

Resizing a QEMU raw image with an NTFS filesystem

This is a quick guide to increasing the disk space available to your Windows virtual machine with an NTFS file system. The example is based on increasing a partition from 5GB to 6GB.



Backup your original file first in case something goes wrong.

Use `qemu-img` to resize the QEMU raw disk image

This command increases the size of the disk image in the file `Windows_XP_Professional_SP_3.img` by 1GB.

```
qemu-img resize Windows_XP_Professional_SP_3.img+1G
```

After this command, if you boot your virtual machine, you will see that there is an additional 1GB of free disk space available.

Find the offset into the image

Loop mount the image.

```
losetup /dev/loop0 Windows_XP_Professional_SP_3.img
```

Inspect the partition table (here `parted` is used but `fdisk` or `cdisk` can also be used).

```
parted /dev/loop0
```

Within `parted`, set the units to sectors, then print the current partition table.

```
(parted) unit s  
(parted) print
```

The output will look something like this:

```
Model: Loopback device (loopback)  
Disk /dev/loop0: 12582912s  
Sector size (logical/physical): 512B/512B  
Partition Table: msdos  
Disk Flags:
```

Number	Start	End	Size	Type	File system	Flags
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```
1      63s      11718798s  11718736s  primary ntfs      boot
```

Note the Sector size and Start sector numbers in the output.

Now quit parted.

```
(parted) quit
```

Delete the loop device.

```
losetup -d /dev/loop0
```

Use ntfsresize to resize the NTFS partition

Loop mount the NTFS partition to be resized, using an offset calculated from the sector size and start sector.

```
losetup -o$((512*63)) /dev/loop0 Windows_XP_Professional_SP_3.img
```

First do a dry run.

```
ntfsresize -n -s 6G /dev/loop0
```

If all is OK, do it for real.

```
ntfsresize -s 6G /dev/loop0
```

Delete the loop device.

```
losetup -d /dev/loop0
```

Update the partition table

Loop mount the image.

```
losetup /dev/loop0 Windows_XP_Professional_SP_3.img
```

Update the partition table using parted (both fdisk and cfdisk appear to fail here).

```
parted /dev/loop0
```

This seems like a backward step, but now use parted to remove the existing partition.

```
(parted) rm 1
```

Use the parted rescue command to find the partition again, with the END option set to the size of the partition in MB.

```
(parted) rescue 1 6000
Information: A ntfs primary partition was found at 32.3kB -> 6000MB. Do you
want to add it to the partition table?
Yes/No/Cancel? Yes
```

Set the boot flag on the rescued partition.

```
(parted) set 1 boot on
```

The partition table is written when you quit parted.

```
(parted) quit
```

Delete the loop device.

```
losetup -d /dev/loop0
```

Finish up

Boot the virtual machine and allow the Windows chkdsk program to run.

Sources

* Original source: <http://cauldrondevelopment.com/blog/2009/02/26/resize-qemu-ntfs-image/howtos>, [Resize](#), [QEMU](#), [raw](#), [image](#), [NTFS](#), [filesystem](#), [author allend](#)

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