

LAB Environment	
OS	Red Hat Enterprise Linux 6.4
Tape Device	IBM Tape Library TS3100 (3573-TL)
Install Package & Version	lin_tape-1.76.0-1.src.rpm lin_taped-1.76.0-rhel6.x86_64.rpm

### 下載安裝程式

1. 到 IBM 網站([連結](#))下載以下 2 組安裝程式

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lin\_tape-*[version]*.src.rpm

lin\_taped-*[version]*-rhel6.x86\_64.rpm

### 安裝 lin\_tape Driver

1. Rebuild lin\_tape-*[version]*.src.rpm

---

```
[root@JLAB ~]# rpmbuild --rebuild lin_tape-1.76.0-1.src.rpm
```

```
Installing lin_tape-1.76.0-1.src.rpm
```

```
Executing(%prep): /bin/sh -e /var/tmp/rpm-tmp.djYbOh
```

```
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd /root/rpmbuild/BUILD
+ rm -rf lin_tape-1.76.0
+ /bin/tar -xf -
+ /usr/bin/gzip -dc /root/rpmbuild/SOURCES/lin_tape-1.76.0.tgz
+ STATUS=0
+ '[' 0 -ne 0 -e 0 -ne 0 ']'
+ cd lin_tape-1.76.0
+ /bin/chmod -Rf a+rX,u+w,g-w,o-w .
+ exit 0
```

```
Executing(%build): /bin/sh -e /var/tmp/rpm-tmp.WgdLYo
```

```
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd lin_tape-1.76.0
++ cut -f 1 -d -
++ echo x86_64-redhat-linux-gnu
+ p=x86_64
+ '[' x86_64 == i386 -e 0 -ne 0 ']'
+ '[' x86_64 == i586 -e 0 -ne 0 ']'
+ '[' x86_64 == i686 -e 0 -ne 0 ']'
+ '[' x86_64 == ppc64 -e 0 -ne 0 ']'
+ '[' x86_64 == powerpc -e 0 -ne 0 ']'
+ '[' x86_64 == powerpc64 -e 0 -ne 0 ']'
+ '[' x86_64 == s390 -e 0 -ne 0 ']'
+ '[' x86_64 == s390x -e 0 -ne 0 ']'
+ '[' x86_64 == ia64 -e 0 -ne 0 ']'
+ '[' x86_64 == x86_64 -e 0 -ne 0 ']'
+ proc=AMD
+ cp -af lin_tape_359X_AMD.ReadMe lin_tape_359X.ReadMe
+ cp -af lin_tape_Ultrium_AMD.ReadMe lin_tape_Ultrium.ReadMe
+ make KERNEL=2.6.32-358.el6.x86_64 PROC=x86_64 driver
make -C /lib/modules/2.6.32-358.el6.x86_64/build SUBDIRS=/root/rpmbuild/BUILD/lin_tape-1.76.0
PWD=/root/rpmbuild/BUILD/lin_tape-1.76.0 clean
make[1]: Entering directory `/usr/src/kernels/2.6.32-358.el6.x86_64'
make[1]: Leaving directory `/usr/src/kernels/2.6.32-358.el6.x86_64'
```

```
mkdir bldtmp
make KERNEL=2.6.32-358.el6.x86_64 compileclean lin_tape.ko
make[1]: Entering directory `/root/rpmbuild/BUILD/lin_tape-1.76.0'
export PWD
make -C /lib/modules/2.6.32-358.el6.x86_64/build SUBDIRS=/root/rpmbuild/BUILD/lin_tape-1.76.0
PWD=/root/rpmbuild/BUILD/lin_tape-1.76.0 modules
make[2]: Entering directory `/usr/src/kernels/2.6.32-358.el6.x86_64'
  CC [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape_scsi_config.o
  CC [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape_scsi_tape.o
  CC [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape_scsi_trace.o
  CC [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape_ioctl_tape.o
  CC [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape_ioctl_changer.o
  CC [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape_extra_ioctl.o
  LD [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape.o
Building modules, stage 2.
MODPOST 1 modules
  CC      /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape.mod.o
  LD [M]  /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape.ko.unsigned
  NO SIGN [M] /root/rpmbuild/BUILD/lin_tape-1.76.0/lin_tape.ko
make[2]: Leaving directory `/usr/src/kernels/2.6.32-358.el6.x86_64'
make[1]: Leaving directory `/root/rpmbuild/BUILD/lin_tape-1.76.0'
mv lin_tape.ko bldtmp/lin_tape-2.6.32-358.el6.x86_64.ko
+ exit 0
Executing(%install): /bin/sh -e /var/tmp/rpm-tmp.6394J3
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd lin_tape-1.76.0
+ rm -rf /root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64
+ install -D -m 644 bldtmp/lin_tape-2.6.32-358.el6.x86_64.ko
/root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64/lib/modules/2.6.32-358.el6.x86_64/kernel/drivers/scsi/li
n_tape.ko
++ uname -m
+ PROC=x86_64
+ p=x86_64
+ '[' x86_64 == i386 ']'
+ '[' x86_64 == i586 ']'
+ '[' x86_64 == i686 ']'
+ install -D -m 700 lin_tape /root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64/etc/init.d/lin_tape
```

```
+ cd /root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64
+ ln -sf /etc/init.d/lin_tape /usr/sbin/rclin_tape
+ cd -
/root/rpmbuild/BUILD/lin_tape-1.76.0
+ /usr/lib/rpm/brp-compress
+ /usr/lib/rpm/brp-strip
+ /usr/lib/rpm/brp-strip-static-archive
+ /usr/lib/rpm/brp-strip-comment-note
Processing files: lin_tape-1.76.0-1.x86_64
Executing(%doc): /bin/sh -e /var/tmp/rpm-tmp.V44jTI
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd lin_tape-1.76.0
+ DOCDIR=/root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64/usr/share/doc/lin_tape-1.76.0
+ export DOCDIR
+ rm -rf /root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64/usr/share/doc/lin_tape-1.76.0
+ /bin/mkdir -p /root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64/usr/share/doc/lin_tape-1.76.0
+ cp -pr lin_tape_Ultrium.ReadMe lin_tape_359X.ReadMe COPYING COPYING.LIB
/root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64/usr/share/doc/lin_tape-1.76.0
+ exit 0
Checking for unpackaged file(s): /usr/lib/rpm/check-files
/root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64
warning: Could not canonicalize hostname: JTSM
Wrote: /root/rpmbuild/RPMS/x86_64/lin_tape-1.76.0-1.x86_64.rpm
Executing(%clean): /bin/sh -e /var/tmp/rpm-tmp.SfqwH7
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd lin_tape-1.76.0
+ rm -rf /root/rpmbuild/BUILDROOT/lin_tape-1.76.0-1.x86_64
+ exit 0
Executing(--clean): /bin/sh -e /var/tmp/rpm-tmp.tXKWbR
+ umask 022
+ cd /root/rpmbuild/BUILD
+ rm -rf lin_tape-1.76.0
+ exit 0
```

## 2. Rebuild 完成後，找到以下目錄及檔案，並安裝 lin\_tape Driver。

```
/root/rpmbuild/RPMS/x86_64/lin_tape-[version].x86_64.rpm
```

```
[root@JLAB ~]# rpm -ivh /root/rpmbuild/RPMS/x86_64/lin_tape-1.76.0-1.x86_64.rpm
```

```
Preparing...          ##### [100%]
 1:lin_tape           ##### [100%]
Starting lin_tape:
lin_tape loaded
```

### 3. 安裝 lin\_taped daemon

```
[root@JLAB ~]# rpm -ivh lin_taped-1.76.0-rhel6.x86_64.rpm
```

```
Preparing...          ##### [100%]
 1:lin_tape           ##### [100%]
Starting lin_tape:
lin_tape loaded
```

## 啟動 lin\_tape

### 1. 啟動 lin\_tape daemon

```
[root@JLAB ~]# /etc/init.d/lin_tape start
```

### 2. 確認系統是否可看到 Tape 裝置

```
[root@JLAB ~]# cat /proc/scsi/IBM*
```

```
lin_tape version: 1.76.0
lin_tape major number: 248
Attached Changer Devices:
Number  model      SN              HBA              SCSI              FO Path
0       3573-TL   70000050       iSCSI Initiator over TCP/IP3:0:0:1  NA
lin_tape version: 1.76.0
lin_tape major number: 248
```

## Attached Tape Devices:

Number	model	SN	HBA	SCSI	FO Path
0	ULT3580-TD4	70000051	iSCSI Initiator over TCP/IP	3:0:0:2	NA
1	ULT3580-TD4	70000052	iSCSI Initiator over TCP/IP	3:0:0:3	NA

```
[root@JLAB ~]# /usr/bin/lsscsi
```

[3:0:0:1]	mediumx	IBM	3573-TL	4.02	-
[3:0:0:2]	tape	IBM	ULT3580-TD4	252D	-
[3:0:0:3]	tape	IBM	ULT3580-TD4	252D	-

### 3. Finish