SystemRescueCD

This method can be used to migrate virtual machines between multiple machines.

You can use it to migrate from VMware ESXi to Proxmox, or from one physical machine to another; there is no limit. However, this method copies block by block, so you must ensure that your destination disk is larger or of equal capacity.

Note that cloning can only be performed with the same or larger hard drive size.

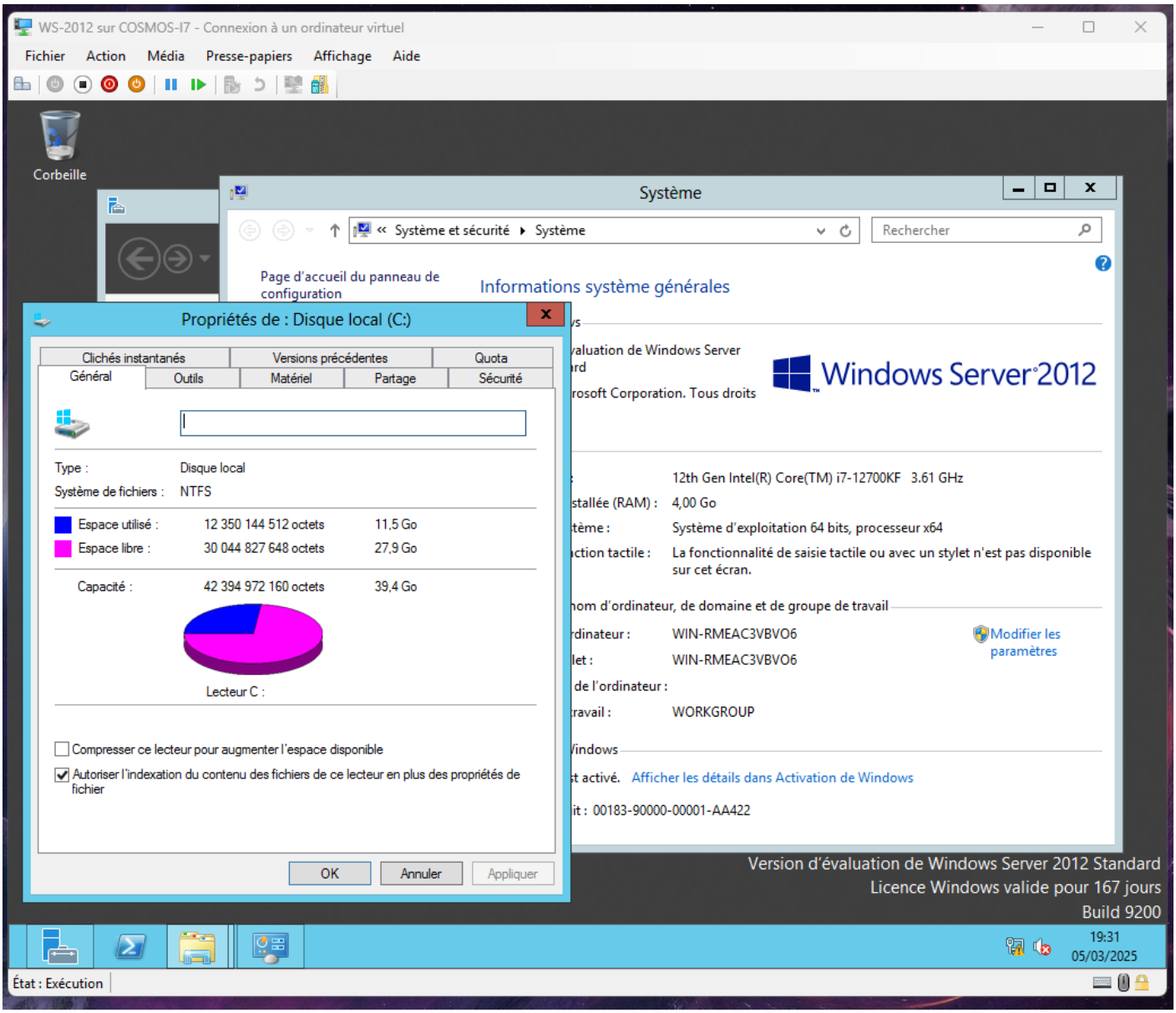
It is essential that both machines can connect.

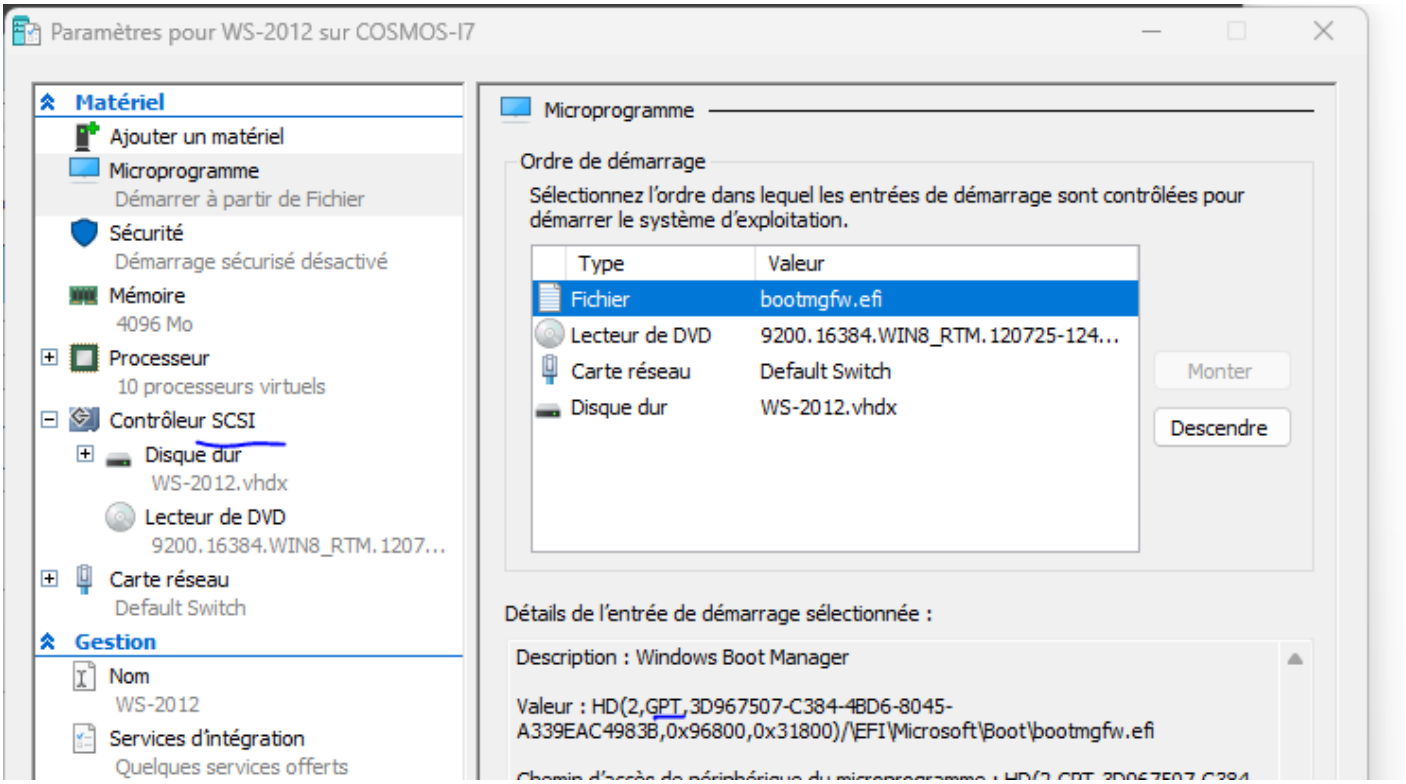
If the source machine uses UEFI mode, the target machine must also be configured in UEFI mode.

Similarly, if the source machine is running in Legacy mode, the target machine must also be in Legacy mode.

This method works for both Windows and Linux, as long as Linux can properly see the disk.

Copy machine overview :


WS-2012 sur COSMOS-I7 - Connexion à un ordinateur virtuel
Fichier Action Média Presse-papiers Affichage Aide
Corbeille
Système
« Système et sécurité ▸ Système
Rechercher
Page d'accueil du panneau de configuration
Informations système générales
Windows Server 2012
12th Gen Intel(R) Core(TM) i7-12700KF 3.61 GHz
4,00 Go
Système d'exploitation 64 bits, processeur x64
La fonctionnalité de saisie tactile ou avec un stylet n'est pas disponible sur cet écran.
WIN-RMEAC3VBVO6
WIN-RMEAC3VBVO6
WORKGROUP
Modifier les paramètres
Afficher les détails dans Activation de Windows
00183-90000-00001-AA422
Propriétés de : Disque local (C:)
Clichés instantanés
Versions précédentes
Quota
Général
Outils
Matériel
Partage
Sécurité
Type : Disque local
Système de fichiers : NTFS
Espace utilisé : 12 350 144 512 octets 11,5 Go
Espace libre : 30 044 827 648 octets 27,9 Go
Capacité : 42 394 972 160 octets 39,4 Go
Lecteur C :
Compresser ce lecteur pour augmenter l'espace disponible
Autoriser l'indexation du contenu des fichiers de ce lecteur en plus des propriétés de fichier
OK
Annuler
Appliquer
Version d'évaluation de Windows Server 2012 Standard
Licence Windows valide pour 167 jours
Build 9200
19:31
05/03/2025
État : Exécution

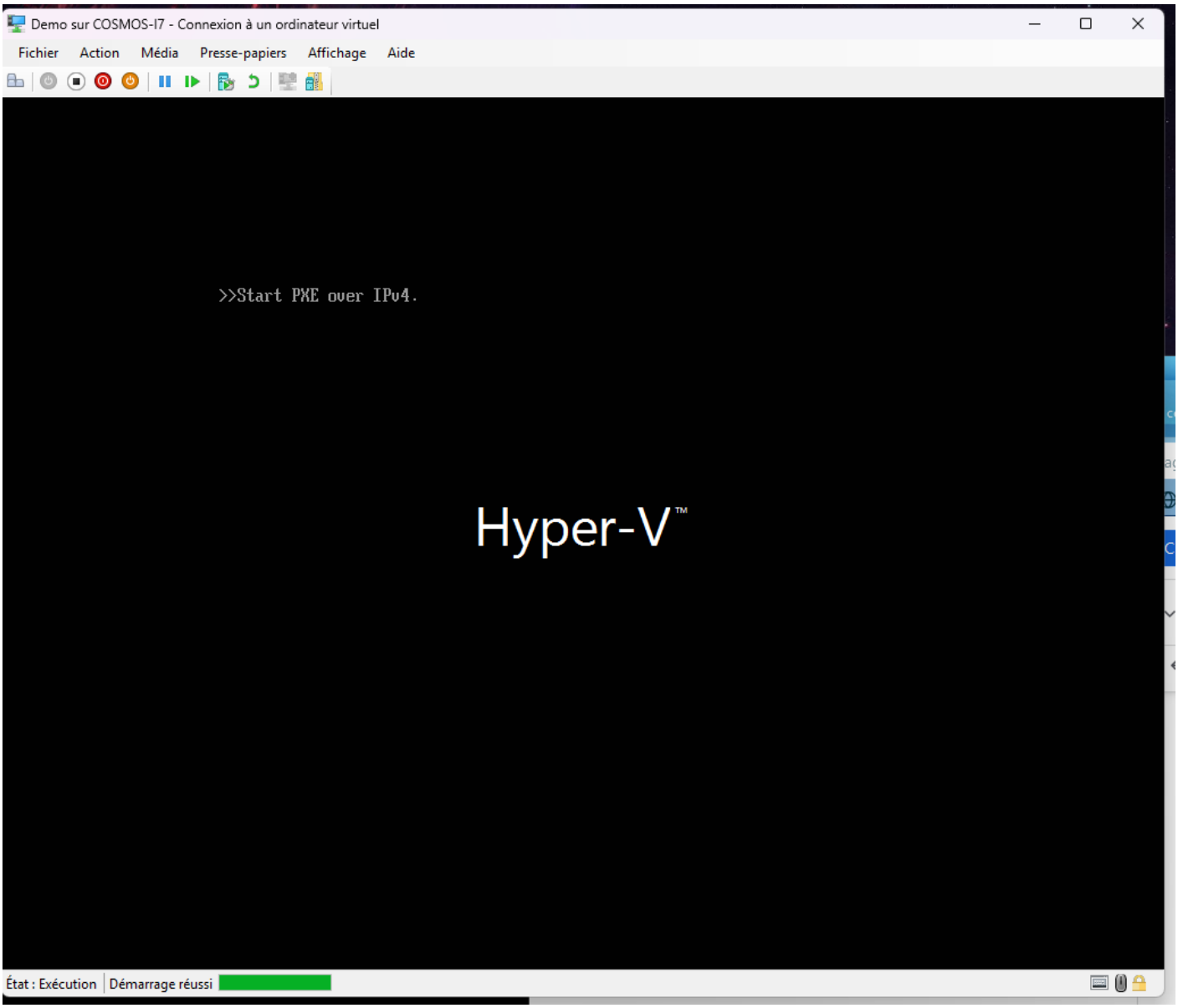


Note here :

Hard drive: 40 GB SCSI

System installed in UEFI (Hyper-V Generation 2)

As you can see, my demo machine is empty :

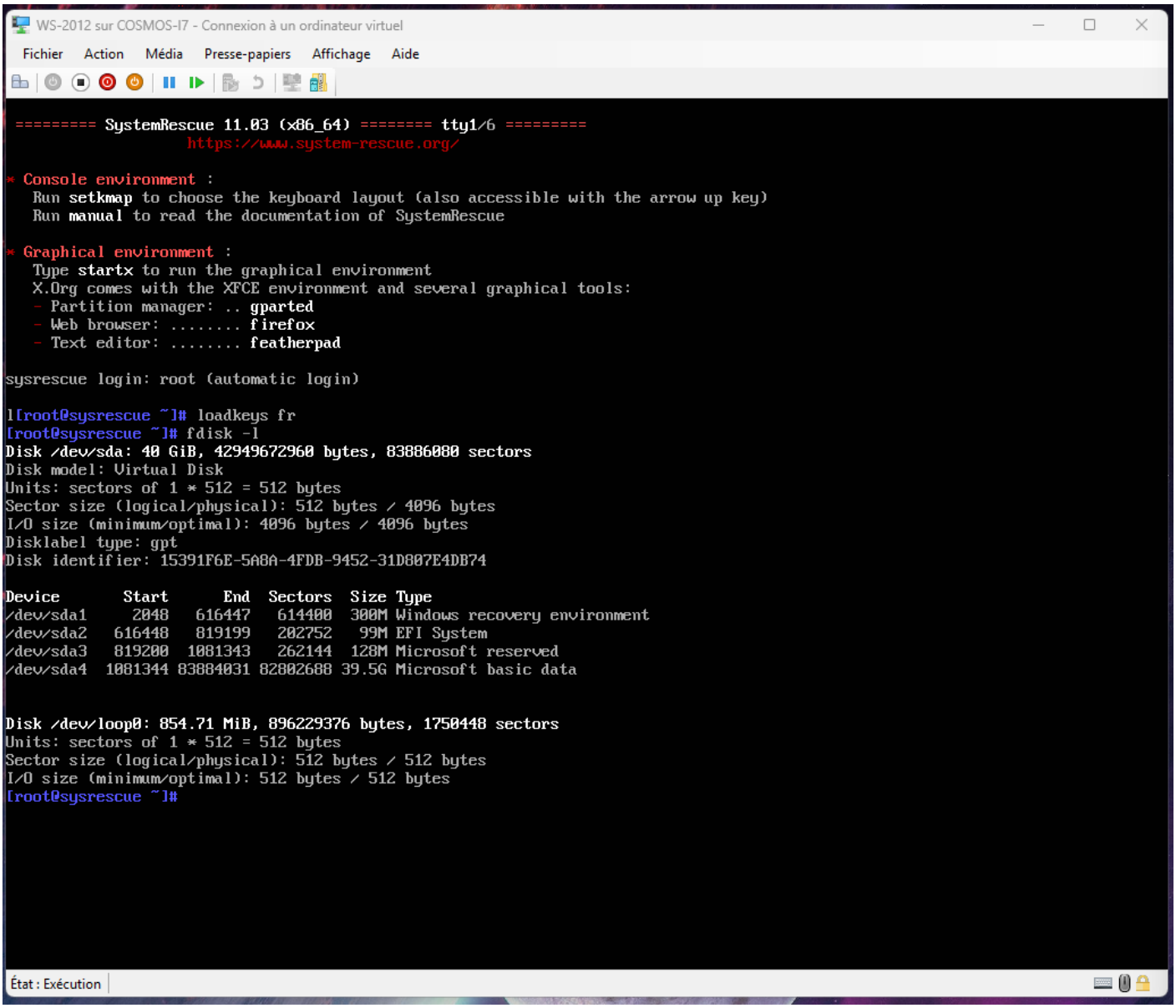


Step 1 : Download SystemRescue CD

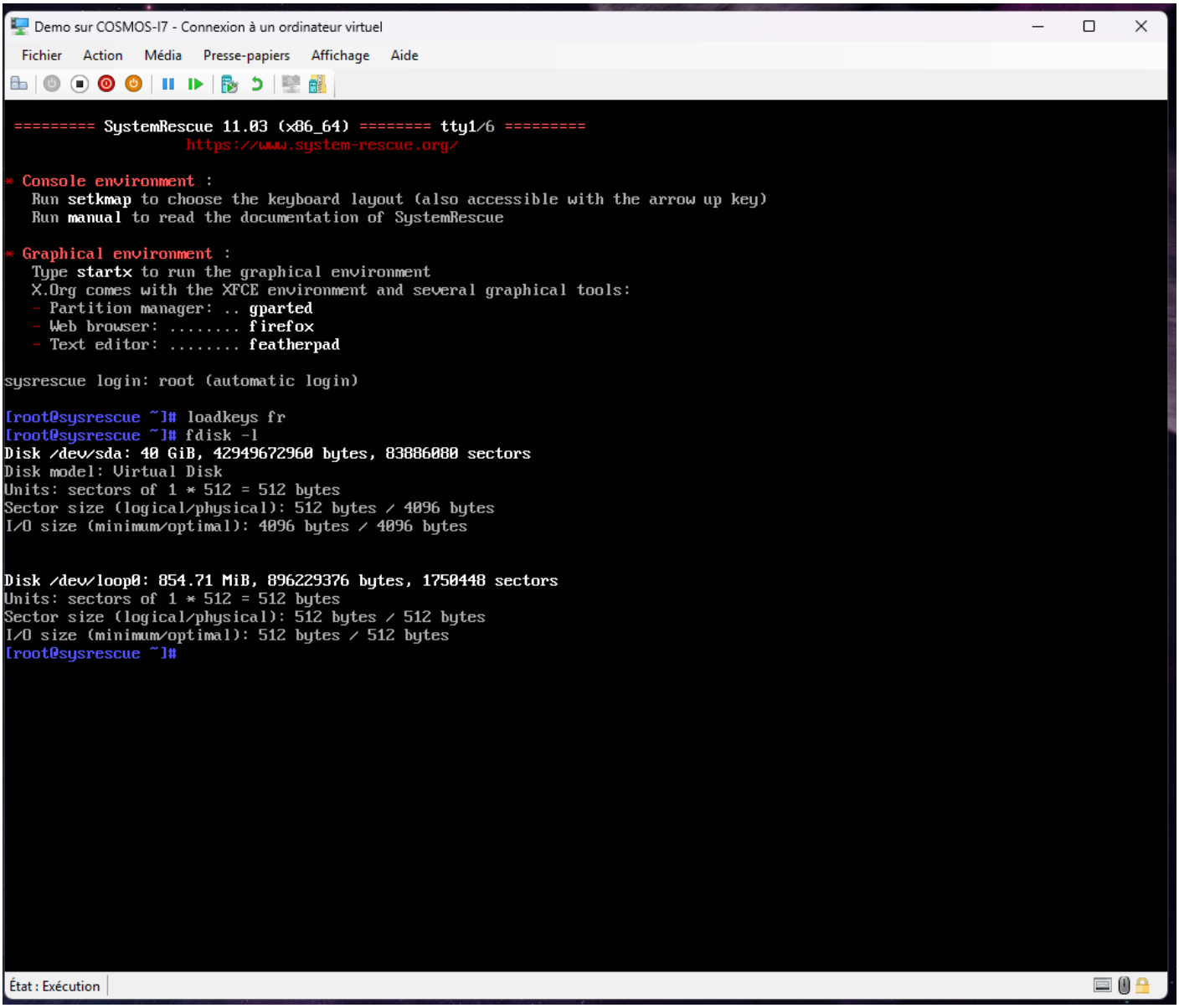
SystemRescue - Download

Step 2 : Boot both machines from SystemRescue CD

Machine with data :



Empty Machine :



Step 3 : Preparing for cloning

Set the keyboard to AZERTY :

```
loadkeys fr
```

Set a password for Root to access via SSH :

```
passwd
```

Stop the firewall that is blocking the SSH connection :

```
systemctl stop iptables
```

Verify the correct disk to copy in both machine A and machine B :

```
fdisk -l
```

In my case, /dev/sda

Note the IP address of the machine to which you want to copy.

```
ip a
```

Step 4 : Cloning

This is the IP address of machine B to be entered on machine A.

Therefore, the machine containing the operating system must tell the other machine to take the hard drive and send it via SSH to the other machine, to the other hard drive.

First option (quick): use the command CAT + PV (PV stands for time):

```
pv /dev/sda | ssh 192.168.0.1 'cat > /d
```

Here, 192.168.0.1 is used as an example.

Second option (slow): use the dd command :

```
dd status=progress if=/dev/sda | ssh 19
```

Here, 192.168.0.1 is taken as an example.

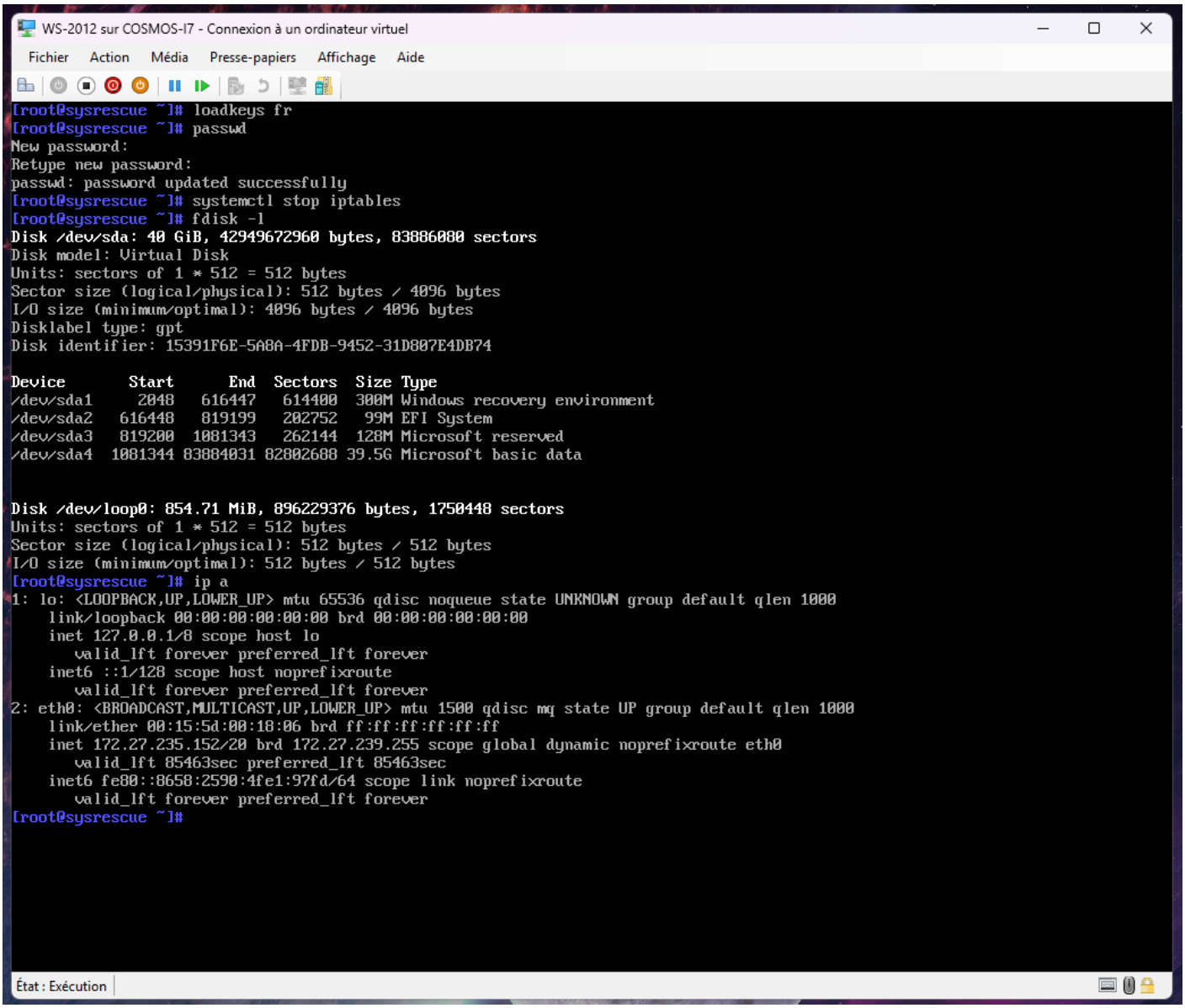
Step 5 : Synchronize the entries on both machines

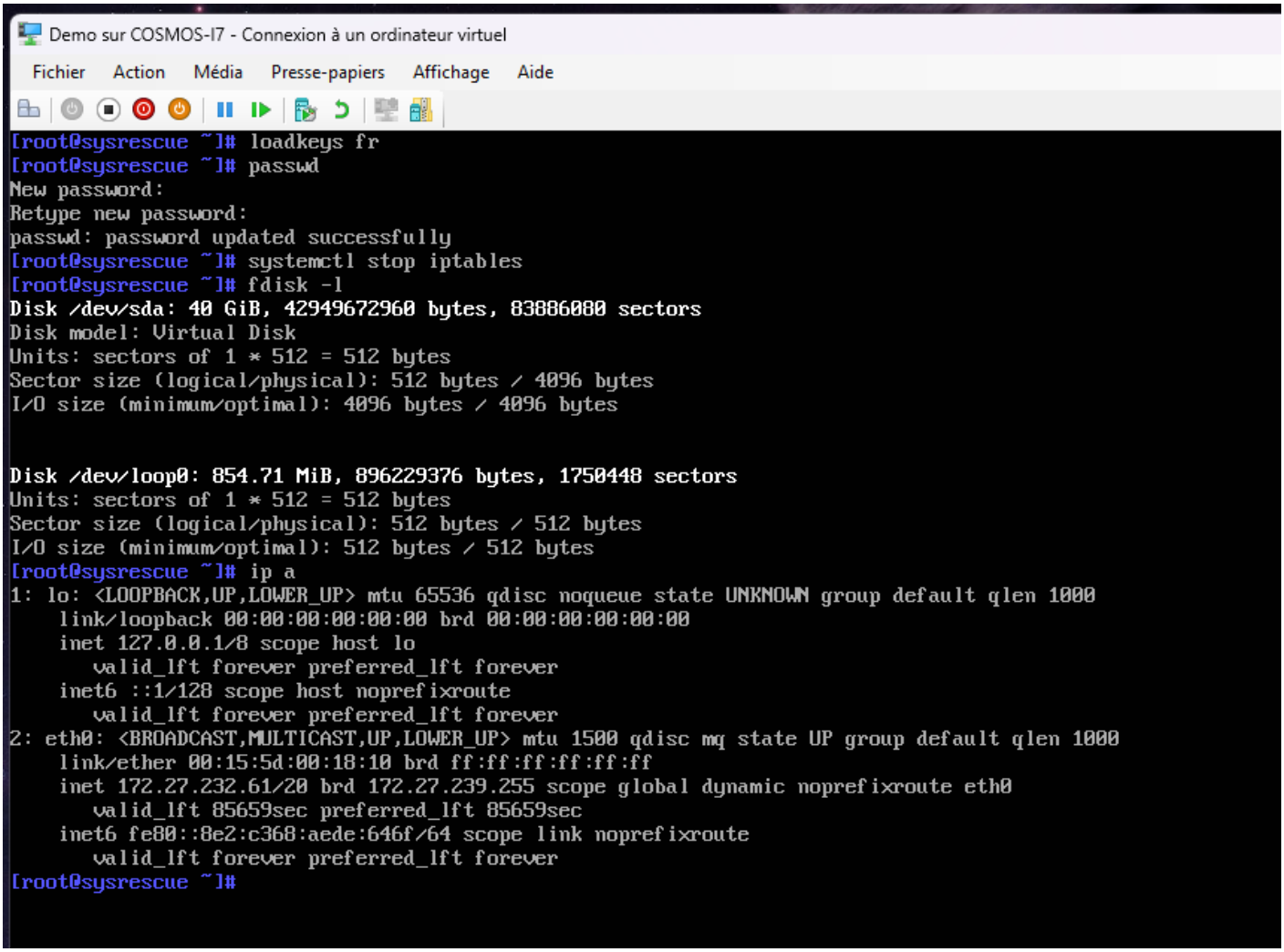
To ensure that the cloning was successful and that there are no pending write operations, I highly recommend performing a sync after the operation.

```
sync
```

Then you can restart/shut down the corresponding machines.

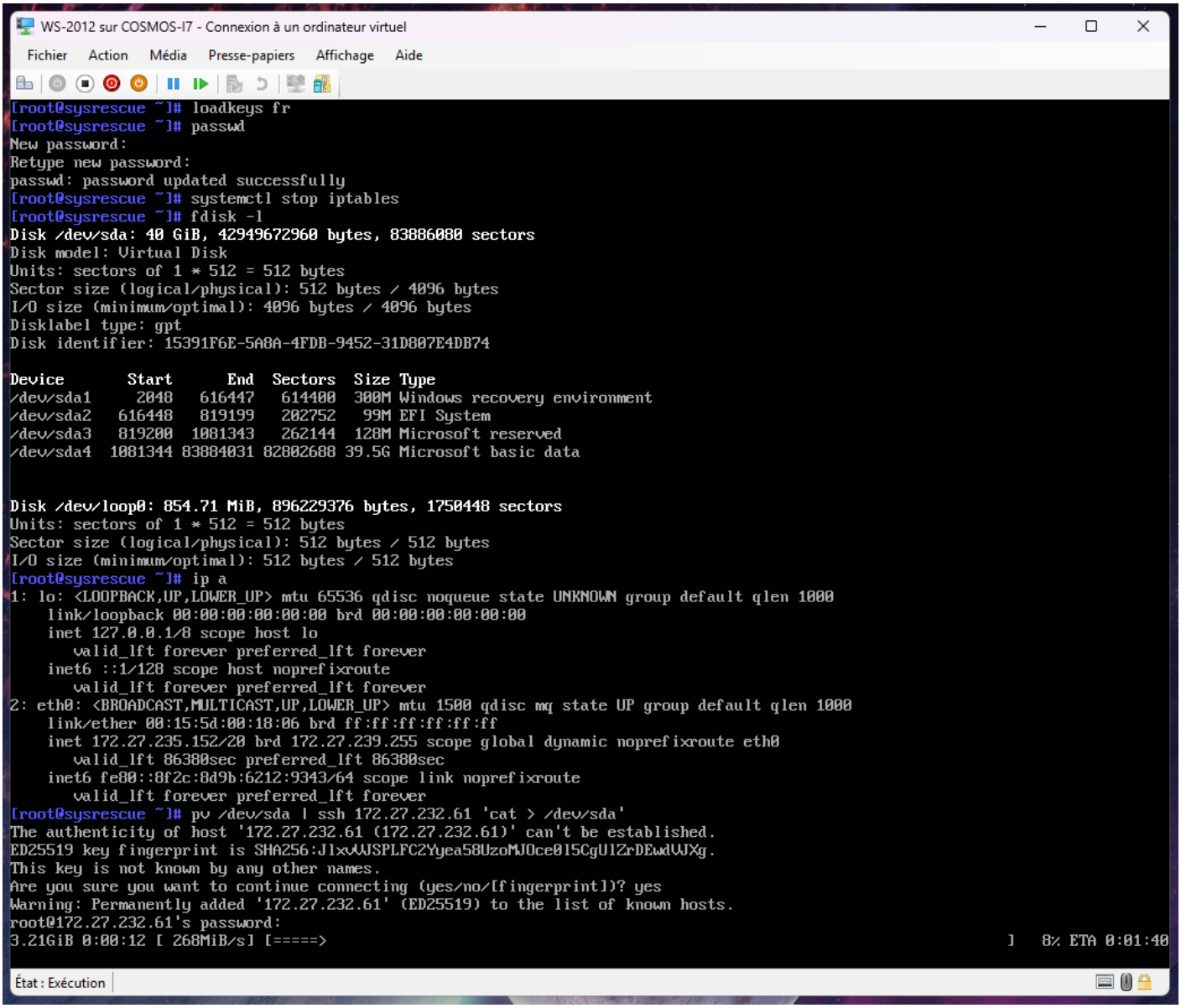
Demo :


WS-2012 sur COSMOS-I7 - Connexion à un ordinateur virtuel
Fichier Action Média Presse-papiers Affichage Aide
[root@sysrescue ~]# loadkeys fr
[root@sysrescue ~]# passwd
New password:
Retype new password:
passwd: password updated successfully
[root@sysrescue ~]# systemctl stop iptables
[root@sysrescue ~]# fdisk -l
Disk /dev/sda: 40 GiB, 42949672960 bytes, 83886080 sectors
Disk model: Virtual Disk
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 4096 bytes
I/O size (minimum/optimal): 4096 bytes / 4096 bytes
Disklabel type: gpt
Disk identifier: 15391F6E-5A8A-4FDB-9452-31D807E4DB74
Device Start End Sectors Size Type
/dev/sda1 2048 616447 614400 300M Windows recovery environment
/dev/sda2 616448 819199 202752 99M EFI System
/dev/sda3 819200 1081343 262144 128M Microsoft reserved
/dev/sda4 1081344 83884031 82802688 39.5G Microsoft basic data
Disk /dev/loop0: 854.71 MiB, 896229376 bytes, 1750448 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@sysrescue ~]# ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
inet 127.0.0.1/8 scope host lo
valid_lft forever preferred_lft forever
inet6 ::1/128 scope host noprefixroute
valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
link/ether 00:15:5d:00:18:06 brd ff:ff:ff:ff:ff:ff
inet 172.27.235.152/20 brd 172.27.239.255 scope global dynamic noprefixroute eth0
valid_lft 85463sec preferred_lft 85463sec
inet6 fe80::8658:2590:4fe1:97fd/64 scope link noprefixroute
valid_lft forever preferred_lft forever
[root@sysrescue ~]#
État : Exécution

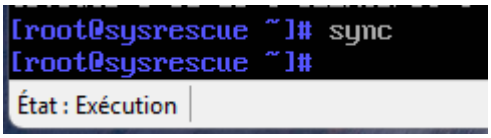


Note here: The IP address of the Demo machine. (Machine B) (Empty)

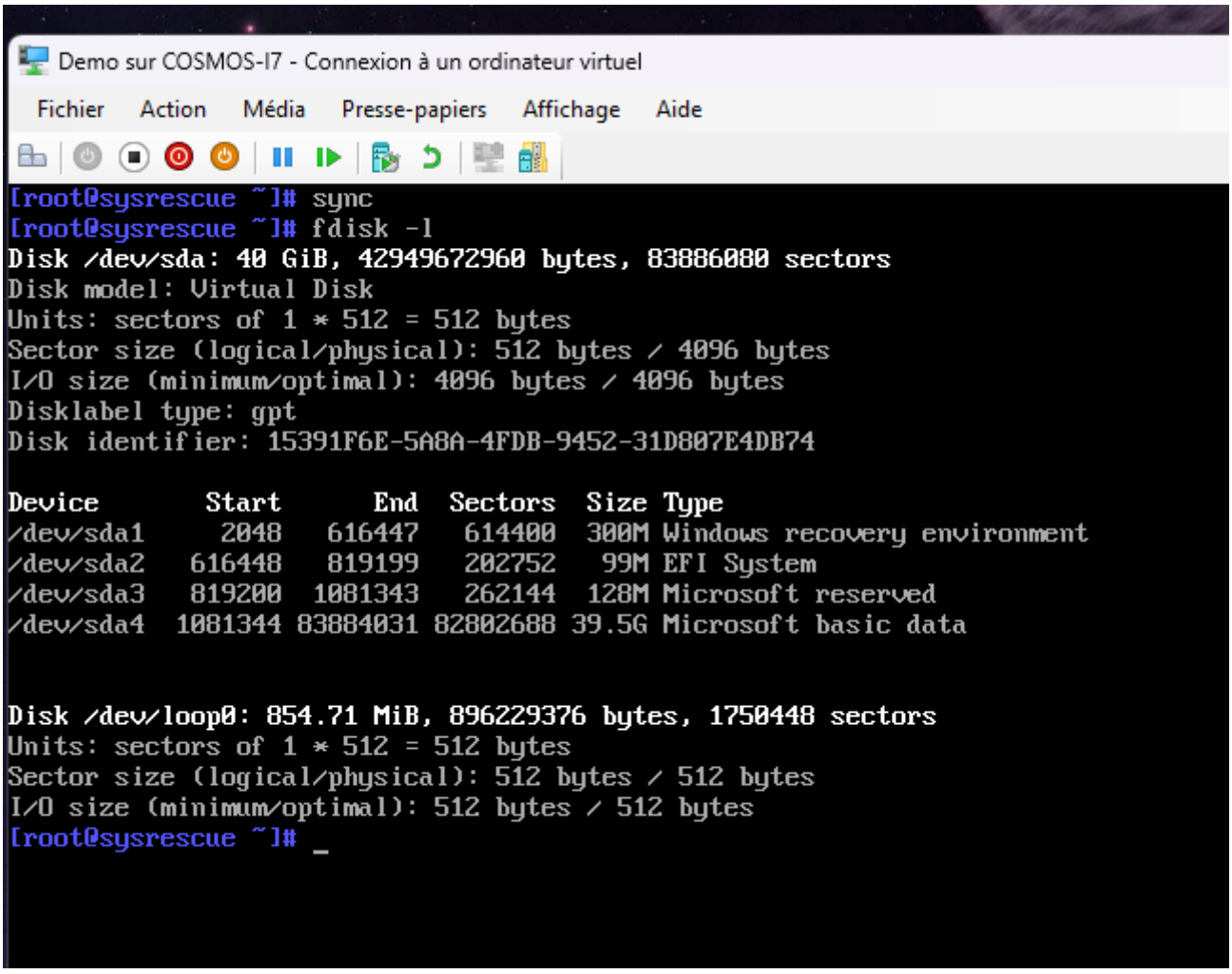
Only from machine A:



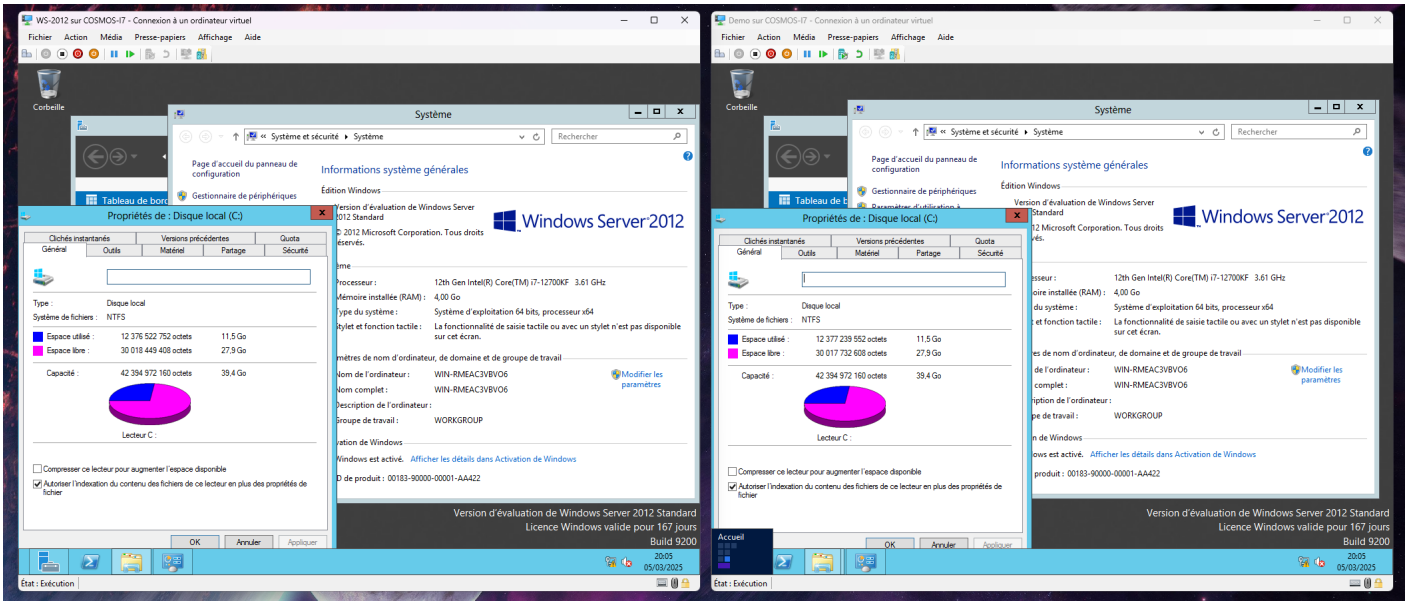
sync on both machines :



Machine B with the following data :



Restart :



Clone successful, be careful, the network cards will change their MAC address and interface.

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