

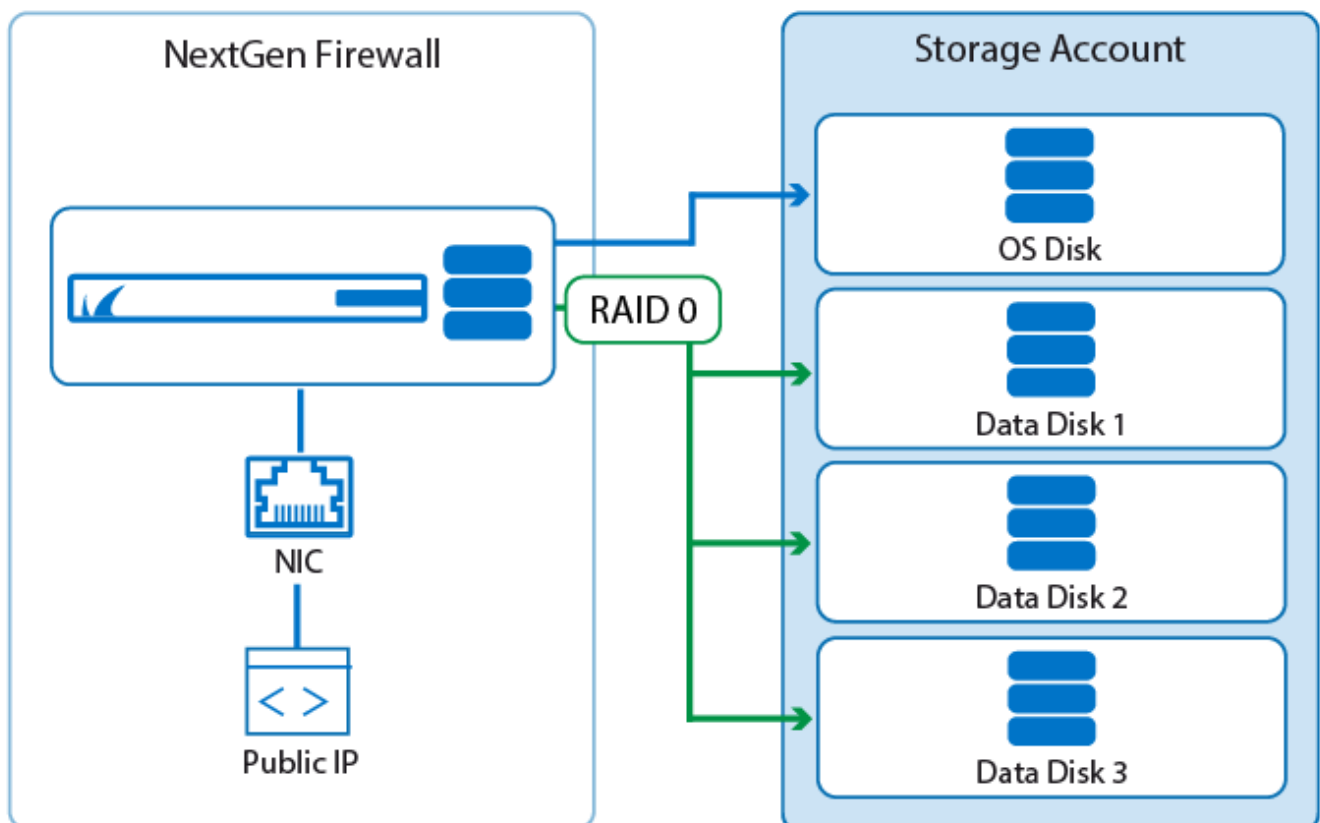
How to Add and Remove Data Disks in Azure using ASM

<https://campus.barracuda.com/doc/53674952/>

Add multiple data disks to your firewall or Control Center VM to better optimize accessing your disks in the Azure storage account. This can be done during deployment when using PowerShell or templates. To add data disks to existing firewall or Control Center VMs, or VMs created via the Azure portal, you must manually attach the data disks and trigger the migration to the RAID device. During migration, all data disks are added to a RAID0 and mounted as the /phion0. Existing data on the /phion0 partition is copied to the new device.

Limits

- The size of the RAID device may not exceed 2TB.
- Up to 26 data disks can be used.



Before You Begin

- Azure PowerShell 2.0.1 or higher is required.

Adding Data Disks to the Firewall VM

Add the data disks to the VM configuration and then move the data on the /phion0 partition to the new RAID device.

Step 1. Add Data Disks to the Firewall VM

1. Launch Azure PowerShell
2. Add at least two data disks to the VM. LUN 0 is already used by the OS disk. Both the LUN and VHD_BLOB_URI must be unique. The combined sizes of all data disks must be greater than 70 GB.

```
Get-AzureVM -ServiceName CLOUD_SERVICE_NAME -Name FIREWALL_VM_NAME |
Add-AzureDataDisk -CreateNew -LUN LUN_NUMBER -DiskSizeInGB DISK_SIZE
DiskLabel DISK_LABEL -MediaLocation VHD_BLOB_URI | Update-AzureVM
```
3. **Start** the firewall VM.

Log in via SSH and enter `lsblk` to verify that three data disks are now attached to the VM:

```
[2016-09-05 10:29 UTC] [-root shell-] [-Barracuda Networks-]
[root@NGF2:~]# lsblk
NAME        MAJ:MIN RM   SIZE RO TYPE MOUNTPOINT
sdb         8:16   0  135G  0 disk
└─sdb1      8:17   0  135G  0 part /mnt/resource
sda         8:0    0    80G  0 disk
├─sda1      8:1    0 196.1M  0 part /boot
├─sda2      8:2    0   69.8G  0 part /phion0
├─sda3      8:3    0     8G  0 part /
├─sda4      8:4    0     1K  0 part
└─sda5      8:5    0     2G  0 part /art
sdc         8:32   0    20G  0 disk
sdd         8:48   0    20G  0 disk
sde         8:64   0    20G  0 disk
[2016-09-05 10:29 UTC] [-root shell-] [-Barracuda Networks-]
[root@NGF2:~]#
```

Step 2. Migrate /phion0/ to the Data Disks

Use the **cloud-storctl** command line script to migrate /phion0 to the new RAID device.

1. Log into the firewall via SSH.
2. Enter `cloud-storctl migrate /phion0 auto`

```
[2016-09-05 10:29 UTC] [-root shell-] [-Barracuda Networks-]
[root@NGF2:~]# cloud-storctl migrate /phion0 auto
[2016-09-05 10:29 UTC] [-root shell-] [-Barracuda Networks-]
[root@NGF2:~]#
```

Verify that /phion0/ is now mounted on the RAID device:

```
[root@NGF2:~]# lsblk
NAME        MAJ:MIN RM   SIZE RO TYPE  MOUNTPOINT
sdb          8:16   0  135G  0 disk
└─sdb1       8:17   0  135G  0 part  /mnt/resource
sda          8:0    0   80G  0 disk
├─sda1       8:1    0 196.1M 0 part  /boot
├─sda2       8:2    0   69.8G 0 part
├─sda3       8:3    0    8G   0 part  /
├─sda4       8:4    0    1K   0 part
└─sda5       8:5    0    2G   0 part  /art
sdc          8:32   0   20G  0 disk
└─md0        9:0    0   60G  0 raid0 /phion0
sdd          8:48   0   20G  0 disk
└─md0        9:0    0   60G  0 raid0 /phion0
sde          8:64   0   20G  0 disk
└─md0        9:0    0   60G  0 raid0 /phion0
[2016-09-05 10:57 UTC] [-root shell-] [-Barracuda Networks-]
[root@NGF2:~]#
```

Removing Data Disks from the Firewall VM

If the destination of the migration is not an empty disk, the migration must be forced (-f switch used).

Step 1. Move /phion0/ to the OS Disk

1. Log into the firewall via SSH.
2. Enter `cloud-storctl -f migrate /phion0 sda2`

Step 2. Remove the Data Disks from the Firewall VM

1. Shut down the firewall VM.
2. Launch Azure PowerShell.
3. Enter the following command for each data disk:


```
Get-AzureVM -ServiceName CLOUD_SERVICE_NAME -Name FIREWALL_VM_NAME |
  Remove-AzureDataDisk -LUN LUN_NUMBER -DeleteVHD | Update-AzureVM
```
4. Start the firewall VM.

The firewall VM is now using the sda2 partition of the OS disk for /phion0.

Figures

1. Azure_data_disks.png
2. azure_add_datadisks_03.png
3. azure_add_datadisks_04.png
4. azure_add_datadisks_05.png

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