How to Add and Remove Data Disks in Azure using ARM

https://campus.barracuda.com/doc/96026715/

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 firewalls 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.
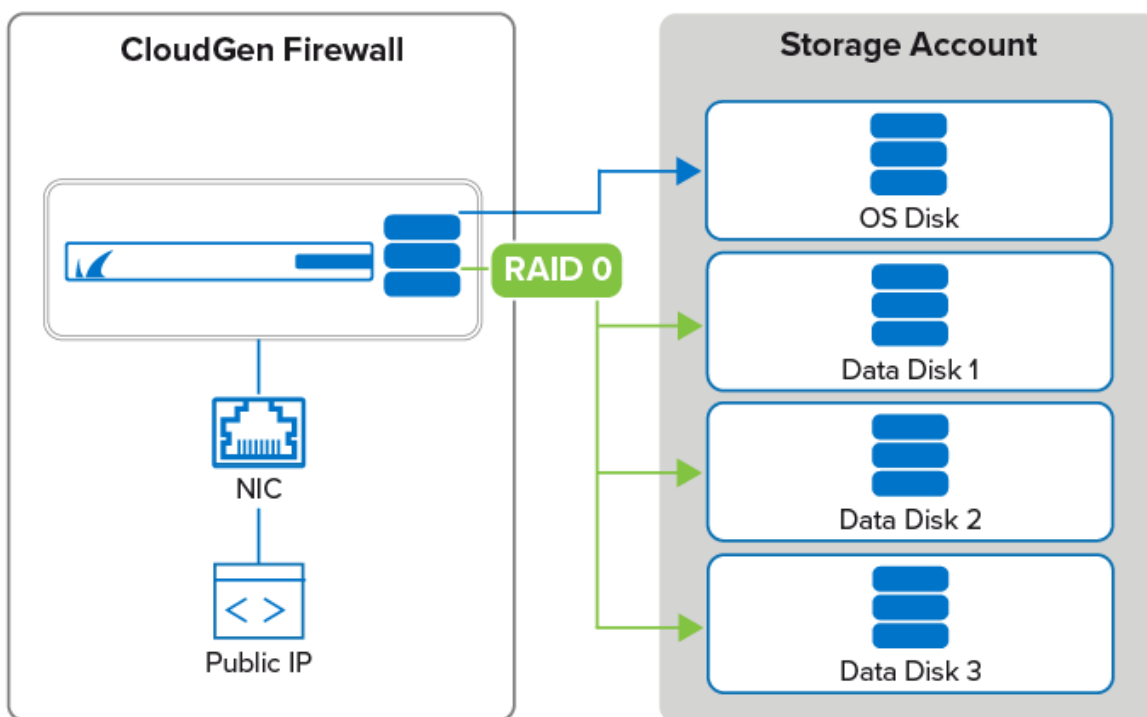
Adding Data Disks to the Firewall VM

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. Shut down the firewall VM.
2. Go to the Azure Portal: https://portal.azure.com
3. Go to the firewall VM
4. In the **SETTINGS** section, click **Disks**.
5. Click **Attach new**.
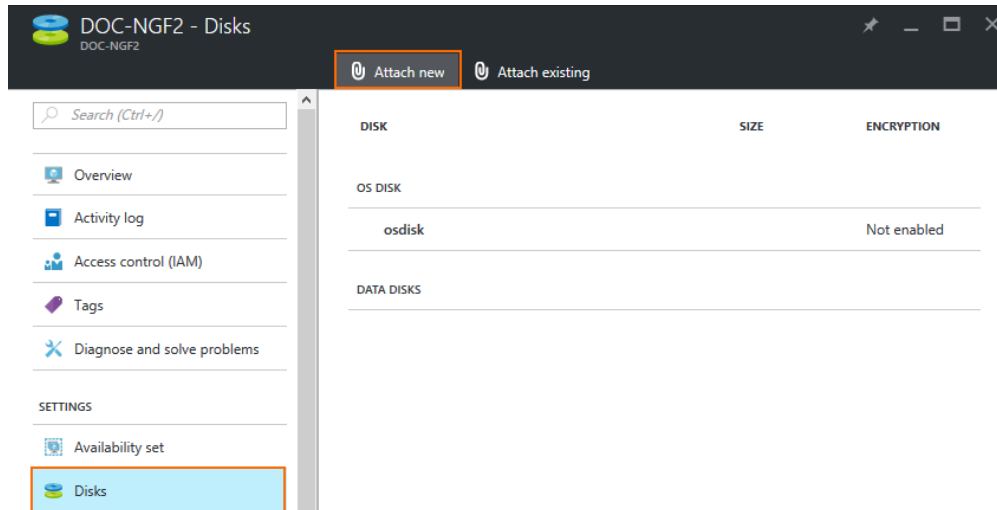
6. Configure the new data disk:
   - **Name** – Enter a unique name.
   - **Type** – Select **HDD** or **SSD**.
   - **Size** – Enter the size in GB. All data disk sizes combined must be 70 GB or larger.
   - **(optional) Location** – Select the storage account.
   - **Host caching** – Select **None**.
7. Click **OK**. Wait for the disk to be attached before adding additional data disks.

8. Attach the second and third data disks.
9. **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 `nohup cloud-storctl migrate /phion0 auto &`

Depending on the disk sizes, this may take some time. The process will continue to run in the background even if the SSH session times out.

Verify that `/phion0/` is now mounted on the RAID device. Now use the command `/bin/findmnt -t ext4`:

```
[root@NGF2:~]# /bin/findmnt -t ext4
TARGET     SOURCE     FSTYPE OPTIONS
/          /dev/sda2 ext4    rw,noatime,nodiratime
├─/boot    /dev/sda1 ext4    rw,noatime,nodiratime
├─/phion0  /dev/sda6 ext4    rw,noatime,nodiratime
└─/art     /dev/sda5 ext4    rw,noatime,nodiratime
[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).
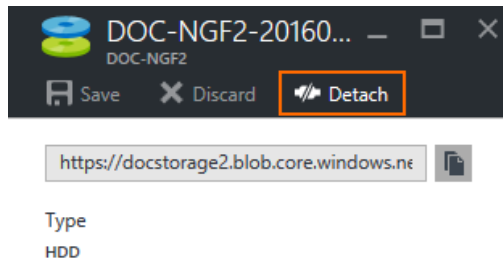
**Step 1. Move /phion0/ to the OS Disk**

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

**Step 2. Remove the Data Disks from the Firewall VM**

1. Shut down the firewall VM.
2. Go to the Azure Portal: https://portal.azure.com
3. Go to the firewall VM
4. In the **SETTINGS** section, click **Disks**.
5. Click on the data disk.
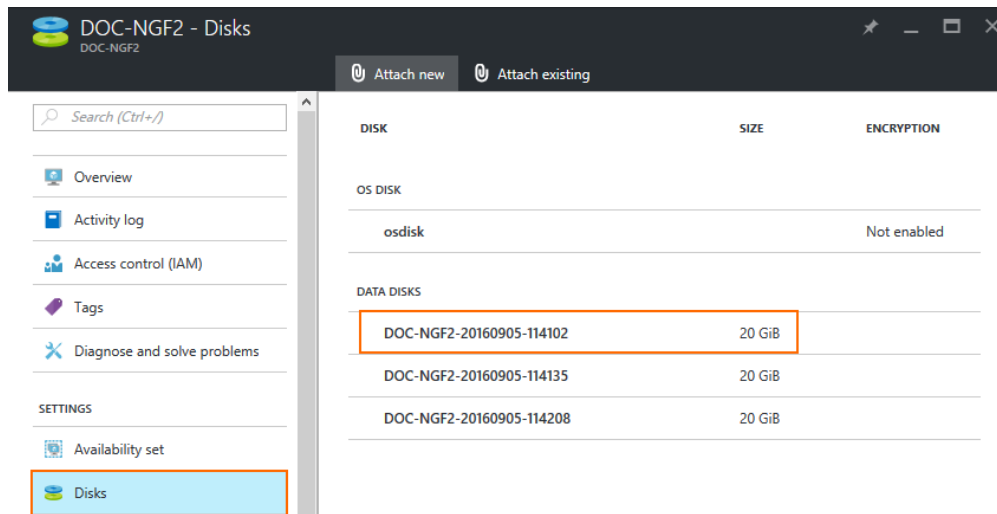
6. Click **Detach**.



7. Repeat for all data disks.
8. Start the firewall VM.

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

**Figures**

1. az_data_disks.png
2. azure_add_datadisks_01.png
3. azure_add_datadisks_02.png
4. azure_add_datadisks_03.png
5. azure_add_datadisks_05_02.png
6. azure_del_datadisks_01.png
7. azure_del_datadisks_02.png