

# Instal·lació de CentOS 7 - 3a part

En aquesta tercera part de la instal·lació del CentOS l'objectiu és configurar el sistema operatiu seguint les instruccions de Bruker,

- [CentOS 7 TopSpin Installation](#)
- [Bruker Extras CentOS 7 - Repository Overview](#)

Un cop completada aquesta tercera part, l'ordinador hauria d'estar a punt per instal·lar el programari de Bruker: TopSpin, CodeMeter, etc.

## Instal·lació de l'entorn del TopSpin

Per instal·lar els paquets necessaris pel TopSpin s'ha d'executar la comanda

- `yum install --enablerepo=brucker brucker-topspin-environ`

però abans, és preferible fer un simulacre i comprovar que no hi ha conflictes,

- `yum install --setopt tsflags=test --enablerepo=brucker brucker-topspin-environ`

El simulacre mostra que es descarregaran 153 paquets (65 MB) que, un cop instal·lats, ocuparan 207 MB; que tots corresponen a programes de 32-bits (arquitectura i686), i que no s'ha detectat cap conflicte, de forma que podem executar la comanda,

```
# yum install --enablerepo=brucker brucker-topspin-environ
Loaded plugins: fastestmirror, keys, langpacks, refresh-packagekit
Loading mirror speeds from cached hostfile
* base: ftp.csuc.cat
* elrepo: mirrors.coreix.net
* epel: pkg.adfinis.com
* extras: ftp.csuc.cat
* updates: ftp.csuc.cat
Resolving Dependencies
--> Running transaction check
---> Package brucker-topspin-environ.x86_64 0:1.0-21.el7.brk will be
installed
--> Processing Dependency: qt3(x86-32) for package: brucker-topspin-
environ-1.0-21.el7.brk.x86_64
--> Processing Dependency: qt-x11(x86-32) for package: brucker-topspin-
environ-1.0-21.el7.brk.x86_64
--> Processing Dependency: qt(x86-32) for package: brucker-topspin-
environ-1.0-21.el7.brk.x86_64

[...]

---> Package libtasn1.i686 0:4.10-1.el7 will be installed
```

```
--> Package nettle.i686 0:2.7.1-9.el7_9 will be installed  
--> Finished Dependency Resolution
```

### Dependencies Resolved

```
=====  
=====  
=====  
Package                               Arch  
Version                               Repository  
Size
```

#### Installing:

```
bruker-topspin-environ                x86_64  
1.0-21.el7.brk                         bruker  
15 k
```

#### Installing for dependencies:

```
GConf2                                 i686  
3.2.6-8.el7                            base  
1.0 M  
ORBit2                                  i686  
2.14.19-13.el7                         base  
171 k  
PackageKit-glib                        i686  
1.1.10-2.el7.centos                   base  
122 k
```

[...]

```
xz-libs                                i686  
5.2.2-1.el7                            base  
109 k  
zlib                                    i686  
1.2.7-19.el7_9                         updates  
91 k
```

### Transaction Summary

```
=====  
=====  
=====  
Install 1 Package (+152 Dependent packages)
```

```
Total download size: 65 M  
Installed size: 207 M  
Is this ok [y/d/N]: y  
Downloading packages:  
(1/153): ORBit2-2.14.19-13.el7.i686.rpm
```

```
| 171 kB 00:00:00
(2/153): PackageKit-glib-1.1.10-2.el7.centos.i686.rpm
| 122 kB 00:00:00
(3/153): PackageKit-gtk3-module-1.1.10-2.el7.centos.i686.rpm
| 12 kB 00:00:00

(151/153): systemd-libs-219-78.el7_9.3.i686.rpm
| 425 kB 00:00:01
(152/153): qt-4.8.7-9.el7_9.i686.rpm
| 4.7 MB 00:00:06
(153/153): qt-x11-4.8.7-9.el7_9.i686.rpm
| 13 MB 00:01:25
-----
-----
-----
Total
| 65 MB 00:02:46
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : libgcc-4.8.5-44.el7.i686
1/153
  Installing : nss-softokn-freebl-3.53.1-6.el7_9.i686
2/153
  Installing : glibc-2.17-324.el7_9.i686
3/153

[...]

  Installing : libcanberra-gtk3-0.30-9.el7.i686
151/153
  Installing : libcanberra-gtk2-0.30-9.el7.i686
152/153
  Installing : bruker-topspin-environ-1.0-21.el7.brk.x86_64
153/153
      All required 32bit libraries are present
  Verifying  : gnome-vfs2-2.24.4-14.el7.i686
1/153
  Verifying  : libXdmcp-1.1.2-6.el7.i686
2/153
  Verifying  : libsepol-2.5-10.el7.i686
3/153

[...]

  Verifying  : harfbuzz-1.7.5-2.el7.i686
151/153
  Verifying  : libcanberra-gtk2-0.30-9.el7.i686
152/153
  Verifying  : ORBit2-2.14.19-13.el7.i686
```

153/153

Installed:

bruker-topspin-environ.x86\_64 0:1.0-21.el7.brk

Dependency Installed:

```
GConf2.i686 0:3.2.6-8.el7 ORBit2.i686 0:2.14.19-13.el7
PackageKit-glib.i686 0:1.1.10-2.el7.centos PackageKit-gtk3-module.i686
0:1.1.10-2.el7.centos
alsa-lib.i686 0:1.1.8-1.el7 at-spi2-atk.i686 0:2.26.2-1.el7
at-spi2-core.i686 0:2.28.0-1.el7 atk.i686 0:2.28.1-2.el7
audit-libs.i686 0:2.8.5-4.el7 avahi-glib.i686 0:0.6.31-20.el7
avahi-libs.i686 0:0.6.31-20.el7 bzip2-libs.i686 0:1.0.6-13.el7
```

[...]

```
popt.i686 0:1.13-16.el7 pulseaudio-libs.i686 0:10.0-6.el7_9
qt.i686 1:4.8.7-9.el7_9 qt-x11.i686 1:4.8.7-9.el7_9
qt3.i686 0:3.3.8b-51.el7 readline.i686 0:6.2-11.el7
rest.i686 0:0.8.1-2.el7 sqlite.i686 0:3.7.17-8.el7_7.1
systemd-libs.i686 0:219-78.el7_9.3 tcp_wrappers-libs.i686 0:7.6-77.el7
xz-libs.i686 0:5.2.2-1.el7 zlib.i686 0:1.2.7-19.el7_9
```

Complete!

## Instal·lació de l'entorn d'adquisició

Per instal·lar els paquets necessaris per l'adquisició s'ha d'executar la comanda

```
* yum install --enablerepo=bruker bruker-acquisition-environ
```

però abans, és preferible fer un simulacre i comprovar que no hi ha conflictes,

```
* yum install --setopt tsflags=test --enablerepo=bruker bruker-acquisition-environ
```

El simulacre mostra que es descarregaran 7 paquets (669 kB) que, un cop instal·lats, ocuparan 533 kB; que són programes de 64-bits o 32-bits, i que no s'ha detectat cap conflicte, de forma que podem executar la comanda,

```
# yum install --enablerepo=bruker bruker-acquisition-environ
Loaded plugins: fastestmirror, keys, langpacks, refresh-packagekit
Loading mirror speeds from cached hostfile
* base: ftp.csuc.cat
* elrepo: mirrors.coreix.net
* epel: fedora.cu.be
* extras: ftp.csuc.cat
* updates: ftp.csuc.cat
```

### Resolving Dependencies

```
--> Running transaction check
---> Package bruker-acquisition-environ.noarch 0:1.0-12.el7.brk will be installed
--> Processing Dependency: bootparamd >= 0.18-2 for package: bruker-acquisition-environ-1.0-12.el7.brk.noarch
--> Processing Dependency: tftp-server for package: bruker-acquisition-environ-1.0-12.el7.brk.noarch
--> Processing Dependency: tftp for package: bruker-acquisition-environ-1.0-12.el7.brk.noarch
--> Processing Dependency: sssd-client(x86-32) for package: bruker-acquisition-environ-1.0-12.el7.brk.noarch
--> Running transaction check
---> Package bootparamd.x86_64 0:0.18-2.el7.brk will be installed
---> Package sssd-client.i686 0:1.16.5-10.el7_9.8 will be installed
--> Processing Dependency: libsss_nss_idmap.so.0(SSS_NSS_IDMAP_0.5.0) for package: sssd-client-1.16.5-10.el7_9.8.i686
--> Processing Dependency: libsss_nss_idmap.so.0(SSS_NSS_IDMAP_0.0.1) for package: sssd-client-1.16.5-10.el7_9.8.i686
--> Processing Dependency: libsss_nss_idmap.so.0 for package: sssd-client-1.16.5-10.el7_9.8.i686
--> Processing Dependency: libsss_idmap.so.0(SSS_IDMAP_0.4) for package: sssd-client-1.16.5-10.el7_9.8.i686
--> Processing Dependency: libsss_idmap.so.0 for package: sssd-client-1.16.5-10.el7_9.8.i686
---> Package tftp.x86_64 0:5.2-22.el7 will be installed
---> Package tftp-server.x86_64 0:5.2-22.el7 will be installed
--> Running transaction check
---> Package libsss_idmap.i686 0:1.16.5-10.el7_9.8 will be installed
---> Package libsss_nss_idmap.i686 0:1.16.5-10.el7_9.8 will be installed
--> Finished Dependency Resolution
```

### Dependencies Resolved

```
=====
=====
=====
```

Package	Arch	Repository
Version		
Size		

```
=====
=====
```

#### Installing:

```
bruker-acquisition-environ noarch
1.0-12.el7.brk bruker
11 k
```

#### Installing for dependencies:

```
bootparamd x86_64
0.18-2.el7.brk bruker
16 k
```

libsss_idmap	i686
1.16.5-10.el7_9.8	updates
162 k	
libsss_nss_idmap	i686
1.16.5-10.el7_9.8	updates
168 k	
sssd-client	i686
1.16.5-10.el7_9.8	updates
228 k	
tftp	x86_64
5.2-22.el7	base
38 k	
tftp-server	x86_64
5.2-22.el7	base
47 k	

### Transaction Summary

=====  
=====  
=====

Install 1 Package (+6 Dependent packages)

Total size: 669 k

Installed size: 533 k

Is this ok [y/d/N]: y

Downloading packages:

Running transaction check

Running transaction test

Transaction test succeeded

Running transaction

Installing : tftp-server-5.2-22.el7.x86\_64

1/7

Installing : tftp-5.2-22.el7.x86\_64

2/7

Installing : bootparamd-0.18-2.el7.brk.x86\_64

3/7

Created symlink from /etc/systemd/system/multi-user.target.wants/bootparamd.service to /usr/lib/systemd/system/bootparamd.service.

Installing : libsss\_nss\_idmap-1.16.5-10.el7\_9.8.i686

4/7

Installing : libsss\_idmap-1.16.5-10.el7\_9.8.i686

5/7

Installing : sssd-client-1.16.5-10.el7\_9.8.i686

6/7

Installing : bruker-acquisition-environ-1.0-12.el7.brk.noarch

7/7

Verifying : bootparamd-0.18-2.el7.brk.x86\_64

```
1/7
  Verifying   : bruker-acquisition-environ-1.0-12.el7.brk.noarch
2/7
  Verifying   : libsss_idmap-1.16.5-10.el7_9.8.i686
3/7
  Verifying   : tftp-5.2-22.el7.x86_64
4/7
  Verifying   : libsss_nss_idmap-1.16.5-10.el7_9.8.i686
5/7
  Verifying   : sssd-client-1.16.5-10.el7_9.8.i686
6/7
  Verifying   : tftp-server-5.2-22.el7.x86_64
7/7

Installed:
  bruker-acquisition-environ.noarch 0:1.0-12.el7.brk

Dependency Installed:
  bootparamd.x86_64 0:0.18-2.el7.brk   libsss_idmap.i686 0:1.16.5-10.el7_9.8
  libsss_nss_idmap.i686 0:1.16.5-10.el7_9.8   sssd-client.i686
  0:1.16.5-10.el7_9.8   tftp.x86_64 0:5.2-22.el7
  tftp-server.x86_64 0:5.2-22.el7

Complete!
```

## Configuració per Z400

Hi ha un paquet que aparentment podria servir per configurar una estació HP Z400 però que finalment decideixo no instal·lar. El paquet és,

- 2015-08-31: [bruker-setup-z400-1.4-70.el7.brk](#)

però després de llegir la descripció

- The Bruker Setup Utility provides all necessary commands to prepare the HP-z440 (sic) Linux workstations for the master image and the first time boot after installation on a new system.

prefereixo descarregar-lo i comprovar el contingut abans de decidir si cal instal·lar-ho. La conclusió és que no és necessari pel funcionament de l'espectròmetre i que no val la pena instal·lar-ho.

## Desinstal·lació de paquets

A l'inici del procés [d'instal·lació de CentOS 7](#) es varen instal·lar paquets que Bruker no instal·la i que cal desinstal·lar, per exemple, l'entorn Gnome. Per identificar i eliminar aquests paquets genero un llistat dels paquets instal·lats i el comparo amb el llistat generat a l'ordinador del 500 MHz,

```
# rpm -qa | sort > avance3-600-pkglist.txt
```

```
# comm -23 avance3-600-pkglist.txt avance-neo-500-pkglist.txt > compare-  
files-only-in-600.txt  
# comm -13 avance3-600-pkglist.txt avance-neo-500-pkglist.txt > compare-  
files-only-in-500.txt
```

Llavors genero un llistat que conté els paquets instal·lats només al 600 MHz i afegeixo el seu magatzem d'origen,

```
# for PKG in `cat list-packages-only-in-600.txt` ; do echo $PKG"\t"\`yumdb  
info $PKG | grep "from_repo "`; done > list-packages-only-in-600-with-  
repo.txt &  
  
# wc -l list-packages-only-in-600.txt list-packages-only-in-600-with-  
repo.txt  
609 list-packages-only-in-600.txt  
159 list-packages-only-in-600-with-repo.txt  
768 total  
  
# tail -f list-packages-only-in-600-with-repo.txt  
gvfs-smb-1.36.2-4.el7.x86_64\t from_repo = anaconda  
gvnc-0.7.0-3.el7.x86_64\t from_repo = anaconda  
harfbuzz-1.7.5-2.el7.i686\t from_repo = base  
highcontrast-qt5-0.1-2.el7.x86_64\t from_repo = anaconda  
highlight-3.13-3.el7.x86_64\t from_repo = anaconda  
hivex-1.3.10-6.11.el7_9.x86_64\t from_repo = updates  
httpd-2.4.6-97.el7.centos.x86_64\t from_repo = updates  
httpd-manual-2.4.6-97.el7.centos.noarch\t from_repo = updates  
^C  
  
[...]  
  
#  
[1]+ Done for PKG in `cat list-packages-only-in-600.txt`;  
do  
echo $PKG"\t"\`yumdb info $PKG | grep "from_repo "`;  
done > list-packages-only-in-600-with-repo.txt  
  
[root@cie-56-18 Downloads]# wc -l list-packages-only-in-600.txt list-  
packages-only-in-600-with-repo.txt  
609 list-packages-only-in-600.txt  
609 list-packages-only-in-600-with-repo.txt  
1218 total
```

Com que molts dels paquets a desinstal·lar estan relacionats amb l'entorn gràfic, l'aturo,

```
[root@cie-56-18 Downloads]# systemctl status gdm.service  
[...]  
Aug 10 09:23:11 cie-56-18.uab.es systemd[1]: Starting GNOME Display  
Manager...
```



```
Aug 10 09:23:11 cie-56-18.uab.es systemd[1]: Started GNOME Display Manager.
[root@cie-56-18 Downloads]# systemctl stop gdm.service

[root@cie-56-18 Downloads]# systemctl status gdm.service
[...]
Aug 10 09:23:11 cie-56-18.uab.es systemd[1]: Starting GNOME Display
Manager...
Aug 10 09:23:11 cie-56-18.uab.es systemd[1]: Started GNOME Display Manager.
Aug 10 10:24:21 cie-56-18.uab.es systemd[1]: Stopping GNOME Display
Manager...
Aug 10 10:24:21 cie-56-18.uab.es systemd[1]: Stopped GNOME Display Manager.
```

i començo a desinstal·lar paquets de Gnome. Primer comprovo si està instal·lat com a “Environment Group”

```
# yum grouplist
[...]
Available Environment Groups:
  Minimal Install
[...]
  GNOME Desktop
  KDE Plasma Workspaces
  Development and Creative Workstation
Available Groups:
  Cinnamon
  Compatibility Libraries
[...]
  System Management
  TurboGears application framework
  Xfce
Done
```

i com que no està instal·lat com grup, començo a desinstal·lar les paquets a mà, per exemple,

```
# yum remove nautilus
[...]
Removed:
  nautilus.x86_64 0:3.26.3.1-7.el7

Dependency Removed:
  evince-nautilus.x86_64 0:3.28.2-10.el7          gnome-classic-
  session.noarch 0:3.28.1-17.el7_9

Complete!
```

Al final faig servir les comandes

- `yum autoremove` per eliminar paquets que ja no són necessaris,
- `package-cleanup --leaves` per comprovar quins altres paquets es podrien eliminar perquè no els necessita cap altre paquet, i llavors

- `yum remove `package-cleanup --leaves`` per eliminar-los;

fins que ja no es troba cap paquet innecessari.

Per ara no elimino cap kernel antic, però caldrà fer-ho en algun moment fent servir la comanda `yum remove kernel` o preferiblement `package-cleanup --oldkernels --count=2`,

```
# yum remove kernel
Loaded plugins: fastestmirror, keys, langpacks, refresh-packagekit
Skipping the running kernel: kernel-3.10.0-1160.25.1.el7.x86_64
Resolving Dependencies
--> Running transaction check
---> Package kernel.x86_64 0:3.10.0-1160.el7 will be erased
---> Package kernel.x86_64 0:3.10.0-1160.21.1.el7 will be erased
---> Package kernel.x86_64 0:3.10.0-1160.36.2.el7 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

=====
=====
Package Arch Version
Repository Size
=====
=====
Removing:
kernel x86_64 3.10.0-1160.el7
@anaconda 64 M
kernel x86_64
3.10.0-1160.21.1.el7 @updates
64 M
kernel x86_64
3.10.0-1160.36.2.el7 @updates
64 M

Transaction Summary
=====
=====
Remove 3 Packages

Installed size: 193 M
Is this ok [y/N]: N
```



## Enllaços d'interès

- [bash - Fast way of finding lines in one file that are not in another?](#)
- [Is there a tool to get the lines in one file that are not in another?](#)
- [How to know from which yum repository a package has been installed?](#)
- [How to remove orphaned packages on CentOS Linux](#)
- [Why Doesn't Yum Clean Up Orphaned Packages?](#)
- [Remove old unused kernels and cleanup orphaned packages on CentOS / RHEL/ Fedora and Debian Linux](#)

## Connexió i configuració dels dos monitors

Connecto a l'estació de treball el monitor ViewSonic VA2445 SERIES (sortida DisplayPort amb adaptador a DVI) i el monitor HP LA1951 (sortida DVI), i l'ordinador els reconeix i configura correctament. El monitor ViewSonic es configura com pantalla principal (finestra del TopSpin) i el monitor HP com pantalla secundària (finestres de la BSMS, de lock, etc.).

## Configuració de KDE

Per tal que es faci servir l'entorn KDE en comptes del Gnome, creo un fitxer `/etc/sysconfig/desktop` on poso `DESKTOP=KDE`.

```
# cat desktop
DESKTOP=KDE
```

Llavors engego l'entorn gràfic,

```
[root@cie-56-18 sysconfig]# systemctl status gdm.service
[...]
Aug 10 09:23:11 cie-56-18.uab.es systemd[1]: Starting GNOME Display
Manager...
Aug 10 09:23:11 cie-56-18.uab.es systemd[1]: Started GNOME Display Manager.
Aug 10 10:24:21 cie-56-18.uab.es systemd[1]: Stopping GNOME Display
Manager...
Aug 10 10:24:21 cie-56-18.uab.es systemd[1]: Stopped GNOME Display Manager.

[root@cie-56-18 sysconfig]# systemctl start gdm.service
[root@cie-56-18 sysconfig]# systemctl status gdm.service
[...]
Aug 10 14:30:20 cie-56-18.uab.es systemd[1]: Starting GNOME Display
Manager...
Aug 10 14:30:20 cie-56-18.uab.es systemd[1]: Started GNOME Display Manager.
[root@cie-56-18 sysconfig]#
```

i a la pantalla del GDM, abans d'entrar, comprovo quin entorn es farà servir i veig que al llistat d'entorns surt el **KDE Plasma Environment** com a opció seleccionada, i que no surt el Gnome al llistat.

Llavors obro una sessió i comprovo que es carrega el KDE, i que hi ha uns quants processos relacionats amb el KDE,

```
# ps ax | grep -i kde
 28 ?          S          0:00 [kdevtmpfs]
25835 ?        Ss         0:00 /bin/sh /usr/bin/startkde
25937 ?        Ss         0:00 /usr/bin/ssh-agent /bin/sh -c exec -l /bin/bash -c "/usr/bin/startkde"
26005 ?        S          0:00 /usr/libexec/kde4/start_kdeinit +kcmnit_startup
26006 ?        Ss         0:00 kdeinit4: kdeinit4 Running...
26007 ?        S          0:00 kdeinit4: klauncher [kdeinit] --fd=9
26009 ?        Sl         0:00 kdeinit4: kded4 [kdeinit]
26035 ?        S          0:00 kdeinit4: kglobalaccel [kdeinit]
26044 ?        S          0:00 kdeinit4: kwalletd [kdeinit]
26134 ?        Sl         0:00 kdeinit4: ksmsserver [kdeinit]
26170 ?        Sl         0:04 kdeinit4: plasma-desktop [kdeinit]
26379 ?        Sl         0:00 kdeinit4: krunner [kdeinit]
26404 ?        Sl         0:00 /usr/libexec/kde4/polkit-kde-authentication-agent-1
26425 ?        S          0:00 kdeinit4: klipper [kdeinit]
26437 ?        Sl         0:00 kdeinit4: kmix [kdeinit]
26439 ?        Sl         0:00 /usr/bin/xsettings-kde
27152 ?        Sl         0:00 /usr/libexec/kde4/kscreenlocker_greet --immediateLock
31419 pts/2    S+         0:00 grep --color=auto -i kde

# pstree --ascii
systemd--ModemManager---2*[{ModemManager}]
:
:
|-gdm--X---{X}
|   |-gdm-session-wor--startkde--kwrapper4
|   |   |
|   |   |   |-ssh-agent
|   |   |   `--2*[{gdm-session-wor}]
|   |   `--3*[{gdm}]
:
:
|-kactivitymanage---5*[{kactivitymanage}]
|-kded4---7*[{kded4}]
|-kdeinit4--abrt-applet---2*[{abrt-applet}]
|   |
|   |   |-klauncher
|   |   |
|   |   |   |-ksmsserver--kscreenlocker_g---{kscreenlocker_g}
|   |   |   |
|   |   |   |   |-kwin
|   |   |   |   |
|   |   |   |   |   `-{ksmsserver}
|   |   |   |   `--seapplet---2*[{seapplet}]
|   |   |   `--tracker-extract---13*[{tracker-extract}]
|   |   |       |-tracker-miner-a---3*[{tracker-miner-a}]
|   |   |       |-tracker-miner-u---3*[{tracker-miner-u}]
|   |   `--xsettings-kde---4*[{xsettings-kde}]
```

```
| -kglobalaccel
| -klipper
| -kmix---{kmix}
| -knotify4---{knotify4}
| -krunner---{krunner}
| -kuiserver
| -kwalletd
:
:
| -plasma-desktop-+-ksysguardd
|           ` -4*[{plasma-desktop}]
| -polkit-kde-auth---2*[{polkit-kde-auth}]
:
:
| -start_kdeinit
:
:
| -udisksd---4*[{udisksd}]
| -upowerd---2*[{upowerd}]
| -wpa_supplicant
` -xinetd
```

## Enllaços d'interès

- [Set KDE Desktop Environment like default CentOS 7](#)
- [How to install Desktop Environments on CentOS 7?](#)

## Enllaç a la 4a part

[Quarta part de la instal·lació del CentOS](#)

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