Tranferència dels ParaVision 4.0, 5.0 i 5.1

En comptes d'instal·lar les diferents versions del ParaVision des dels DVD d'instal·lació, provo a tranferir les carpetes de les diferents versions del ParaVision instal·lades a l'estació de treball HP xw4100 actual,

Mida de les particions al BioSpec

Aquestes són les particions definides als dos discos durs de l'estació de treball actual:

```
[root@cie-55-30 opt]# df -hl
Filesystem          Size  Used Avail Use% Mounted on
/dev/sda5            20G  5.3G   14G  29% /
/dev/sda2           494M   23M  446M   5% /boot
/dev/sda3            20G   18G  320M  99% /home
/dev/sda7           104G   89G   11G  90% /opt
none                1.8G     0  1.8G   0% /dev/shm
/dev/sdb1           459G  270G  166G  62% /BiospecData
```

Un cop transferit el contingut d'interès a *opt*, caldrà comprovar què hi ha a *home* i decidir què cal transferir.

Mida de les carpetes a /opt al BioSpec

```
[root@cie-55-30 opt]# du -hs /opt/*
8.0K    /opt/backupHOWTO.sxw
17M     /opt/dd-4096-rser-file
33M     /opt/dd-8192-rser-file
116K    /opt/first_steps_readme-new.pdf
20M     /opt/gnuplot-4.0.0
2.1M    /opt/gnuplot-4.0.0.tar.gz
83M     /opt/hp
16K     /opt/lost+found
41G     /opt/Photorec
37G     /opt/PV4.0
15M     /opt/PV4.0 Distribution Documentation
2.0G    /opt/PV5.0
9.5G    /opt/Pv5.1
8.0K    /opt/RECOVERED_FILES
335M    /opt/Technical Documentation for BioSpec and PharmaScan Systems
```

Si descartem la carpeta *opt/Photorec*, les carpetes a transferir fan un total aproximat de 60 GBytes, i no hauríem de tenir problemes per transferir-les al volum lògic *opt* de 100 GBytes a la nova estació de treball.

Problema amb la transferència i solució

El primer intent de transferir la carpeta */opt/PV5.0* dóna un error,

```
root@cie-50-205:/opt# rsync -Hvax --progress --stats
sermn@cie-55-30.uab.cat:/opt/PV5.0 .
The authenticity of host 'cie-55-30.uab.cat (158.109.55.30)' can't be
established.
RSA key fingerprint is f0:85:77:15:56:fe:91:c0:b0:b9:ed:ec:59:bf:30:60.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'cie-55-30.uab.cat,158.109.55.30' (RSA) to the
list of known hosts.
sermn@cie-55-30.uab.cat's password:
protocol version mismatch - is your shell clean?
(see the rsync man page for an explanation)
rsync error: protocol incompatibility (code 2) at compat.c(62)
rsync: connection unexpectedly closed (0 bytes received so far) [Receiver]
rsync error: error in rsync protocol data stream (code 12) at io.c(226)
[Receiver=3.1.1]
root@cie-50-205:/opt#
```

Als següents enllaços s'explica una possible causa de l'error i cóm resoldre'l: esborrar o canviar el nom del fitxer *.bashrc*,

- [Rsync seems incompatible with .bashrc (causes "is your shell clean?")](#)
- [rsync error: protocol incompatibility](#)
- [WTF! protocol version mismatch - is your shell clean?](#)

malauradament, la solució de canviar el nom del fitxer *~/.bashrc* no funciona en aquest cas,

```
root@cie-50-205:/opt# rsync -Hvax --progress --stats
sermn@cie-55-30.uab.cat:/opt/PV5.0 .
sermn@cie-55-30.uab.cat's password:
protocol version mismatch - is your shell clean?
(see the rsync man page for an explanation)
rsync error: protocol incompatibility (code 2) at compat.c(62)
rsync: connection unexpectedly closed (0 bytes received so far) [Receiver]
rsync error: error in rsync protocol data stream (code 12) at io.c(226)
[Receiver=3.1.1]
```

i amb una cerca més exhaustiva a Internet trobo que el problema és que la versió de *rsync* a l'estació de treball del BioSpec és massa vella i que no és compatible amb el protocol de la versió de *rsync* a la nova estació de treball. Per resoldre el problema cal indicar a aquesta darrera que empri una versió anterior del protocol fent servir l'opció ―protocol="30".

Transferència del PV 5.0

Transferència incompleta

```
root@cie-50-205:/opt# rsync -Hvax --verbose --progress --stats --
protocol="30" sermn@cie-55-30.uab.cat:/opt/PV5.0 .
opening connection using: ssh -l sermn cie-55-30.uab.cat rsync --server --
sender -vvlHogDtprxe.iLsfx . /opt/PV5.0  (10 args)
sermn@cie-55-30.uab.cat's password:
receiving file list ...
expand file_list to 4000 bytes, did move
expand file_list to 8000 bytes, did move
expand file_list to 16000 bytes, did move
expand file_list to 32000 bytes, did move
opendir(PV5.0/prog/curdir/nmrsu/ParaVision/keys): Permission denied
opendir(PV5.0/prog/curdir/nmrsu/ParaVision/pvDatMan): Permission denied
opendir(PV5.0/prog/curdir/nmrsu/ParaVision/shimTool): Permission denied
expand file_list to 64000 bytes, did move
opendir(PV5.0/prog/curdir/nmrsu/keystore): Permission denied
opendir(PV5.0/prog/curdir/mri/ParaVision/keys): Permission denied
opendir(PV5.0/prog/curdir/mri/ParaVision/pvDatMan): Permission denied
opendir(PV5.0/prog/curdir/mri/ParaVision/shimTool): Permission denied
opendir(PV5.0/prog/curdir/mri/ParaVision/pvCam): Permission denied
opendir(PV5.0/prog/curdir/mri/keystore): Permission denied
opendir(PV5.0/prog/curdir/montaner/ParaVision/keys): Permission denied
opendir(PV5.0/prog/curdir/montaner/ParaVision/xtip): Permission denied
opendir(PV5.0/prog/curdir/montaner/ParaVision/pvDatMan): Permission denied
opendir(PV5.0/prog/curdir/montaner/keystore): Permission denied
opendir(PV5.0/prog/curdir/carus/ParaVision/keys): Permission denied
opendir(PV5.0/prog/curdir/carus/ParaVision/xtip): Permission denied
opendir(PV5.0/prog/curdir/carus/ParaVision/pvDatMan): Permission denied
opendir(PV5.0/prog/curdir/carus/keystore): Permission denied
expand file_list to 128000 bytes, did move
expand file_list to 256000 bytes, did move
[Receiver] expand file_list pointer array to 524288 bytes, did move
34202 files to consider
delta-transmission enabled
PV5.0/
...
PV5.0/prog/wobble/pp_birds => PV5.0/prog/wobble/pulsprog_X
PV5.0/prog/xtip/xtip
      2,605,728 100%    4.29MB/s    0:00:00 (xfr#29745, to-chk=2/34202)
total: matches=0  tag_hits=0  false_alarms=0 data=2030754927

rsync[29381] (receiver) heap statistics:
   arena:          2326528   (bytes from sbrk)
   ordblks:              4   (chunks not in use)
   smblks:               0
   hblks:                4   (chunks from mmap)
```

```
  hblkhd:        1327104   (bytes from mmap)
  allmem:        3653632   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:             0
  uordblks:      2191888   (bytes used)
  fordblks:       134640   (bytes free)
  keepcost:       134304   (bytes in releasable chunk)

rsync[29306] (generator) heap statistics:
  arena:         2134016   (bytes from sbrk)
  ordblks:             2   (chunks not in use)
  smblks:              2
  hblks:               4   (chunks from mmap)
  hblkhd:        1327104   (bytes from mmap)
  allmem:        3461120   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:            64
  uordblks:      1864160   (bytes used)
  fordblks:       269856   (bytes free)
  keepcost:       269520   (bytes in releasable chunk)

Number of files: 34,202 (reg: 29,803, dir: 4,260, link: 139)
Number of regular files transferred: 29,745
Total file size: 2,052,694,727 bytes
Total transferred file size: 2,030,754,927 bytes
Literal data: 2,030,754,927 bytes
Matched data: 0 bytes
File list size: 808,631
Total bytes sent: 476,000
Total bytes received: 2,032,978,448

sent 476,000 bytes  received 2,032,978,448 bytes  7,717,094.68 bytes/sec
total size is 2,052,694,727  speedup is 1.01
rsync error: some files/attrs were not transferred (see previous errors)
(code 23) at main.c(1655) [generator=3.1.1]
```

Els missatges del tipus *opendir(...): Permission denied* indiquen que l'usuari *sermn* a l'ordinador del BioSpec no té permís per accedir a tots els fitxers i/o carpetes. Em connecto a l'ordinador i comprovo que efectivament hi ha carpetes amb permisos restringits a les que no pot accedir l'usuari *sermn*.

Transferència del PV 5.1

Transferència incompleta

Inicio la transferència de la carpeta */opt/Pv5.1*

```
root@cie-50-205:/opt# rsync -Hvax --verbose --progress --stats --
```

```
protocol="30" sermn@cie-55-30.uab.cat:/opt/Pv5.1 .
opening connection using: ssh -l sermn cie-55-30.uab.cat rsync --server --
sender -vvlHogDtprxe.iLsfx . /opt/Pv5.1  (10 args)
sermn@cie-55-30.uab.cat's password:
receiving file list ...
expand file_list to 4000 bytes, did move
expand file_list to 8000 bytes, did move
expand file_list to 16000 bytes, did move
expand file_list to 32000 bytes, did move
opendir(Pv5.1/prog/curdir/nmrsu/ParaVision/keys): Permission denied
opendir(Pv5.1/prog/curdir/nmrsu/ParaVision/xtip): Permission denied
opendir(Pv5.1/prog/curdir/nmrsu/ParaVision/pvDatMan): Permission denied
opendir(Pv5.1/prog/curdir/nmrsu/ParaVision/shimTool): Permission denied
opendir(Pv5.1/prog/curdir/nmrsu/keystore): Permission denied
opendir(Pv5.1/prog/curdir/mri/ParaVision/keys): Permission denied
opendir(Pv5.1/prog/curdir/mri/ParaVision/xtip): Permission denied
expand file_list to 64000 bytes, did move
opendir(Pv5.1/prog/curdir/mri/ParaVision/shimTool): Permission denied
opendir(Pv5.1/prog/curdir/mri/ParaVision/history): Permission denied
opendir(Pv5.1/prog/curdir/mri/ParaVision/pvCam): Permission denied
opendir(Pv5.1/prog/curdir/mri/ParaVision/pvDatMan): Permission denied
opendir(Pv5.1/prog/curdir/mri/keystore): Permission denied
opendir(Pv5.1/prog/curdir/montaner/ParaVision/keys): Permission denied
opendir(Pv5.1/prog/curdir/montaner/ParaVision/xtip): Permission denied
opendir(Pv5.1/prog/curdir/montaner/ParaVision/pvDatMan): Permission denied
opendir(Pv5.1/prog/curdir/montaner/keystore): Permission denied
expand file_list to 128000 bytes, did move
expand file_list to 256000 bytes, did move
[Receiver] expand file_list pointer array to 524288 bytes, did move
expand file_list to 512000 bytes, did move
[Receiver] expand file_list pointer array to 1048576 bytes, did move
80167 files to consider
delta-transmission enabled
Pv5.1/
Pv5.1/QTP/
Pv5.1/classes/
Pv5.1/classes/bin/
Pv5.1/classes/doc/
...
Pv5.1/prog/wobble/pulsprog_X
            676 100%    0.65kB/s    0:00:01 (xfr#68077, to-chk=4/80167)
Pv5.1/prog/wobble/pp_birds => Pv5.1/prog/wobble/pulsprog_X
Pv5.1/prog/xtip/xtip
      2,620,912 100%    1.54MB/s    0:00:01 (xfr#68078, to-chk=2/80167)
total: matches=0  tag_hits=0  false_alarms=0 data=9946559856


rsync[13266] (receiver) heap statistics:
  arena:        5783552   (bytes from sbrk)
  ordblks:            4   (chunks not in use)
  smblks:             0
  hblks:              4   (chunks from mmap)
```

```
  hblkhd:       1851392   (bytes from mmap)
  allmem:       7634944   (bytes from sbrk + mmap)
  usmblks:            0
  fsmblks:            0
  uordblks:     5384448   (bytes used)
  fordblks:      399104   (bytes free)
  keepcost:      398768   (bytes in releasable chunk)

rsync[12324] (generator) heap statistics:
  arena:        5783552   (bytes from sbrk)
  ordblks:            2   (chunks not in use)
  smblks:             2
  hblks:              4   (chunks from mmap)
  hblkhd:       1851392   (bytes from mmap)
  allmem:       7634944   (bytes from sbrk + mmap)
  usmblks:            0
  fsmblks:           64
  uordblks:     5056720   (bytes used)
  fordblks:      726832   (bytes free)
  keepcost:      726496   (bytes in releasable chunk)

Number of files: 80,167 (reg: 68,143, dir: 11,894, link: 130)
Number of regular files transferred: 68,078
Total file size: 9,971,551,075 bytes
Total transferred file size: 9,946,559,856 bytes
Literal data: 9,946,559,856 bytes
Matched data: 0 bytes
File list size: 1,708,132
Total bytes sent: 1,089,440
Total bytes received: 9,952,136,811

sent 1,089,440 bytes  received 9,952,136,811 bytes  8,236,016.76 bytes/sec
total size is 9,971,551,075  speedup is 1.00
rsync error: some files/attrs were not transferred (see previous errors)
(code 23) at main.c(1655) [generator=3.1.1]
```

però, com en el cas del ParaVision 5.0, no es transfereixen tots els fitxers per un problema de permisos d'accés de l'usuari *sermn* al BioSpec.

Configuració de sudo al BioSpec per rsync

Per resoldre el problema amb els permisos de les carpetes i/o fitxers, segueixo les instruccions descrites a Running remote rsync as root when root login is disabled, i afegeixo l'usuari remot (*sermn*) al fitxer */etc/sudoers* al BioSpec per autoritzar-lo a executar la comanda sudo rsync i tenir accés a totes les carpetes i fitxers:

```
[root@cie-55-30 etc]# visudo
```

```
...
[root@cie-55-30 etc]# more sudoers
# sudoers file.
#
# This file MUST be edited with the 'visudo' command as root.
#
# See the sudoers man page for the details on how to write a
# sudoers file.

[...]


sermn ALL= NOPASSWD:/usr/bin/rsync
```

i faig servir la comanda `rsync` amb noves opcions

```
# rsync -Hvax --verbose --progress --stats --protocol="30" -e \
  "ssh" --rsync-path="sudo rsync" sermn@cie-55-30.uab.cat:/opt/Pv5.1 .
```

Alternativament podria haver fet servir algunes de les solucions descrites a rsync all files of remote machine over SSH without root user?

Transferència del PV 5.0

Transferència completa dels fitxers

```
root@cie-50-205:/opt# rsync -Hvax --verbose --progress \
--stats --protocol="30" -e "ssh" --rsync-path="sudo rsync" \
sermn@cie-55-30.uab.cat:/opt/PV5.0 .

opening connection using: ssh -l sermn cie-55-30.uab.cat "sudo rsync" --
server --sender -vvlHogDtprxe.iLsfx . /opt/Pv5.0  (10 args)
receiving file list ...
expand file_list to 4000 bytes, did move
expand file_list to 8000 bytes, did move
expand file_list to 16000 bytes, did move
expand file_list to 32000 bytes, did move
 7100 files...
expand file_list to 64000 bytes, did move
 11100 files...
 14000 files...
expand file_list to 128000 bytes, did move
 19900 files...
 21900 files...
 24800 files...
 27700 files...
 30600 files...
expand file_list to 256000 bytes, did move
[Receiver] expand file_list pointer array to 524288 bytes, did move
```

```
34230 files to consider
delta-transmission enabled
PV5.0/.hasStarted is uptodate
PV5.0/classes/doc/English/html/qtp/abort_btn.gif is uptodate
PV5.0/classes/doc/English/html/qtp/about.gif is uptodate
PV5.0/classes/doc/English/html/qtp/about.html is uptodate
PV5.0/classes/doc/English/html/qtp/about_btn.gif is uptodate
...
PV5.0/prog/pvlocal/bin/cdrecord.redhat_el3
         343,217 100%    1.13MB/s    0:00:00 (xfr#27, to-chk=2538/34230)
PV5.0/prog/pvlocal/bin/growisofs
          93,397 100%  307.10kB/s    0:00:00 (xfr#28, to-chk=2535/34230)
total: matches=0  tag_hits=0  false_alarms=0 data=958266

rsync[11915] (receiver) heap statistics:
  arena:         2326528   (bytes from sbrk)
  ordblks:             4   (chunks not in use)
  smblks:              0
  hblks:               4   (chunks from mmap)
  hblkhd:        1327104   (bytes from mmap)
  allmem:        3653632   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:             0
  uordblks:      2193328   (bytes used)
  fordblks:       133200   (bytes free)
  keepcost:       132864   (bytes in releasable chunk)

rsync[11527] (generator) heap statistics:
  arena:         2134016   (bytes from sbrk)
  ordblks:             2   (chunks not in use)
  smblks:              2
  hblks:               4   (chunks from mmap)
  hblkhd:        1327104   (bytes from mmap)
  allmem:        3461120   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:            64
  uordblks:      1865600   (bytes used)
  fordblks:       268416   (bytes free)
  keepcost:       268080   (bytes in releasable chunk)

Number of files: 34,230 (reg: 29,827, dir: 4,264, link: 139)
Number of regular files transferred: 28
Total file size: 2,052,735,064 bytes
Total transferred file size: 958,266 bytes
Literal data: 958,266 bytes
Matched data: 0 bytes
File list size: 808,190
Total bytes sent: 464
Total bytes received: 1,766,945
```

```
sent 464 bytes  received 1,766,945 bytes  52,758.48 bytes/sec
total size is 2,052,735,064  speedup is 1,161.44
```

Verificació

Tipus de fitxer	Ordinador actual	Nou ordinador
Fitxer normal	29827	29827 ✔
Carpeta	4264	4264 ✔
Enllaç simbòlic	139	139 ✔

Transferència del PV 5.1

Transferència completa dels fitxers

```
root@cie-50-205:/opt# rsync -Hvax --verbose --progress \
--stats --protocol="30" -e "ssh" --rsync-path="sudo \
rsync" sermn@cie-55-30.uab.cat:/opt/Pv5.1 .

opening connection using: ssh -l sermn cie-55-30.uab.cat "sudo rsync" --
server --sender -vvlHogDtprxe.iLsfx . /opt/Pv5.1  (10 args)
receiving file list ...
expand file_list to 4000 bytes, did move
expand file_list to 8000 bytes, did move
expand file_list to 16000 bytes, did move
expand file_list to 32000 bytes, did move
expand file...
_list to 64000 bytes, did move
 12000 files...
 15800 files...
expand file_list to 128000 bytes, did move
 19800 files...
 23700 files...
 27500 files...
 31300 files...
expand file_list to 256000 bytes, did move
[Receiver] expand file_list pointer array to 524288 bytes, did move
 36500 files...
 40400 files...
 44200 files...
 48000 files...
 51800 files...
 55600 files...
 59500 files...
 63300 files...
expand file_list to 512000 bytes, did move
[Receiver] expand file_list pointer array to 1048576 bytes, did move
 69300 files...
```

```
 73200 files...
 77000 files...
80168 files to consider
delta-transmission enabled
Pv5.1/.checkedLibDeps is uptodate
Pv5.1/.directory is uptodate
Pv5.1/.hasStarted is uptodate
Pv5.1/classes/doc/English/html/qtp/abort_btn.gif is uptodate
...
Pv5.1/prog/service/configuration.md5
       1,714,138 100%    1.52MB/s    0:00:01 (xfr#128, to-chk=2342/80168)
Pv5.1/prog/service/configuration_5.1_Wed_Oct_31_12:49:53_2012.md5
       1,714,138 100%    7.43MB/s    0:00:00 (xfr#129, to-chk=2341/80168)
total: matches=727  tag_hits=6294  false_alarms=1 data=4737215

rsync[18966] (receiver) heap statistics:
  arena:         5783552   (bytes from sbrk)
  ordblks:             4   (chunks not in use)
  smblks:              2
  hblks:               4   (chunks from mmap)
  hblkhd:        1851392   (bytes from mmap)
  allmem:        7634944   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:           128
  uordblks:      5385904   (bytes used)
  fordblks:       397648   (bytes free)
  keepcost:       397312   (bytes in releasable chunk)

rsync[18880] (generator) heap statistics:
  arena:         5783552   (bytes from sbrk)
  ordblks:             5   (chunks not in use)
  smblks:              2
  hblks:               4   (chunks from mmap)
  hblkhd:        1851392   (bytes from mmap)
  allmem:        7634944   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:           128
  uordblks:      5058928   (bytes used)
  fordblks:       724624   (bytes free)
  keepcost:       460384   (bytes in releasable chunk)

Number of files: 80,168 (reg: 68,141, dir: 11,897, link: 130)
Number of regular files transferred: 129
Total file size: 9,971,638,288 bytes
Total transferred file size: 5,229,582 bytes
Literal data: 4,737,215 bytes
Matched data: 492,367 bytes
File list size: 1,706,986
Total bytes sent: 11,596
```

```
Total bytes received: 6,451,016

sent 11,596 bytes  received 6,451,016 bytes  680,274.95 bytes/sec
total size is 9,971,638,288  speedup is 1,542.97
```

Verificació

Tipus de fitxer	Ordinador actual	Nou ordinador	
Fitxer normal	68141	68192	✘
Carpeta	11897	11897	✔
Enllaç simbòlic	130	130	✔

Per veure quins fitxers hi ha al nou ordinador que no hi són a l'ordinador vell, faig un simulacre (—dry-run) de la comanda de transferència amb l'opció —delete,

```
root@cie-50-205:/opt# rsync -Hvax --dry-run --delete --verbose \
--progress --stats --protocol="30" -e "ssh" \
--rsync-path="sudo rsync" sermn@cie-55-30.uab.cat:/opt/Pv5.1 . \
> 20160902-1618-rsync-pv51.log
```

i comprovo el contingut del fitxer de registre *20160902-1618-rsync-pv51.log* on trobo els fitxers de més,

```
opening connection using: ssh -l sermn cie-55-30.uab.cat "sudo rsync" --
server --sender -vvnlHogDtprxe.iLsfx . /opt/Pv
5.1  (10 args)
receiving file list ...
expand file_list to 4000 bytes, did move

[..]

 77200 files...
 80100 files...
80168 files to consider
deleting in Pv5.1
 3100 files...
 6200 files...

[...]

 67800 files...
 70700 files...
deleting Pv5.1/prog/curdir/mri/stdout.upnpctrlserver.15589
deleting Pv5.1/prog/curdir/mri/stdout.dataserver.15488
deleting Pv5.1/prog/curdir/mri/stdout.dataserver.15450
deleting Pv5.1/prog/curdir/mri/stdout.AqRackServer.log
deleting Pv5.1/prog/curdir/mri/stdout.18355
deleting Pv5.1/prog/curdir/mri/stdout.17892
deleting Pv5.1/prog/curdir/mri/stdout.17441
```

```
deleting Pv5.1/prog/curdir/mri/stdout.17029
deleting Pv5.1/prog/curdir/mri/stdout.16751
deleting Pv5.1/prog/curdir/mri/stdout.16528
deleting Pv5.1/prog/curdir/mri/stdout.15895
deleting Pv5.1/prog/curdir/mri/stdout.15774
deleting Pv5.1/prog/curdir/mri/stdout.15589
deleting Pv5.1/prog/curdir/mri/stdout.15498
deleting Pv5.1/prog/curdir/mri/stdout.15488
deleting Pv5.1/prog/curdir/mri/stdout.15450
deleting Pv5.1/prog/curdir/mri/stdout.15448
deleting Pv5.1/prog/curdir/mri/stdout.15441
deleting Pv5.1/prog/curdir/mri/stderr.dataserver.15488
deleting Pv5.1/prog/curdir/mri/stderr.dataserver.15450
deleting Pv5.1/prog/curdir/mri/stderr.AqRackServer.log
deleting Pv5.1/prog/curdir/mri/stderr.18355
deleting Pv5.1/prog/curdir/mri/stderr.17892
deleting Pv5.1/prog/curdir/mri/stderr.17441
deleting Pv5.1/prog/curdir/mri/stderr.17029
deleting Pv5.1/prog/curdir/mri/stderr.16751
deleting Pv5.1/prog/curdir/mri/stderr.16528
deleting Pv5.1/prog/curdir/mri/stderr.15895
deleting Pv5.1/prog/curdir/mri/stderr.15774
deleting Pv5.1/prog/curdir/mri/stderr.15589
deleting Pv5.1/prog/curdir/mri/stderr.15498
deleting Pv5.1/prog/curdir/mri/stderr.15488
deleting Pv5.1/prog/curdir/mri/stderr.15450
deleting Pv5.1/prog/curdir/mri/stderr.15448
deleting Pv5.1/prog/curdir/mri/stderr.15441
deleting Pv5.1/prog/curdir/mri/cd.18355
deleting Pv5.1/prog/curdir/mri/cd.17892
deleting Pv5.1/prog/curdir/mri/cd.17441
deleting Pv5.1/prog/curdir/mri/cd.17029
deleting Pv5.1/prog/curdir/mri/cd.16751
deleting Pv5.1/prog/curdir/mri/cd.16528
deleting Pv5.1/prog/curdir/mri/cd.15895
deleting Pv5.1/prog/curdir/mri/cd.15774
deleting Pv5.1/prog/curdir/mri/cd.15589
deleting Pv5.1/prog/curdir/mri/cd.15498
deleting Pv5.1/prog/curdir/mri/cd.15488
deleting Pv5.1/prog/curdir/mri/cd.15450
deleting Pv5.1/prog/curdir/mri/cd.15448
deleting Pv5.1/prog/curdir/mri/cd.15441
deleting Pv5.1/prog/curdir/mri/SetpreServer.ref
deleting Pv5.1/prog/curdir/mri/ParaVision/pvScan/ScanOverview
 77
 80100
delta-transmission enabled
Pv5.1/.checkedLibDeps is uptodate
Pv5.1/.directory is uptodate
```

```
Pv5.1/prog/xtip/xtip is uptodate
Pv5.1/pv is uptodate
Pv5.1/topspin is uptodate
total: matches=0  tag_hits=0  false_alarms=0 data=0

[...]


Number of files: 80,168 (reg: 68,141, dir: 11,897, link: 130)
Number of regular files transferred: 0
Total file size: 9,971,638,288 bytes
Total transferred file size: 0 bytes
Literal data: 0 bytes
Matched data: 0 bytes
File list size: 1,706,986
Total bytes sent: 16
Total bytes received: 1,705,370


sent 16 bytes  received 1,705,370 bytes  162,417.71 bytes/sec
total size is 9,971,638,288  speedup is 5,847.14 (DRY RUN)
```

Llavors executo la comanda de forma real (sense l'opció —dry-run) i comprovo de nou el nombre de fitxers als directoris original i còpia, i trobo que ara ja coincideixen:

Tipus de fitxer	Ordinador actual	Nou ordinador
Fitxer normal	68141	68141 ✔
Carpeta	11897	11897 ✔
Enllaç simbòlic	130	130 ✔

Transferència del PV 4.0

Transferència completa dels fitxers

Transfereixo el contingut de la carpeta *opt/PV4.0* de l'ordinador actual a la nova estació de treball,

```
root@cie-50-205:/opt# rsync -Hvax --delete --verbose --progress \
--stats --protocol="30" -e "ssh" --rsync-path="sudo rsync" \
sermn@cie-55-30.uab.cat:/opt/PV4.0 . \
| tee 20160902-1635-rsync-pv40.log

opening connection using: ssh -l sermn cie-55-30.uab.cat "sudo rsync" --
server --sender -vvlHogDtprxe.iLsfx . /opt/PV4.0  (10 args)
sermn@cie-55-30.uab.cat's password:

receiving file list ...
expand file_list to 4000 bytes, did move
expand file_list to 8000 bytes, did move
expand file_list to 16000 bytes, did move
```

```
expand file_list to 32000 bytes, did move
 7100 files...
expand file_list to 64000 bytes, did move
 11100 files...
 14000 files...
:
:
 150300 files...
 153000 files...
154559 files to consider
deleting in PV4.0
delta-transmission enabled
PV4.0/
PV4.0/JacORB-2.2.3/
PV4.0/JacORB-2.2.3/bin/
:
:
PV4.0/prog/wobble/pp_drx_X
          765 100%   62.26kB/s    0:00:00 (xfr#134271, to-chk=6/154559)
PV4.0/prog/wobble/pulsprog_X
          676 100%   55.01kB/s    0:00:00 (xfr#134272, to-chk=5/154559)
PV4.0/prog/xtip/xtip
            0   0%    0.00kB/s    0:00:00  PV4.0/prog/wobble/pp_birds =>
PV4.0/prog/wobble/pulsprog_X
      2,826,728 100%   10.74MB/s    0:00:00 (xfr#134273, to-chk=3/154559)
total: matches=0  tag_hits=0  false_alarms=0 data=38271461531

rsync[23982] (receiver) heap statistics:
  arena:        10649600   (bytes from sbrk)
  ordblks:             4   (chunks not in use)
  smblks:              0
  hblks:               4   (chunks from mmap)
  hblkhd:        2899968   (bytes from mmap)
  allmem:       13549568   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:             0
  uordblks:      9689920   (bytes used)
  fordblks:       959680   (bytes free)
  keepcost:       959344   (bytes in releasable chunk)

rsync[21101] (generator) heap statistics:
  arena:        10649600   (bytes from sbrk)
  ordblks:             2   (chunks not in use)
  smblks:              2
  hblks:               4   (chunks from mmap)
  hblkhd:        2899968   (bytes from mmap)
  allmem:       13549568   (bytes from sbrk + mmap)
  usmblks:             0
  fsmblks:            64
```

```
  uordblks:      9362192   (bytes used)
  fordblks:      1287408   (bytes free)
  keepcost:      1287072   (bytes in releasable chunk)


Number of files: 154,559 (reg: 134,334, dir: 20,022, link: 203)
Number of regular files transferred: 134,273
Total file size: 38,292,509,630 bytes
Total transferred file size: 38,271,461,531 bytes
Literal data: 38,271,461,531 bytes
Matched data: 0 bytes
File list size: 3,443,124
Total bytes sent: 2,148,384
Total bytes received: 38,284,805,277


sent 2,148,384 bytes  received 38,284,805,277 bytes  10,181,346.54 bytes/sec
total size is 38,292,509,630  speedup is 1.00
```

Verificació

Tipus de fitxer	Ordinador actual	Nou ordinador
Fitxer normal	134334	134334 ✔
Carpeta	20022	20022 ✔
Enllaç simbòlic	203	203 ✔