

Configure share and resources

Overview

Shares specify the **relative importance of a virtual machine** (or resource pool).

If a virtual machine has twice as many shares of a resource as another virtual machine, it is entitled to consume twice as much of that resource when these two virtual machines are competing for resources.

Shares are typically specified as **High, Normal, or Low**

Resource Management

Shares: relative importance of a virtual machine (VM)

Reservation: guaranteed minimum allocation for a VM

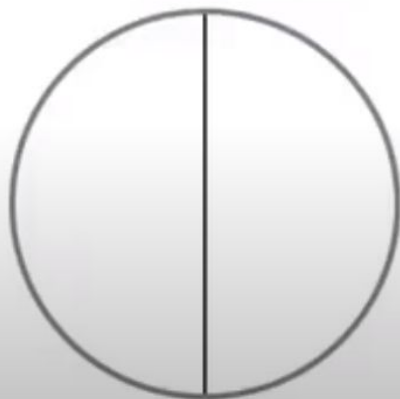
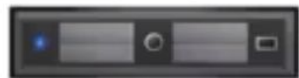
Limit: upper bound of resource that can be allocated to a VM

Resource Management: Shares

1000
Shares



1000
Shares



2000 Total Shares

1000
Shares



2000
Shares



3000 Total Shares

Review CPU settings

The screenshot displays the VMware vSphere Web Client interface. The top navigation bar shows the user is logged in as Administrator@CORP.LOCAL. The main content area is divided into two sections: a left sidebar for settings and a right pane for the selected VM's configuration.

Left Sidebar (Settings):

- Settings
- VM Hardware** (highlighted with a red box and callout 3)
- VM Options
- VM SDRS Rules
- vApp Options
- Guest User Mappings
- More
- Policies

Right Pane (VM Hardware):

The right pane shows the configuration for the selected VM, 'w12-core'. The 'Configure' tab is selected (callout 2). The 'Edit...' button is visible (callout 6).

CPU Section (Callout 4):

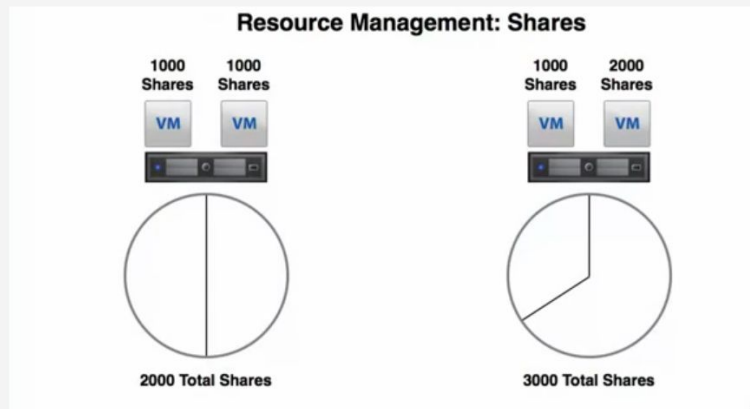
| Property | Value |
|-------------------------|-------------------------|
| Utilization | 1 CPU(s), 2416 MHz used |
| Shares | 1000 (Custom) |
| Reservation | 0 MHz |
| Limit | Unlimited |
| Hardware virtualization | Disabled |
| Performance counters | Disabled |

Memory Section (Callout 5):

| Property | Value |
|-------------|--------------------------------|
| Utilization | 2048 MB, 1495 MB memory active |
| Shares | 10240 (Custom) |
| Reservation | 0 MB |
| Limit | Unlimited |

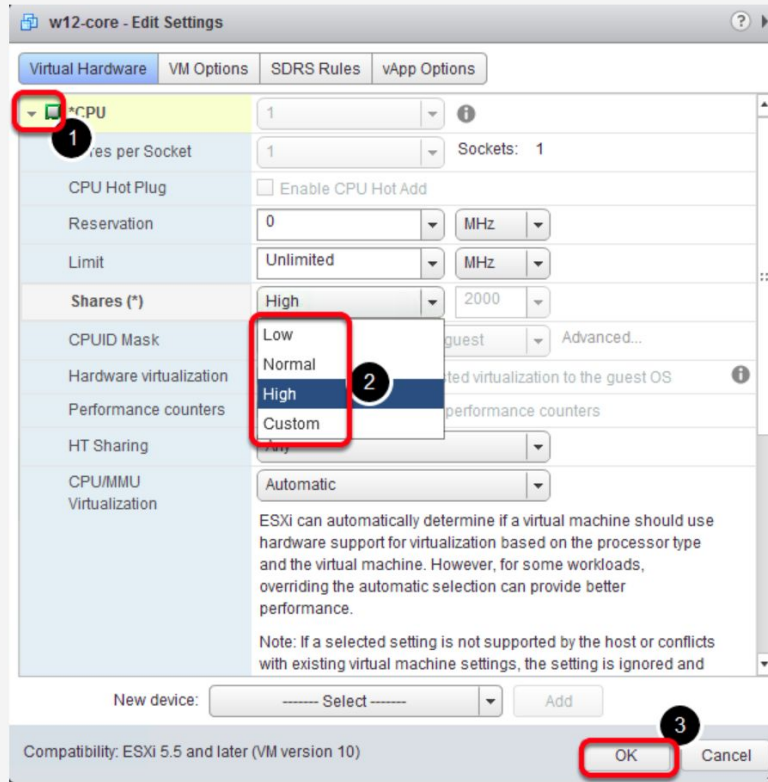
1. Click the '**w12-core**' virtual machine.
2. Click the '**Configure**' tab
3. Click the '**VM Hardware**' setting
4. Expand the CPU section. You can see the current settings for Shares, Reservation and Limit.
5. Expand the Memory section. This section contains the Shares, Reservations and Limit for the memory section.
6. Click '**Edit**' to modify the shares of the VM

Understanding Shares



The above example shows 2 VM's, one a development VM and the other a Production VM. On the left hand side of the diagram, you can see the CPU shares are equal. We want to make sure the Production VM gets the majority of the CPU resources when there is contention for those resources in the environment. Changing the shares for the production VM from 1000 shares to 2000 shares accomplishes this goal. The new settings are shown on the right side of the diagram.

Changing Resource Allocation of CPU shares.



1. Expand the CPU section of the settings.
2. From the Shares drop down box, Click "**High**" to change the setting of the CPU shares.
3. Click "**OK**"

Review Settings

The screenshot displays the vSphere Web Client interface for the VM 'w12-core'. The left sidebar shows the navigation tree with 'w12-core' selected. The main pane shows the 'Configure' tab for 'VM Hardware'. The 'Shares' setting is highlighted with a red box, indicating '2000 (High)'.

| Setting | Value |
|-------------------------|-------------------------------|
| CPU Utilization | 1 CPU(s), 61 MHz used |
| Shares | 2000 (High) |
| Reservation | 0 MHz |
| Limit | Unlimited |
| Hardware virtualization | Disabled |
| Performance counters | Disabled |
| Memory Utilization | 2048 MB, 225 MB memory active |
| Shares | 10240 (Custom) |
| Reservation | 0 MB |
| Limit | Unlimited |
| VM overhead consumed | 28 MB |

The new Shares settings are shown in the Settings tab.

Settings for Limits and Reservations.

The screenshot shows the 'w12-core - Edit Settings' window in vSphere. The 'Virtual Hardware' tab is selected. Under the 'CPU' section, the following settings are visible:

- CPU: 1
- Cores per Socket: 1
- Sockets: 1
- CPU Hot Plug: ☐ Enable CPU Hot Add
- Reservation: 0 MHz
- Limit: Unlimited MHz
- Shares: High
- CPUID Mask: Expose the NX/XD flag to guest
- Hardware virtualization: ☐ Expose hardware assisted virtualization to the guest
- Performance Counters: ☐ Enable virtualized CPU performance counters
- CPU/MMU Virtualization: Automatic

Below the CPU section, other hardware settings are listed:

- Memory: 2048 MB
- Hard disk 1: 24 GB
- SCSI controller 0: LSI Logic SAS
- Network adapter 1: VM Network (vds-site-a) ☒ Connected
- Network adapter 2: VM Network (vds-site-a) ☒ Connected
- CD/DVD drive 1: Datastore ISO File ☐ Connected
- Floppy drive 1: Host Device ☐ Connected

At the bottom, there is a 'New device:' section with a 'Select' dropdown and an 'Add' button. The compatibility is set to 'ESXi 5.5 and later (VM version 10)'.

Limits and Reservations are set with the same procedure. When you click on the "edit" settings for a VM, you will find the ability to set the Limit and Reservations. Limit restricts a VM from using more than the limit setting. Reservations guarantee a minimum amount of a resource be available for the virtual machine. Try out some settings for Limits and Reservations. One note is that if you try to reserve more of a resource such as memory or CPU than is available, the VM may not power on.

Lets Review via Demonstration