

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

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

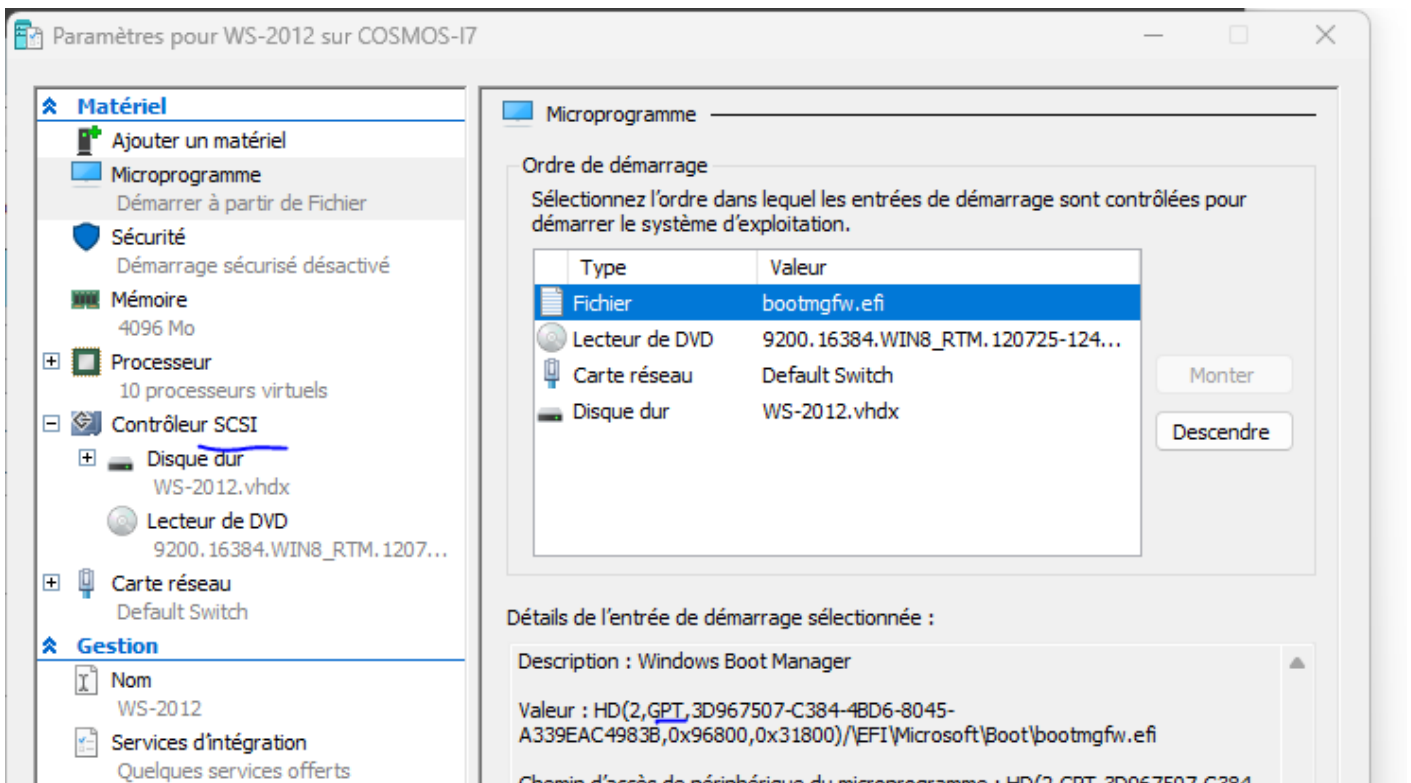
Autoriser l'indexation du contenu des fichiers de ce lecteur en plus des propriétés de fichier

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

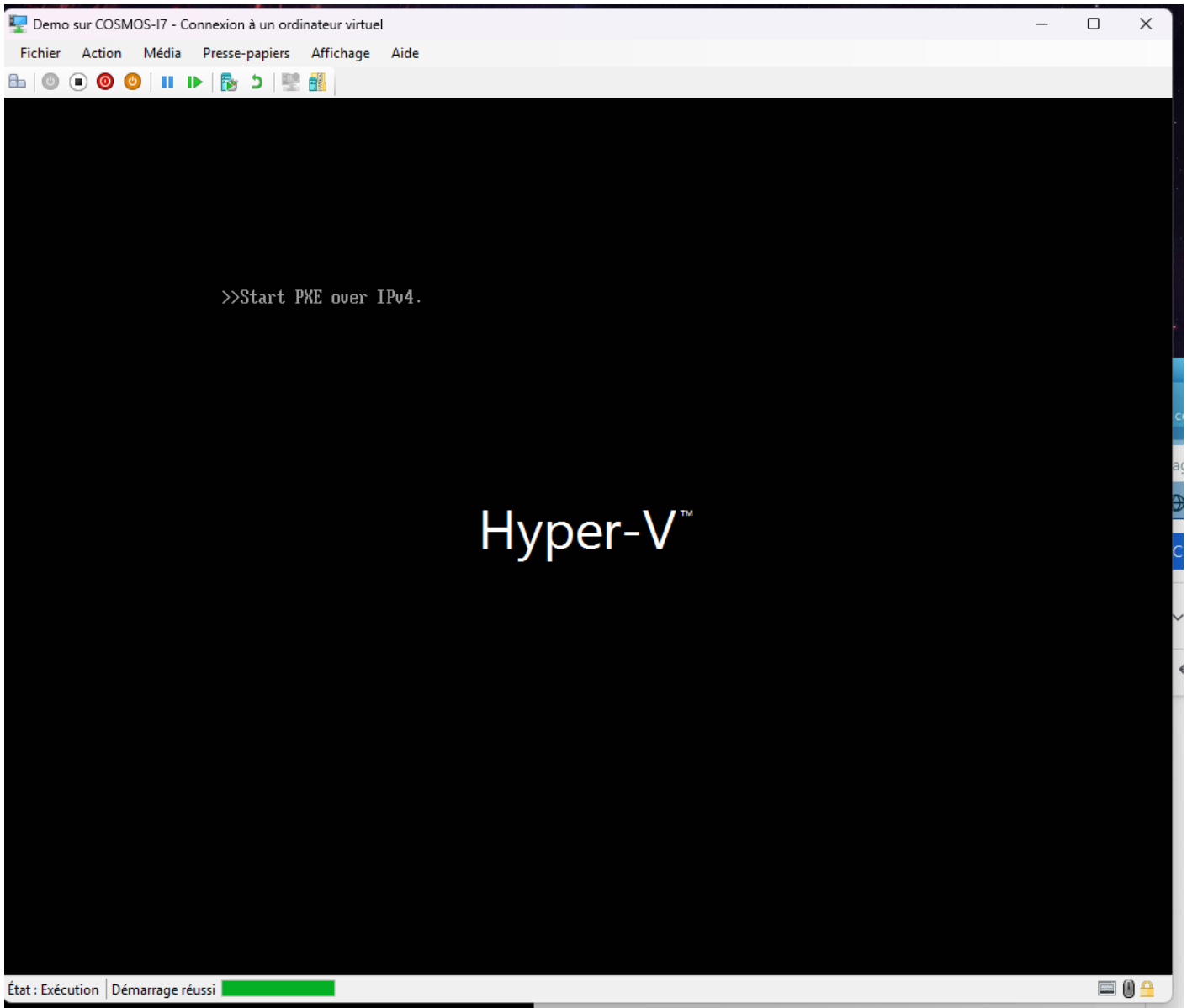


Note here :

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 :

```
WS-2012 sur COSMOS-17 - Connexion à un ordinateur virtuel
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===== SystemRescue 11.03 (x86_64) ===== tty1/6 =====
https://www.system-rescue.org/

* Console environment :
Run setkmap to choose the keyboard layout (also accessible with the arrow up key)
Run manual to read the documentation of SystemRescue

* Graphical environment :
Type startx to run the graphical environment
X.Org comes with the XFCE environment and several graphical tools:
- Partition manager: .. gparted
- Web browser: ..... firefox
- Text editor: ..... featherpad

sysrescue login: root (automatic login)

[root@sysrescue ~]# loadkeys fr
[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-5A0A-4FDB-9452-31D007E4DB74

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 ~]#

État : Exécution
```

Empty Machine :

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[root@sysrescue ~]#
```

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 > /dev/sda'
```

Here, 192.168.0.1 is used as an example.

Second option (slow): use the dd command :

```
dd status=progress if=/dev/sda | ssh 192.168.0.1 'dd of=/dev/sda'
```

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 :

```
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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
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[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



```
Demo sur COSMOS-I7 - Connexion à un ordinateur virtuel
Fichier Action Média Presse-papiers Affichage Aide
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    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:00:18:10 brd ff:ff:ff:ff:ff:ff
    inet 172.27.232.61/20 brd 172.27.239.255 scope global dynamic noprefixroute eth0
        valid_lft 85659sec preferred_lft 85659sec
    inet6 fe80::8e2:c368:aede:646f/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
[root@sysrescue ~]#
```

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

Only from machine A:

```
WS-2012 sur COSMOS-I7 - Connexion à un ordinateur virtuel
Fichier Action Média Presse-papiers Affichage Aide
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    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 86380sec preferred_lft 86380sec
    inet6 fe80::8f2c:8d9b:6212:9343/64 scope link noprefixroute
        valid_lft forever preferred_lft forever
[root@sysrescue ~]# pv /dev/sda | ssh 172.27.232.61 'cat > /dev/sda'
The authenticity of host '172.27.232.61 (172.27.232.61)' can't be established.
ED25519 key fingerprint is SHA256:JlxvWJSPLFC2Yyea58UzoMJ0ce015CgU1ZrDEwdWXYg.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '172.27.232.61' (ED25519) to the list of known hosts.
root@172.27.232.61's password:
3.21GiB 0:00:12 [ 268MiB/s] [=====>] 1 8% ETA 0:01:40
État : Exécution
```

sync on both machines :

```
[root@sysrescue ~]# sync
[root@sysrescue ~]#
État : Exécution
```

Machine B with the following data :

```

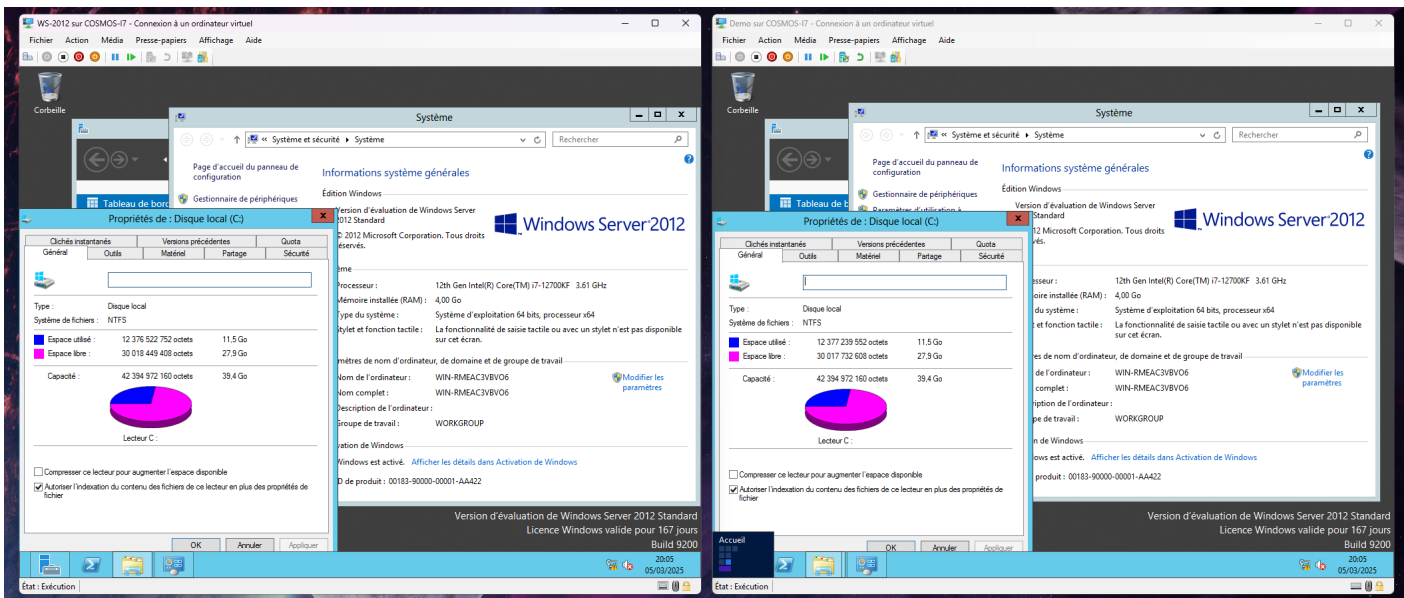
Demo sur COSMOS-I7 - Connexion à un ordinateur virtuel
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[root@sysrescue ~]# _

```

Restart :



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

Revision #3

Created 2026-01-17 13:33:23 UTC by Yoann Trevet

Updated 2026-01-17 13:56:25 UTC by Yoann Trevet