WAE or WAVE device, the WAAS software saves the virtual blade in its current state and then restores that state when the reboot is complete.

Copying a Disk Image to a Virtual Blade

To copy the disk image file to the `/local1/vbs` directory on your WAE, perform the following steps:

- Step 1** From the WAAS Central Manager GUI navigation pane, choose **My WAN > Manage Devices**.
- Step 2** Click the **Edit** icon next to the WAE device that you want to configure.
- Step 3** From the navigation pane, choose **Admin > Virtualization > File Transfers**. The Virtual Blade File Transfers window appears (see [Figure 6](#)).

Figure 6 Virtual Blade File Transfers

- Step 4** In the File Transfer Type list, choose **FTP Image to /local1/vbs** (the default).
- Step 5** In the FTP Server field, enter the IP address or hostname of the FTP server where the disk image resides to be copied to disk (at `/local1/vbs/`).
- Step 6** In the Remote Directory field, enter the path to the directory on the FTP server where the disk image resides to be copied to disk (at `/local1/vbs/`).
- Step 7** In the Remote Filename field, enter the filename of the disk image.

- Step 8** In the Username and Password fields, enter a valid username and password for the FTP server.
- Step 9** In the Local Filename field, enter the full path and filename where the disk image is to be stored on the WAE device. The directory path must be /local1/vbs/.
- Step 10** Click **Start File Transfer** to start the file transfer.
-

Installing the Image

To install the ACNS image, perform the following steps:

- Step 1** Once you have started the virtual blade, create a console session to the virtual blade to access the ACNS Installer Menu by using the following command:

```
WAE# virtual-blade vb_number session
```

where the *vb_number* is the number that you assigned to the virtual blade during configuration on the WAE device.

This command establishes the console session with the ACNS virtual blade and displays the standard ACNS rescue image Installer Menu.

- Step 2** Complete the process that installs the ACNS image onto the virtual blade.

For details on installing the ACNS software, see the “*Using the Cisco ACNS Software Recovery CD-ROM*” section in the *Cisco ACNS Software Upgrade and Maintenance Guide*.

Wait for the process to finish before continuing on to the next step.

- Step 3** When the ACNS installation is complete, stop the virtual blade session by using the following command:

```
WAE# virtual-blade vb_number stop 0
```

- Step 4** After the session stops, change the boot option of the virtual blade to disk by using the following commands:

```
WAE(config)# virtual-blade vb_number
WAE(config-vb)# boot from disk
```

Configuring ACNS

To configure ACNS on a virtual blade, perform the following steps:

- Step 1** Once you have changed the boot option to disk, restart the virtual blade and then start another session to the virtual blade by using the following commands:

```
WAE# virtual-blade vb_number start
WAE# virtual-blade vb_number session
```

- Step 2** Register the ACNS virtual blade to a CDM, configure the interface IP address, configure the default gateway, and assign a primary interface by using the following commands:

```
ACNS-VB(config)# interface interface_name
ACNS-VB(config-if)# ip address ip_address subnet_mask
ACNS-VB(config-if)# no shutdown
```

```
ACNS-VB(config-if)# exit
ACNS-VB(config)# primary-interface interface_name
ACNS-VB(config)# ip default-gateway gateway_ip
```

Step 3 Register ACNS to the CDM by using the following commands:

```
ACNS(config)# cdm ip cdm_ip_address
ACNS(config)# cms enable
```

Verify that the IP address is configured, the interface is up, and the working interface is assigned as the primary interface. You can now launch the Content Distribution Manager GUI to activate the device.

Launching the Content Distribution Manager GUI

To launch the Content Distribution Manager GUI and activate the device, perform the following steps:

Step 1 In your web browser, enter the URL or IP address for the Content Distribution Manager. For example, enter this URL:

```
https://Name_of_Content_Distribution_Manager:8443
```

Alternatively, enter this IP address:

```
https://IP_address_of_Content_Distribution_Manager:8443
```

The Security Alert window appears.

Step 2 Click **Yes** to accept the security certificate. The Login window appears.

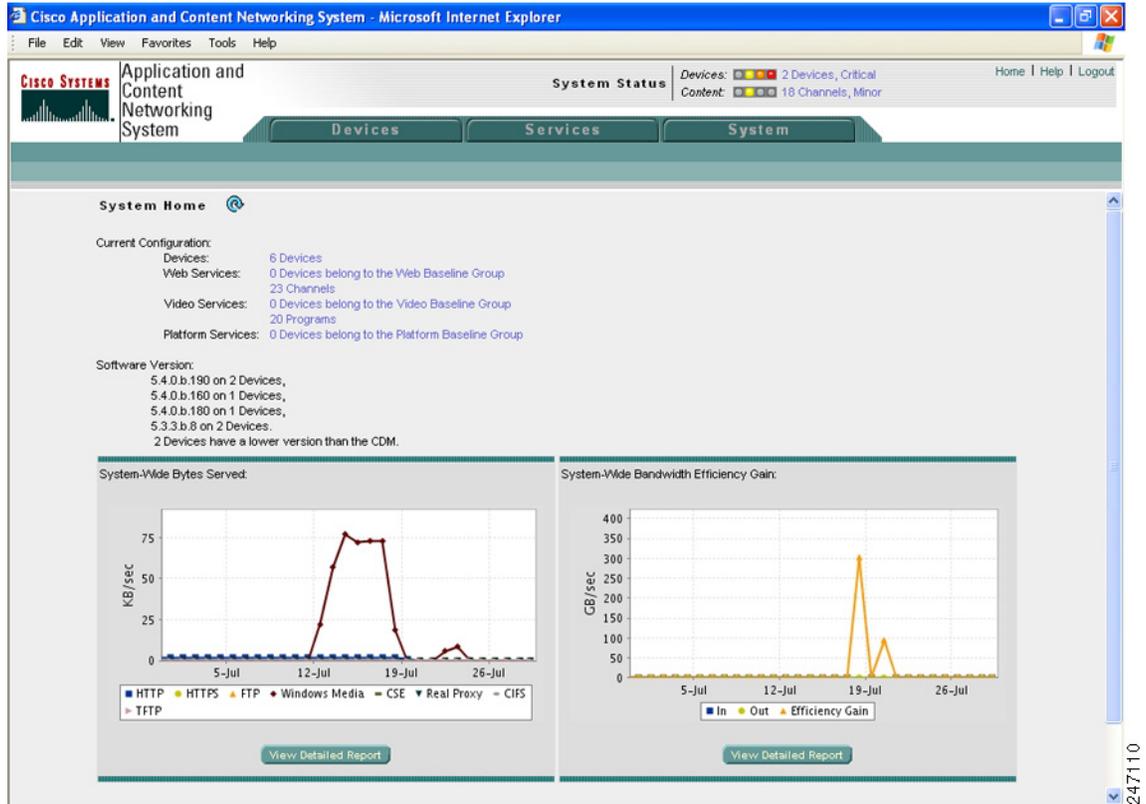
Step 3 In the Username field, enter your username. In the Password field, enter your password, and click **Login**.

```
User name: admin
Password: <password>
```

The default username is **admin** and the default password is **default**. If the defaults have been changed by another Content Distribution Manager administrator, you need to obtain the new username and password.

The System Home window appears. (See [Figure 7](#).)

Figure 7 ACNS Content Distribution Manager GUI System Home Window



- Step 4** Activate the device as follows:
- a. Click the **Devices** tab to see a list of devices registered to the CDM.
 - b. Click **Activate**.
 - c. Choose **Create a new location**.
 - d. Click **Apply and Activate**.

Once you have completed the installation, perform any site-specific configuration that you require.

For information on WAAS configuration, see the *Cisco Wide Area Application Server Software* documentation.

For information on ACNS configuration, see the *Cisco Application and Content Networking System (ACNS) Software* documentation.

Installing ACNS on a WAAS Virtual Blade using Command Line Interface

This section describes how to install ACNS on WAAS - Virtual Blade using CLI and contains the following topics:

- [Configuring the Virtual Blade, page 13](#)

- [Enabling and Disabling Virtual Blades, page 15](#)
- [Copying a Disk Image to a Virtual Blade, page 15](#)
- [Installing the Image, page 16](#)
- [Configuring ACNS, page 16](#)

Configuring the Virtual Blade

To configure the virtual blade, perform the following steps:

Step 1 Before starting the virtual blade configuration, you must first copy the ACNS on WAAS installer ISO image (ACNS-5.5.13-rescue-cdrom-K9.iso or later) to the /local1/vbs directory of the WAE device, refer to section [Copying a Disk Image to a Virtual Blade](#).

Step 2 To configure virtualization, enter into the global configuration mode and execute the following CLI.

```
wae(config)# virtual-blade enable
wae(config)# exit
```

Step 3 Check whether virtualization is enabled using the following command.

```
wae# show virtual-blade
```

The above command will show all the memory, disk, image space and CPUs assigned to the virtual blade.

Step 4 Configure the virtual blade system parameters as follows:

- a. To create a virtual blade , enter into configuration mode.

```
wae(config)# virtual-blade <blade-number>
```

The number of virtual blades that you can configure depends on which model of the WAAS appliance you are using and the amount of memory installed in that appliance.

- b. (Optional) To set the virtual blade to start automatically whenever the WAE boots, use the command `autostart` .

```
wae(config-vb)# autostart
```

The default parameter will be **no autostart** .

- c. To set the boot image execute following command.

```
wae(config-vb)# boot cd-image disk <path of the virtual blade image as specified above (/local1/vbs rescue-cdrom.iso /.iso)>
```

- d. Set the boot option (cd-rom/disk) to boot the virtual blade from a physical CD or a CD image (.iso image file stored in the /local1/vbs directory).

```
wae(config-vb)# boot from cd-rom
```

- e. (Optional) In the Description field, type a brief description of the virtual blade.

```
wae(config-vb)# description < any description>
```

- f. To create a 32 bit emulated processor which is the type of CPU emulation that the ACNS virtual blade uses, use the following command.

```
wae(config-vb)# device cpu qemu32
```

- g. To create an IDE emulated disk use the following command. IDE specifies an IDE (ATA) type disk emulator optimized for virtual machines.

```
wae(config-vb)# device disk IDE
```

- h. To set the interface (NIC) for the Virtual Blade use the following command.

```
wae(config-vb)# device nic e1000
```

- i. To create the disk partition required for the Virtual Blade use the following command.

```
wae(config-vb)# disk <disk1 space> <disk2 space> <disk3 space> <disk4 space> (Disk Space in GB)
```

In the Disk Space CLI, allocate the amount of WAE hard disk space by specifying up to four disk values (separated by a space), in gigabytes, that you want allocated for the virtual blade. For example

```
wae(config-vb)# disk 2 20 0 154
```

See [Table 3](#) for disk value descriptions.

Table 3 Disk Value Descriptions

Disk Value	Description
Disk 1	Amount of memory allotted for the flash (in gigabytes).
Disk 2	Size of disk00 in the virtual blade (in gigabytes).
Disk 3	Amount of memory allotted for the cd-rom (in gigabytes). Note For IDE disk emulation, you must specify 0 for the size because this IDE bus position is used for a CD-ROM.
Disk 4	Size of disk01 in the virtual blade (in gigabytes).

To configure a virtual blade with two disks, you must configure disk values 1 through 4. For example, the entry 2 20 0 154 specifies a 2-GB flash, and two disks (20-GB disk00 and 154-GB disk01) for the virtual blade.

- j. To configure interface bridge between the virtual blade and the physical interfaces of WAE execute the following command.

```
wae(config-vb)# interface <interface name> bridge <WAAS interface> <MAC-Address>
```

- In the Interface Name field, enter the virtual blade interface to be bridged. Valid values are 1 or 2.
- In the WAAS interface field, enter the Bridge-group index to be bridged. Valid values are 1 to 4.
- (Optional) In the MAC Address field, enter the MAC address of the bridged interface or else it will get generated automatically.

For example,

```
wae(config-vb)# interface <1-2> bridge <1-4>
```

- k. To create the memory required for the ACNS-VB execute the following command.

```
wae(config-vb)# memory <memory size in MB>
```

The memory size range varies depending on the hardware platform.

For additional details on virtual blades, see Chapter 14, “Configuring Virtual Blades” in the *Cisco Wide Area Application Services Configuration Guide*.

Enabling and Disabling Virtual Blades

To enable or disable a virtual blade on your WAE, follow these steps:

Step 1 To enable a virtual blade with the WAAS CLI, use the following command.

```
wae# virtual-blade <1-4> start <startup delay(1-60)>
```

(Optional) In the Startup Delay field, enter a startup delay value, in seconds.

The startup delay can be used to give you time to connect a VNC session to the console before the virtual blade boots, so you can observe blade.

Step 2 To disable the selected virtual blade, use following command.

```
wae# virtual-blade <1-4> stop <shutdown timeout(0-900)>
```

(Optional) In the Shutdown Timeout field, enter a value, in seconds, to give the virtual blade operating system time to shut down the virtual blade.

The shutdown timeout provides a delay period in which the operating system can shut down gracefully. If the operating system has not shut down the virtual blade by the end of this period, WAAS forces the shutdown.



Note

If you set the shutdown timeout to 0, the WAAS will force a shutdown immediately.

To avoid losing data in open programs running on the virtual blade, it is safer to have the operating system perform the shutdown.



Note

The operating system on your virtual blade does not shut down and restart when you reboot the WAAS device. When you reboot a WAE or WAVE device, the WAAS software saves the virtual blade in its current state and then restores that state when the reboot is complete.

Copying a Disk Image to a Virtual Blade

To copy the disk image file to the /local1/vbs directory on your WAE, perform the following steps:

Step 1 To copy the ACNS on WAAS installer ISO image (ACNS-5.5.13-rescue-cdrom-K9.iso or later) to the /local1/vbs directory of the WAE device.

```
wae# cd vbs
wae# copy ftp disk <ftp server ip address> <remote file directory> <remote file name>
wae# cd /local1
```

In the FTP Server field, enter the IP address or hostname of the FTP server where the disk image resides to be copied to disk (at /local1/vbs/).

In the Remote Directory field, enter the path to the directory on the FTP server where the disk image resides to be copied to disk (at /local1/vbs/).

In the Remote Filename field, enter the filename of the disk image.

- Step 2** In the Username and Password fields, enter a valid username and password for the FTP server.

Installing the Image

To install the ACNS image, perform the following steps:

- Step 1** Executing the below cli will start the virtual blade installation process. Login to the virtual blade session in order to complete the installation process using the following cli.

```
wae# virtual-blade 1 start
```

```
wae# virtual-blade vb_number session
```

where the *vb_number* is the number that you assigned to the virtual blade during configuration on the WAE device.

- Step 2** Complete the process that installs the ACNS image onto the virtual blade.

For details on installing the ACNS software, see the “Using the Cisco ACNS Software Recovery CD-ROM” section in the *Cisco ACNS Software Upgrade and Maintenance Guide*.

Wait for the process to finish before continuing on to the next step.

- Step 3** When the ACNS installation is complete, stop the virtual blade session by using the following command:

```
wae# virtual-blade <virtual blade number> stop <timeout >
```

- Step 4** After the session stops, change the boot option of the virtual blade to disk by using the following commands.

```
wae(config)# virtual-blade vb_number
wae(config-vb)# boot from disk
```

Configuring ACNS

To configure ACNS on a virtual blade, perform the following steps:

- Step 1** Once you have changed the boot option to disk, restart the virtual blade and then start another session to the virtual blade by using the following commands.

```
wae# virtual-blade vb_number start
wae# virtual-blade vb_number session
```

- Step 2** Configure the interface IP address, configure the default gateway, and assign a primary interface by using the following commands.

```
ACNS-VB(config)# interface interface_name
ACNS-VB(config-if)# ip address ip_address subnet_mask
ACNS-VB(config-if)# no shutdown
ACNS-VB(config-if)# exit
ACNS-VB(config)# primary-interface interface_name
ACNS-VB(config)# ip default-gateway gateway_ip
```

- Step 3** (Optional) Register ACNS to the CDM by using the following commands.

```
ACNS(config)# cdm ip cdm_ip_address
ACNS(config)# cms enable
```

Verify that the IP address is configured, the interface is up, and the working interface is assigned as the primary interface. You can now launch the Content Distribution Manager GUI to activate the device if registered to CDM.

Reinstalling ACNS or WAAS

If you need to reinstall ACNS, delete the virtual blade, recreate it, and reinstall ACNS.

If all of the WAAS software needs to be reinstalled, reinstall WAAS by using the WAAS software recovery CD, recreate the virtual blade, and reinstall ACNS by using the ISO image.

Related Documentation

For additional information on the Cisco WAAS software and Cisco ACNS software, see the following documentation:

- *Release Note for Cisco Wide Area Application Services*
- *Cisco Wide Area Application Services Configuration Guide*
- *Cisco Wide Area Application Services Quick Configuration Guide*
- *Cisco Wide Area Application Services Command Reference*
- *Cisco Wide Area Application Services API Reference*
- *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments*
- *Cisco ACNS Software Configuration Guide for Locally Managed Deployments*
- *Configuring Cisco Access Routers and the NME-WAE Network Module for ACNS Deployments*
- *Cisco ACNS Software Command Reference*
- *Cisco ACNS Software API Guide*

Obtaining Documentation and Submitting a Service Request

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