



Purpose

This document describes how to increase the size of the Nagios Log Server virtual machine (VM) disk.

Target Audience

This document is intended for use by Nagios Log Server Administrators who require more space on their Log Server installation and are running Log Server from a VMware virtual machine image. These steps are also applicable to a Hyper-V or VirtualBox virtual machine.

IMPORTANT

The actions required to resize the virtual machine are potentially destructive by nature. We strongly recommended that you **make proper backups** of your Nagios Log Server installation before proceeding.

A snapshot of your virtual machine is one method to provide a way to "go back" if something goes wrong. However a snapshot can only be done once you add extra disk space to the virtual hard disk (the first step in this document). It is not possible to take a snapshot before adding the extra disk space, the VMware technology does not provide that capability.

Resizing The Virtual Disk

The first step is to modify the amount of disk space VMware is allocating to your Log Server image.

VMware ESX Server has the capability to change virtual disk size with the VM running. **DO NOT** do this, as it is confirmed to be unstable for some setups and environments. **Shutdown the VM** before making any changes to the virtual disk.

The virtual disk size setting you need can be found under:

(Your VM) > **Summary** > **Commands** > **Edit Settings** > **Hardware** > **Hard Disk 1** > **Capacity** > **New Size**.

For VMware Workstation / Player the disk size setting can be found using the following options on the overview page:

(Your VM) > **Edit virtual machine settings** > **Hardware** > **Hard Disk (SCSI)** > **Utilities** > **Expand** > **Maximum disk size**

Increase the drive to the size you require and then power on the Virtual Appliance.

Resizing The Partition

The next step is to modify the Linux partition table within the Log Server virtual machine to recognize that the disk size has changed. This can be done using the `cfdisk` utility, which is a partition editor. For the virtual machine provided by Nagios Enterprises `sda` is the first disk in the VM.

Establish a terminal session to your Nagios Log Server and then execute the following command:

```
cfdisk /dev/sda
```

You are now in the `cfdisk` program.

Use the **left** and **right** arrow keys on your keyboard to select the different choices at the bottom of the screen.

In the screenshot to the right page you can see that I have a 200GB disk and 100GB is partitioned and the new 100GB appears as free space.

```
cfdisk (util-linux-ng 2.17.2)
      Disk Drive: /dev/sda
      Size: 214748364800 bytes, 214.7 GB
      Heads: 4   Sectors per Track: 32   Cylinders: 3276800
```

Name	Flags	Part Type	FS Type	[Label]	Size (MB)
sda1	Boot	Primary	Linux ext3	[79d3d2d4]	107374.19
		Pri/Log	Free Space		107374.19

```

[ Bootable ] [ Delete ] [ Help ] [ Maximize ] [ Print ]
[ Quit ] [ Type ] [ Units ] [ Write ]

Print partition table to the screen or to a file
```

First look at the existing config:

- Select **Print** and press **Enter**
- Press **Enter** to display on the screen
- You should take a screenshot of this in case you need to refer to it at a later stage
- Press any key to return to the main menu

To resize a partition, you actually "delete" it and then add a new one with the new size, making sure to place the beginning of the new partition at the same sector/cylinder as the old one started.

This process is NOT destructive, your data still remains on the disk.

Select **Delete** and press **Enter**.

The screen will refresh and the partition will no longer appear. The Delete button is also gone.

Select **New** and press **Enter**

Select **Primary** and press **Enter**

The new size will automatically be all of the available space, press **Enter** to accept.

```

cfdisk (util-linux-ng 2.17.2)

Disk Drive: /dev/sda
Size: 214748364800 bytes, 214.7 GB
Heads: 4 Sectors per Track: 32 Cylinders: 3276800

Name      Flags      Part Type  FS Type      [Label]      Size (MB)
-----
Pri/Log   Free Space  214748.37

[ Help ] [ New ] [ Print ] [ Quit ] [ Units ]
[ Write ]

Create new partition from free space

```

The screen will refresh and you'll now see the partition is the new size, compared to your first screenshot before you started.

Select **Bootable** and press **Enter**

Select **Write** and press **Enter**

Type **yes** to confirm changes and press **Enter**

Select **Quit** and press **Enter**

You will now need to reboot the virtual machine to allow the kernel to recognize the new partition table, execute the following command:

```
reboot
```

Resizing The Filesystem

Now that the disk has been resized, the next step is to resize the filesystem so it knows about this new space. Establish an SSH session to your Nagios Log Server.

Look at the existing disk before it's resized by executing the following command:

```
df -h
```

You can see it's the old size (99G):

```
Filesystem      Size  Used Avail Use% Mounted on
rootfs          99G  1.8G  96G   2% /
devtmpfs        3.9G  140K  3.9G   1% /dev
tmpfs           4.0G   0  4.0G   0% /dev/shm
/dev/sda1       99G  1.8G  96G   2% /
```

```

cfdisk (util-linux-ng 2.17.2)

        Disk Drive: /dev/sda
        Size: 214748364800 bytes, 214.7 GB
        Heads: 4   Sectors per Track: 32   Cylinders: 3276800

-----
Name      Flags      Part Type  FS Type      [Label]      Size (MB)
-----
sda1     Primary   Linux      [Label]      214748.37

[ Bootable ] [ Delete ] [ Help ] [ Maximize ] [ Print ]
[  Quit   ] [  Type  ] [ Units ] [  Write  ]

Toggle bootable flag of the current partition

```

Nagios Log Server Resizing The VM Disk Size

Execute the following command to resize the filesystem:

```
resize2fs /dev/sda1
```

Which should output something like:

```
Filesystem at /dev/sda1 is mounted on /; on-line resizing required
old desc_blocks = 7, new_desc_blocks = 13
Performing an on-line resize of /dev/sda1 to 52428796 (4k) blocks.
The filesystem on /dev/sda1 is now 52428796 blocks long.
```

Execute the following command:

```
df -h
```

You can see it has increased in size:

Filesystem	Size	Used	Avail	Use%	Mounted on
rootfs	197G	1.8G	194G	1%	/
devtmpfs	3.9G	140K	3.9G	1%	/dev
tmpfs	4.0G	0	4.0G	0%	/dev/shm
/dev/sda1	197G	1.8G	194G	1%	/

Finishing Up

This completes the documentation on how to increase the size of the Nagios Log Server VM disk.

If you have additional questions or other support related questions, please visit us at our Nagios Support Forums:

<https://support.nagios.com/forum>

The Nagios Support Knowledgebase is also a great support resource:

<https://support.nagios.com/kb>