

OpenSUSE 15.6

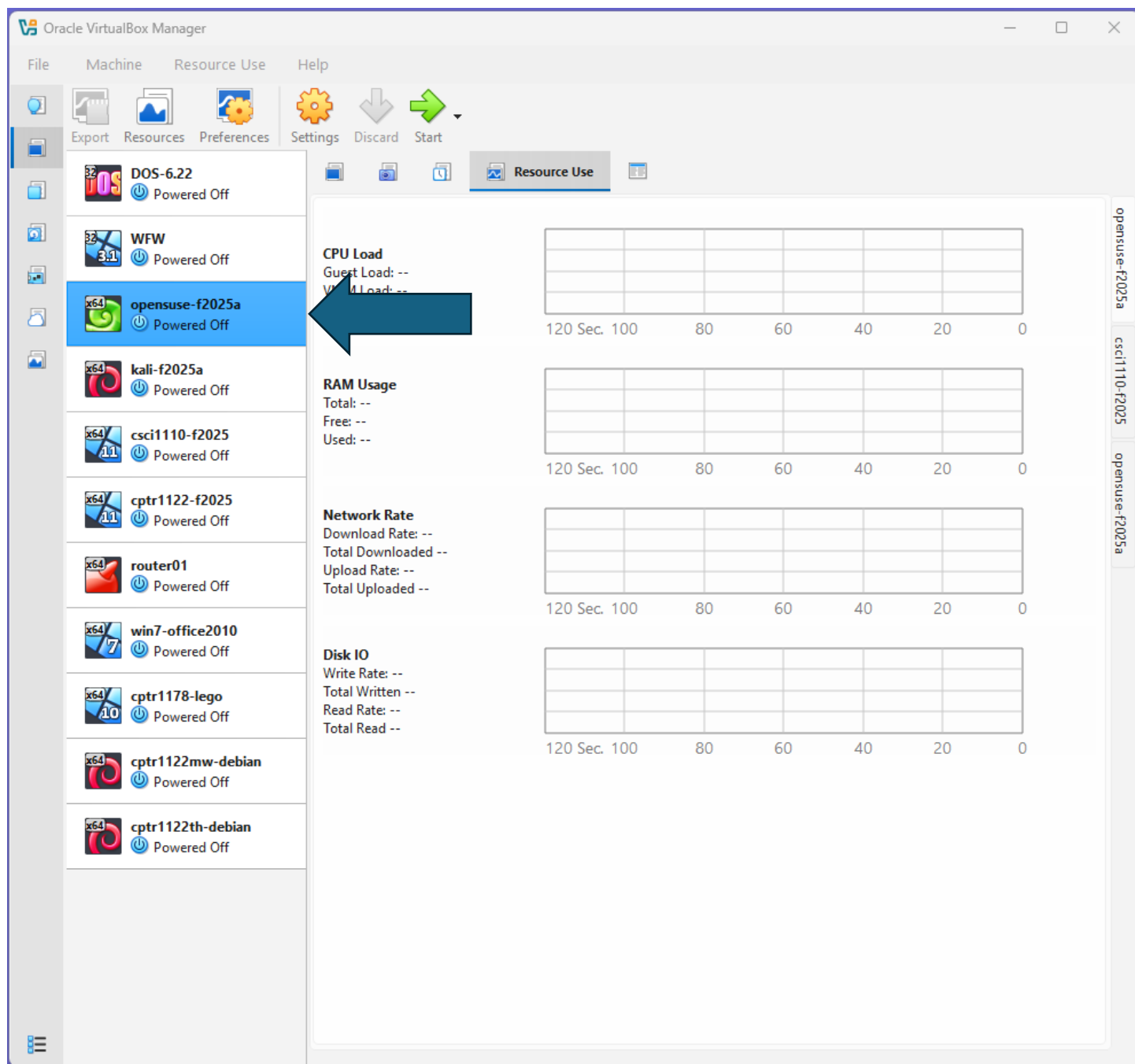
Increasing Disk Space on the btrfs file system

This presentation shows a simple way to increase the partition size of a btrfs volume. The OpenSUSE 15.6 image is using the btrfs file system. This is done using Virtual Box 7.2.4

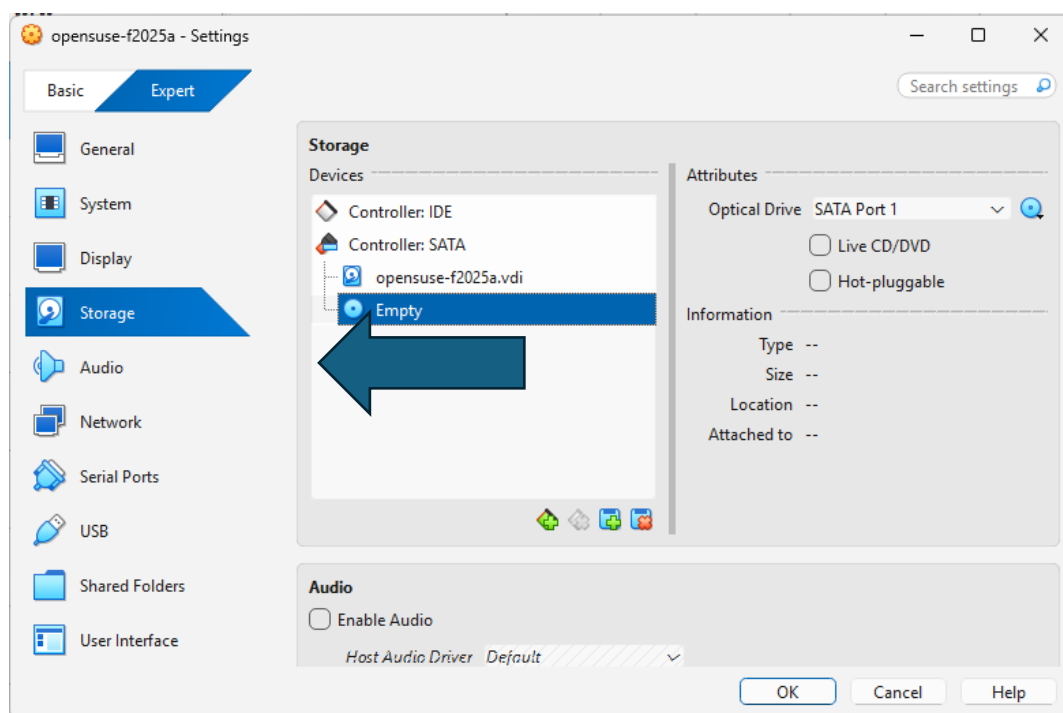
The presentation adds additional space to the root partition. This is not a detailed explanation of the btrfs commands.

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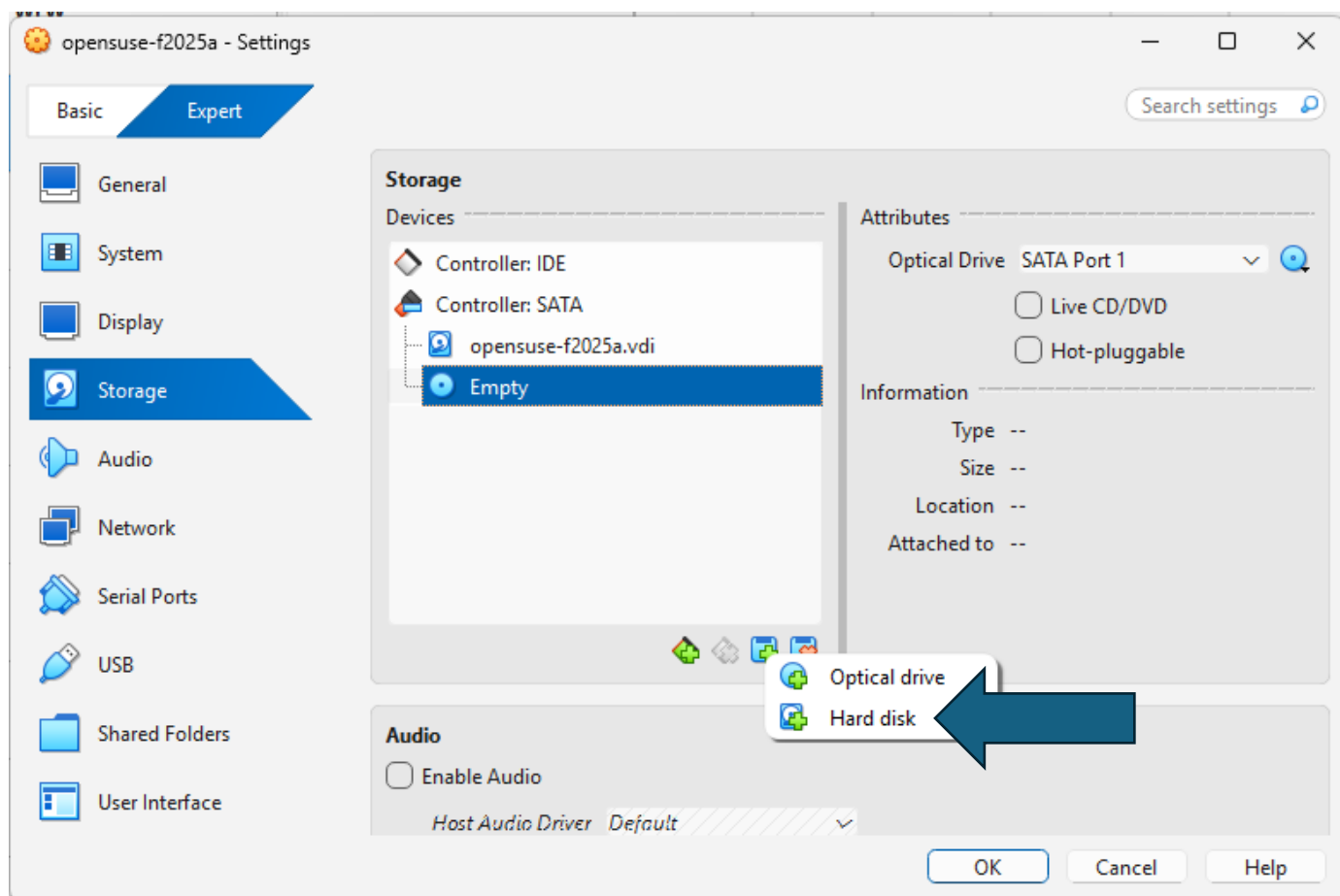
The presentation begins with the virtual machine powered off.



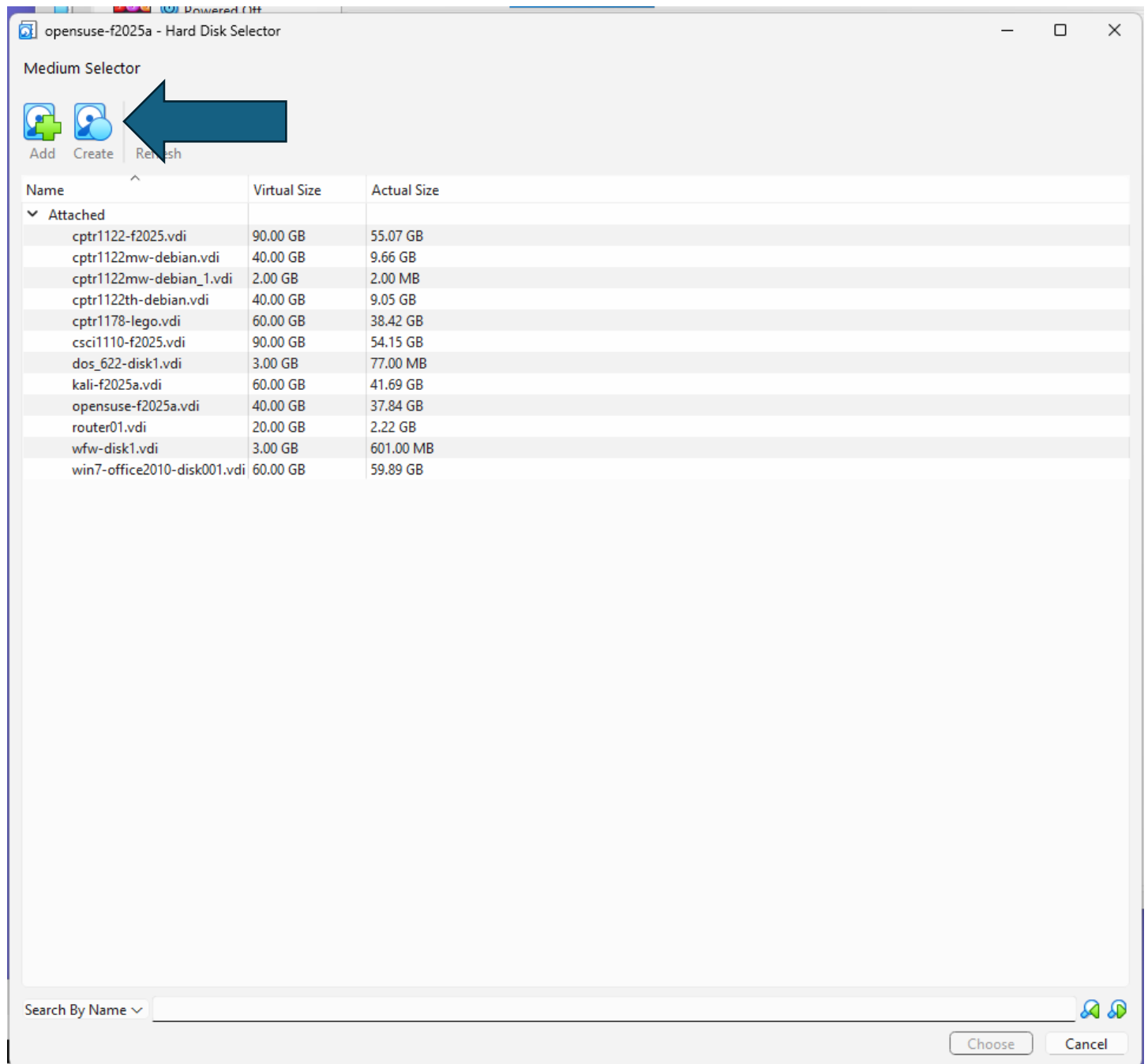
The presentation opens the virtual machine settings and navigates to the storage settings.



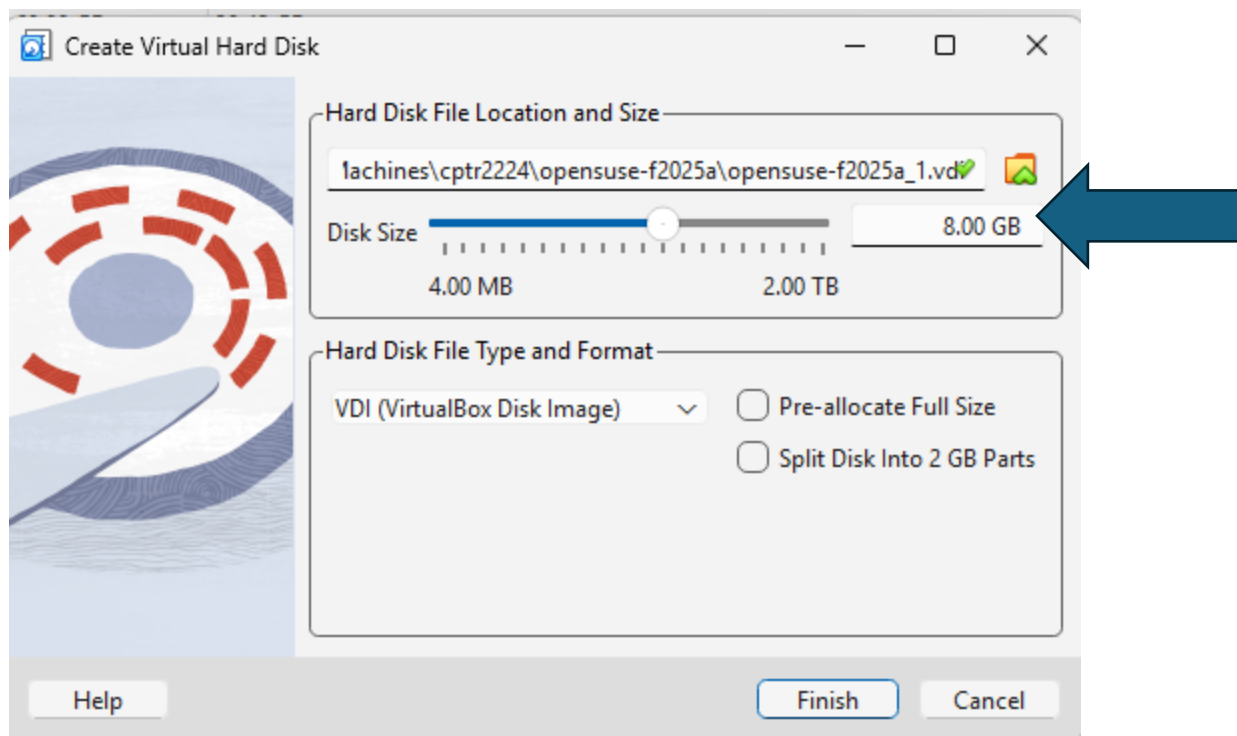
The presentation selects add a Hard disk.



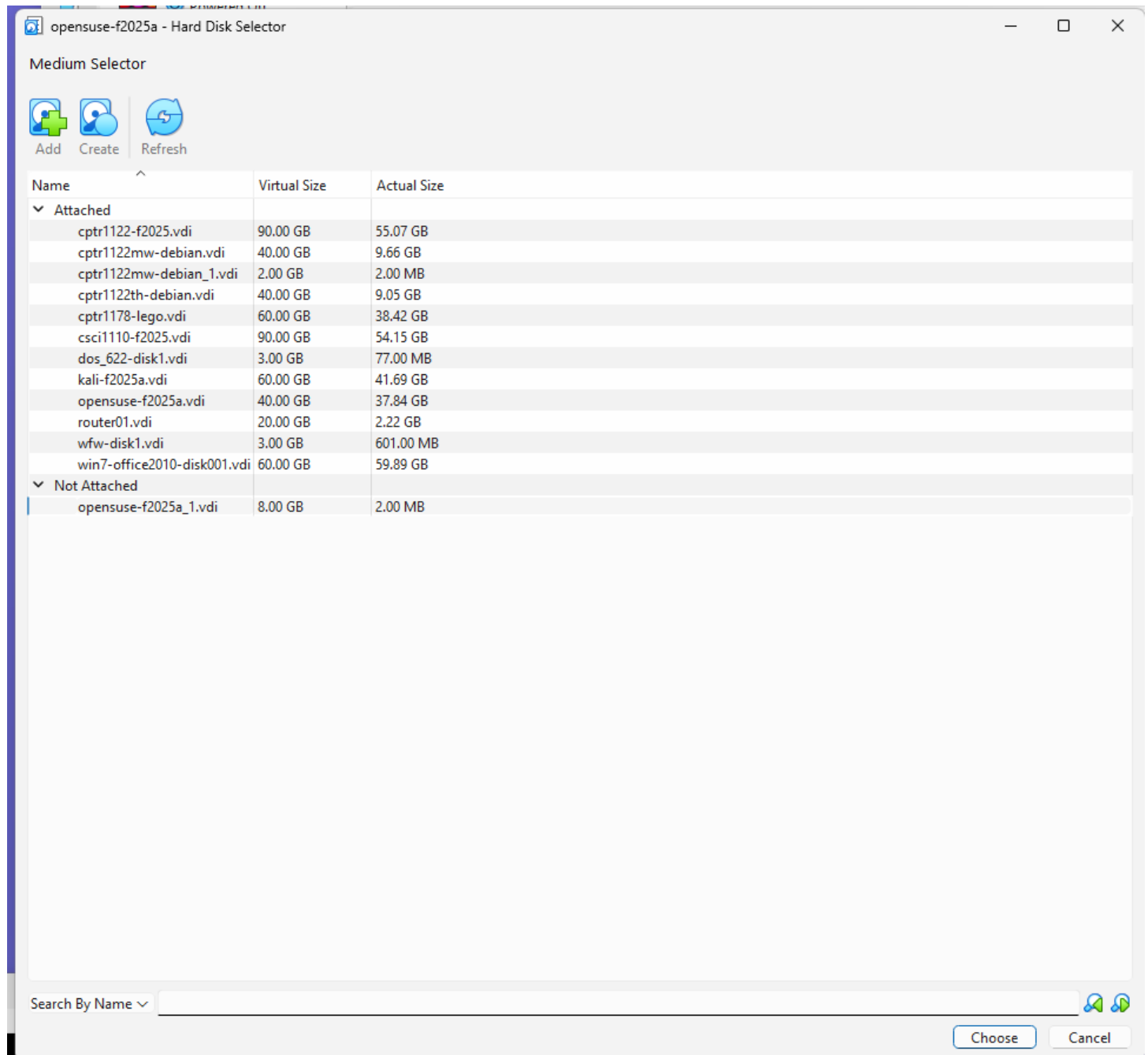
The presentation selects create a disk.



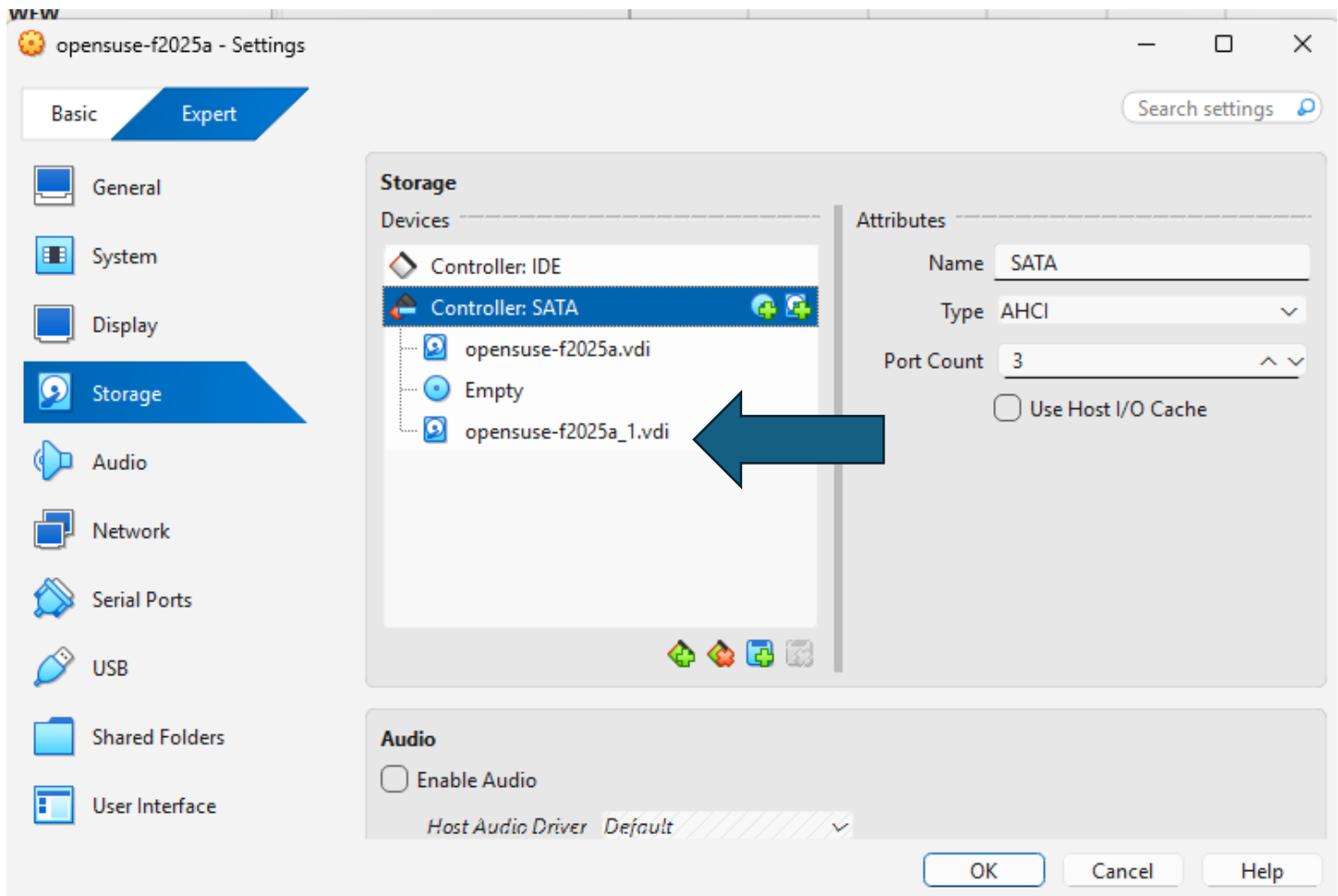
The presentation selects the size of the disk. You may select any size you wish if your physical drive has space. This space will be added to your virtual machine disk. No other options are selected.



This is the result of selected finished on the previous screen. The presentation double clicks on the newly created and “not attached” drive.



The presentation sees the newly created drive is connected to the virtual machine in need of additional disk space.



The presentation starts the virtual machine and logs in.

The “df -Th” command on the console shows the current disk use without the new drive. The command to type are in red.

```
> df -Th
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda2       btrfs     38G   29G   7.8G  79% /
devtmpfs        devtmpfs  4.0M    0  4.0M   0% /dev
tmpfs           tmpfs     3.9G    0  3.9G   0% /dev/shm
tmpfs           tmpfs     1.6G   9.5M   1.6G   1% /run
tmpfs           tmpfs     1.0M    0  1.0M   0% /run/credentials/systemd-tmpfiles-setup-dev-early.service
tmpfs           tmpfs     1.0M    0  1.0M   0% /run/credentials/systemd-sysctl.service
tmpfs           tmpfs     1.0M    0  1.0M   0% /run/credentials/systemd-tmpfiles-setup-dev.service
tmpfs           tmpfs     1.0M    0  1.0M   0% /run/credentials/systemd-vconsole-setup.service
/dev/sda2       btrfs     38G   29G   7.8G  79% /.snapshots
/dev/sda2       btrfs     38G   29G   7.8G  79% /boot/grub2/i386-pc
/dev/sda2       btrfs     38G   29G   7.8G  79% /boot/grub2/x86_64-efi
/dev/sda2       btrfs     38G   29G   7.8G  79% /srv
/dev/sda2       btrfs     38G   29G   7.8G  79% /usr/local
/dev/sda2       btrfs     38G   29G   7.8G  79% /var
/dev/sda2       btrfs     38G   29G   7.8G  79% /opt
/dev/sda2       btrfs     38G   29G   7.8G  79% /root
/dev/sda2       btrfs     38G   29G   7.8G  79% /tmp
/dev/sda2       btrfs     38G   29G   7.8G  79% /home
tmpfs           tmpfs     1.0M    0  1.0M   0% /run/credentials/systemd-tmpfiles-setup.service
tmpfs           tmpfs     1.0M    0  1.0M   0% /run/credentials/getty@tty1.service
tmpfs           tmpfs     795M   184K 795M   1% /run/user/1000
```

The presentation logs into the virtual machine as “root” using the “su” command.

```
> su
Password:
```

Since the previous “df -Th” only shows drive sda, the next drive will be sdb. The presentation double checks sdb is available.

```
>ls /dev/sdb*
/dev/sdb
```

The presentation views the current btrfs root configuration.

```
> btrfs filesystem show /
Label: none  uuid: 23b17928-824b-4b7f-9dad-964a321a1610
    Total devices 1 FS bytes used 28.07GiB
    devid   1 size 37.99GiB used 37.99GiB path /dev/sda2
```

The presentation issues the command to add sdb to the current root mount.

```
> btrfs device add /dev/sdb /
```

The presentation checks the addition is successful.

```
>btrfs device add /dev/sdb / filesystem show
Label: none  uuid: 23b17928-824b-4b7f-9dad-964a321a1610
    Total devices 2 FS bytes used 28.07GiB
    devid   1 size 37.99GiB used 37.99GiB path /dev/sda2
    devid   2 size 8.00GiB used 0.00B path /dev/sdb
```

The presentation extends the root directory on the newly attached drive.

```
> btrfs filesystem resize max /
Resize device id 1 (/dev/sda2) from 37.99GiB to max
```

The presentation checks to see the additional space is added. Not all data is shown.

```
> df -Th
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	btrfs	46G	29G	16G	65%	/
/dev/sda2	btrfs	46G	29G	16G	65%	/.snapshots
/dev/sda2	btrfs	46G	29G	16G	65%	/boot/grub2/i386-pc
/dev/sda2	btrfs	46G	29G	16G	65%	/boot/grub2/x86_64-efi
/dev/sda2	btrfs	46G	29G	16G	65%	/srv
/dev/sda2	btrfs	46G	29G	16G	65%	/usr/local
/dev/sda2	btrfs	46G	29G	16G	65%	/var
/dev/sda2	btrfs	46G	29G	16G	65%	/opt
/dev/sda2	btrfs	46G	29G	16G	65%	/root
/dev/sda2	btrfs	46G	29G	16G	65%	/tmp
/dev/sda2	btrfs	46G	29G	16G	65%	/home

The presentation exits the root login.

```
> exit
```