MCU/TS作業系統格式（快速啟動）配置示例

目錄

簡介

本文說明如何快速連線多點控制單元/網真伺服器(MCU/TS)。

MCU或TS軟體儲存在裝置內部的快閃記憶體中。包含作業系統(OS)以及數位訊號處理器(DSP)的預置檔案、Web介面的網頁、MCU/TS應用程式、音訊檔案、使用者設定、會議資訊、稽核日誌、CDR等。

統計是指內部記憶體上的整個作業系統分割槽已格式化，並且從零開始安裝作業系統和應用程式的過程。這不同於常規軟體更新，在常規軟體更新中，儲存上的檔案僅使用升級檔案中的較新檔案進行更新，不會丟失資料。

如果裝置拒絕啟動且正常升級未修復它，或者記憶體因某種原因損壞，則執行強制測試。原因包括：

- 快閃記憶體錯誤
- 通過錯誤的更新損壞軟體
- 在不關閉裝置的情況下關閉裝置電源
- 裝置發生故障時的錯誤關閉

此過程與重新格式化電腦的硬碟並重新安裝作業系統和應用程式時非常相似。

> **警告**：裝置上儲存的所有資料都將銷毀。建議備份配置檔案，以及任何必需的許可證金鑰、SIP/H323資訊等。您還需要格式化USB介面卡或快閃記憶體卡，以便還要備份任何要保留的資料。

只有在Cisco TAC的指導下才能遵循此程式。

必要條件

需求

思科建議您瞭解以下主題：

- USB介面卡（適用於8710/8510/5300）
- 快閃記憶體卡和讀卡器（適用於4200/4500）
- 要還原的硬體平台的故障映像。請聯絡思科TAC獲取映像
- 控制檯電纜以及串列埠或USB到串列介面卡
- 終端模擬器程式（PuTTY、控制檯、超級終端）

採用元件

本文件所述內容不限於特定軟體和硬體版本。

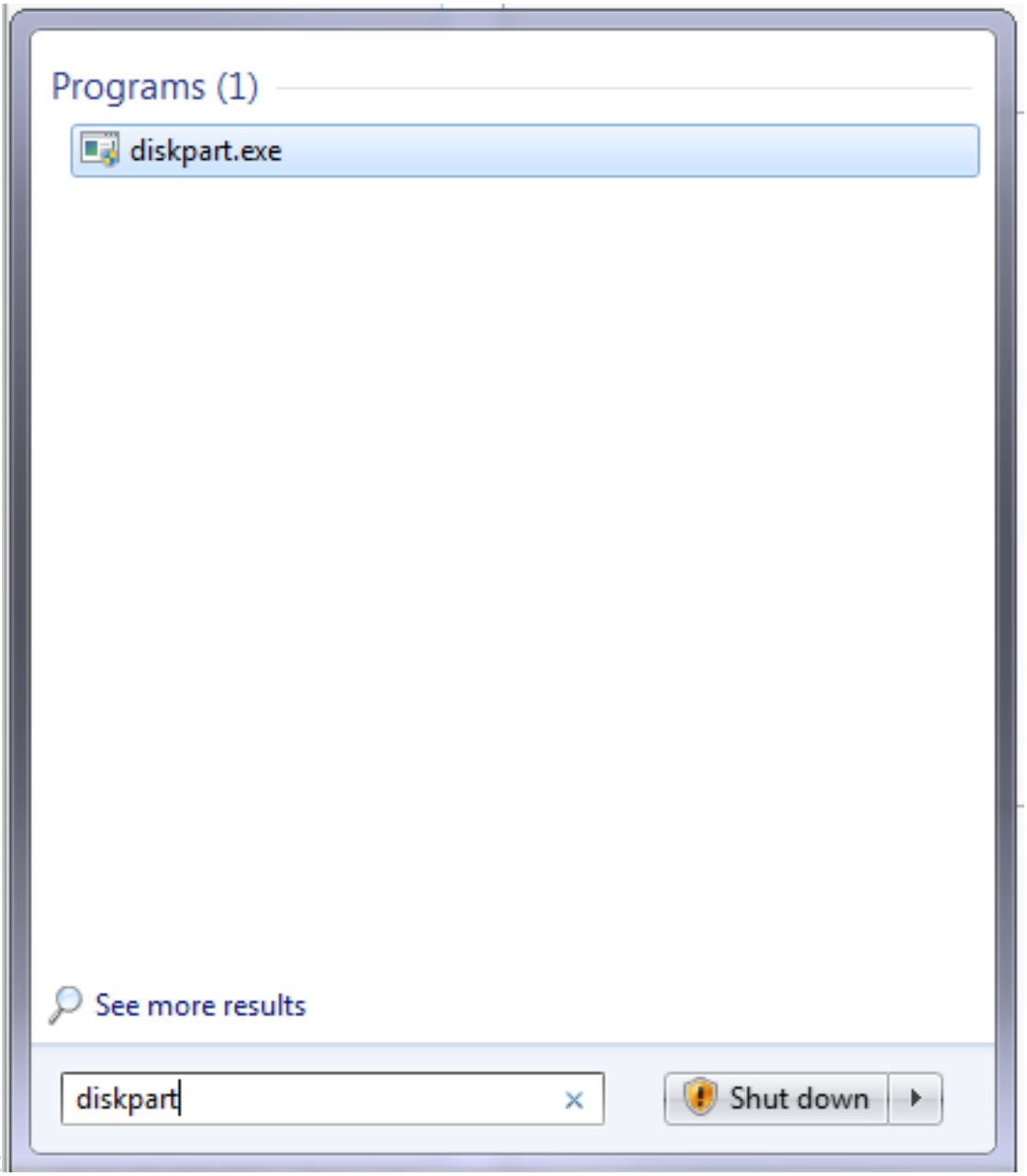
本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

設定

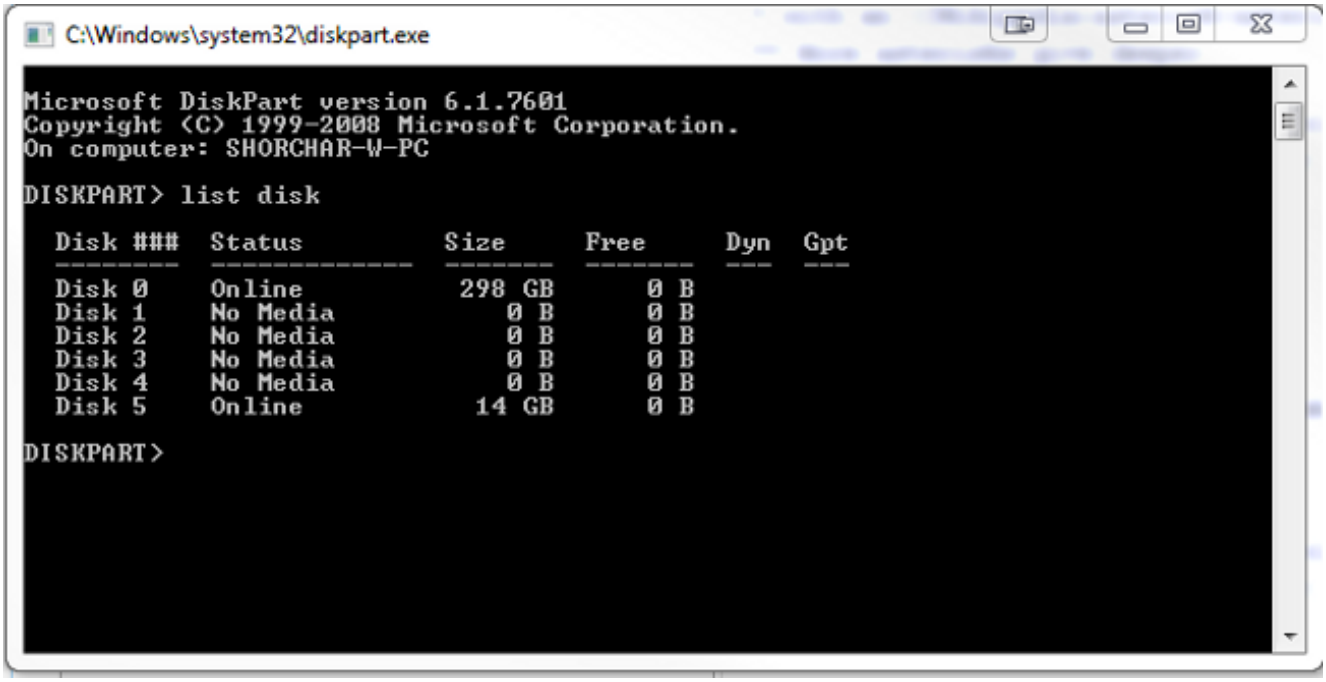
準備USB閃存檔或快閃記憶體卡 — Windows

1. 將USB裝置插入電腦上的USB埠，或將緊湊型快閃記憶體卡插入連線到電腦的讀卡器。
2. 載入Windows diskpart應用程式。選擇「Start」並輸入diskpart，然後按一下

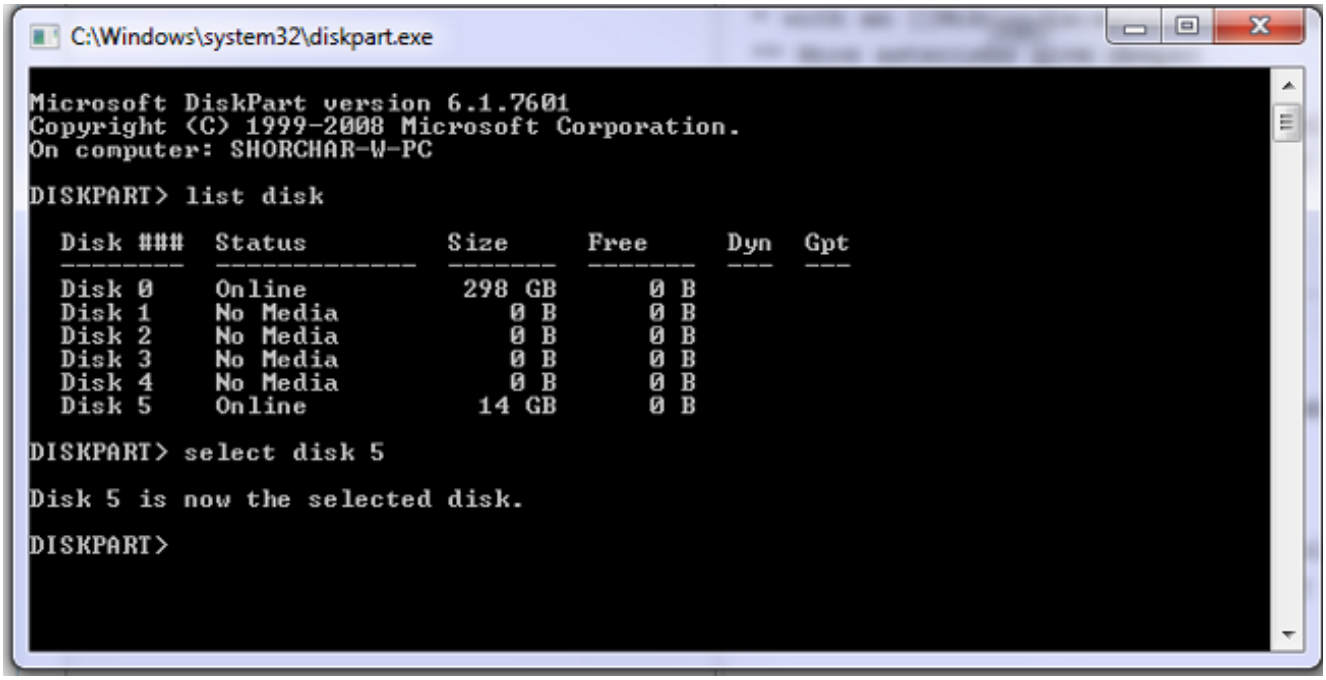
diskpart.exe:



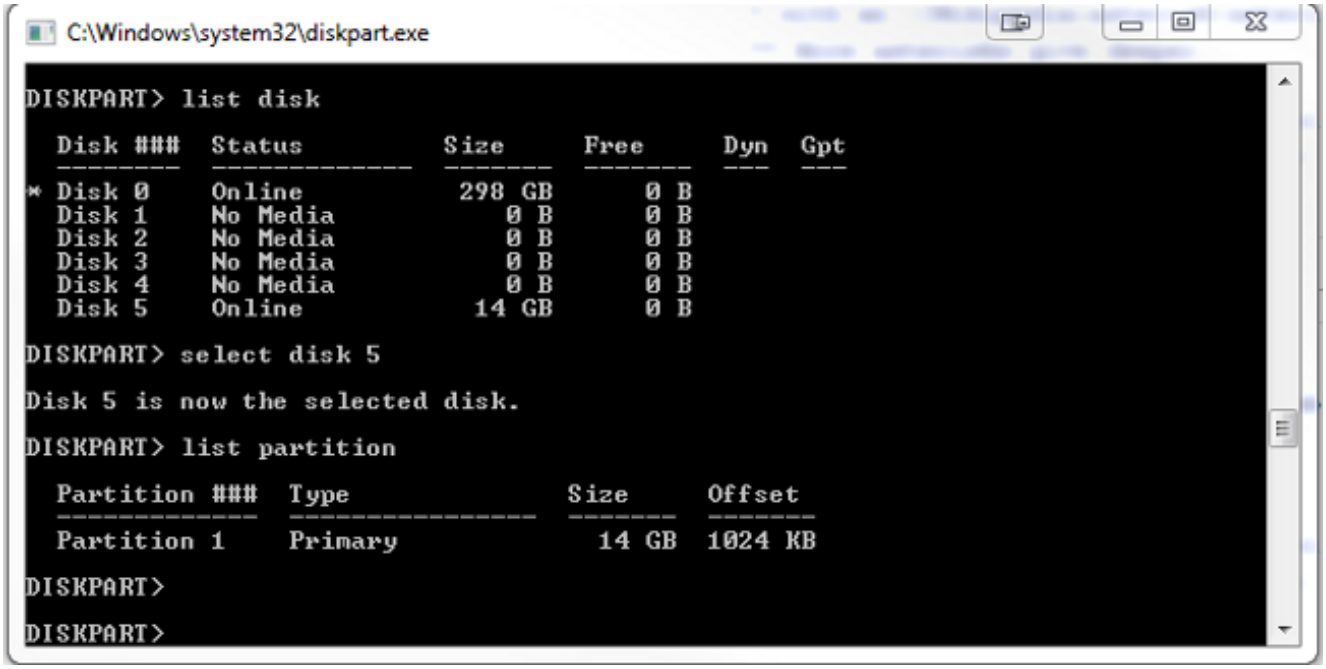
3. 按一下**Yes**以接受來自Windows的警告消息。系統隨即會顯示命令提示符。確保正確鍵入每個命令並選擇正確的磁碟，因為拼寫錯誤可能意味著您要格式化而不格式化某項。輸入**list disk**以顯示系統中的所有儲存裝置
   ：



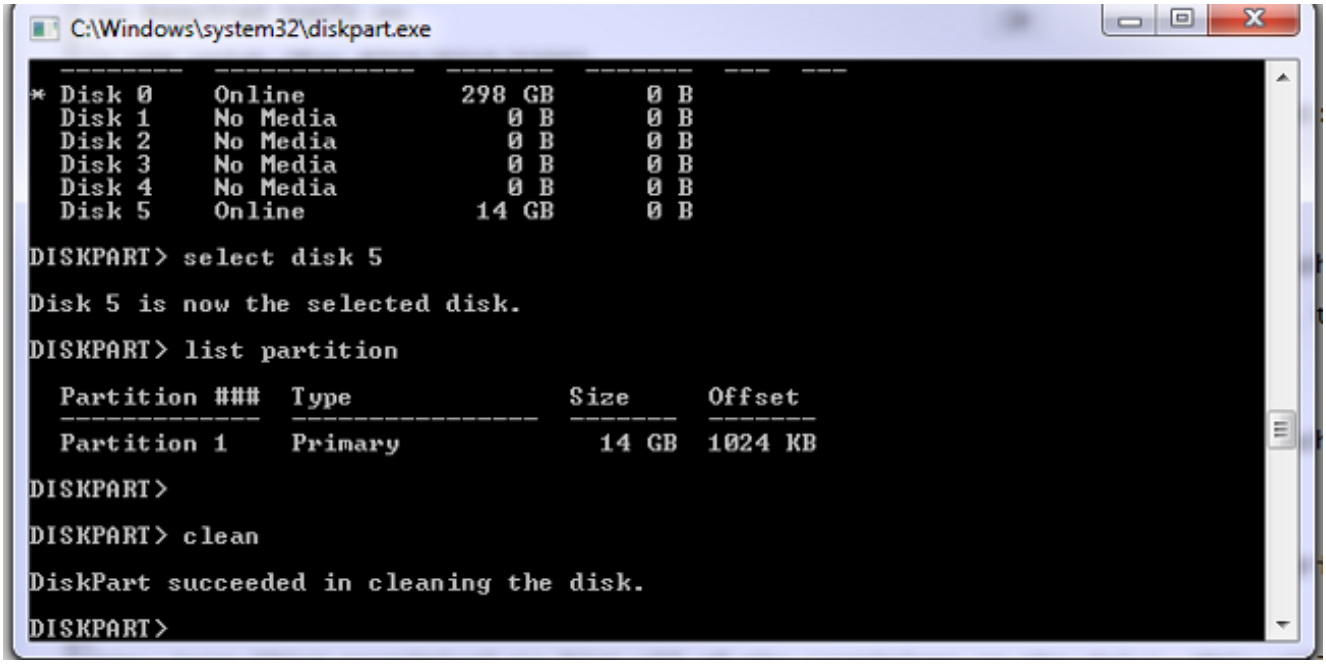
4. 仔細檢視裝置清單。磁碟0可能是電腦的C:列出了驅動器和任何其他硬碟、USB裝置、讀卡器等。查詢與您計畫格式化裝置緊密對應的驅動器。在此情況下，將插入16GB USB驅動器。因此，選擇14GB驅動器，因為它是系統中唯一的其它選項。輸入**select disk X**以選擇磁碟。X是本清單中的磁碟編號。在此示例中，磁碟
   5:



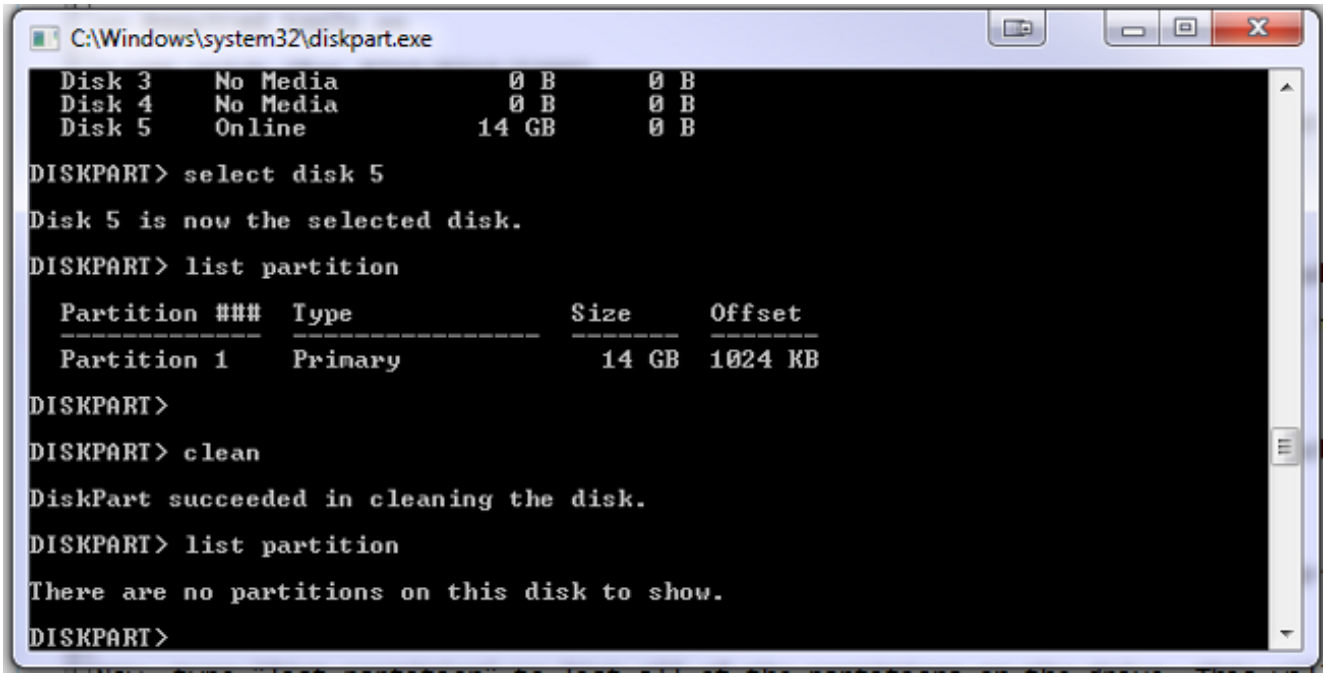
5. 輸入**list partition**以列出驅動器上的所有分割槽。這可以告訴存在哪些分割槽，還可以確保您選擇了正確的磁碟。



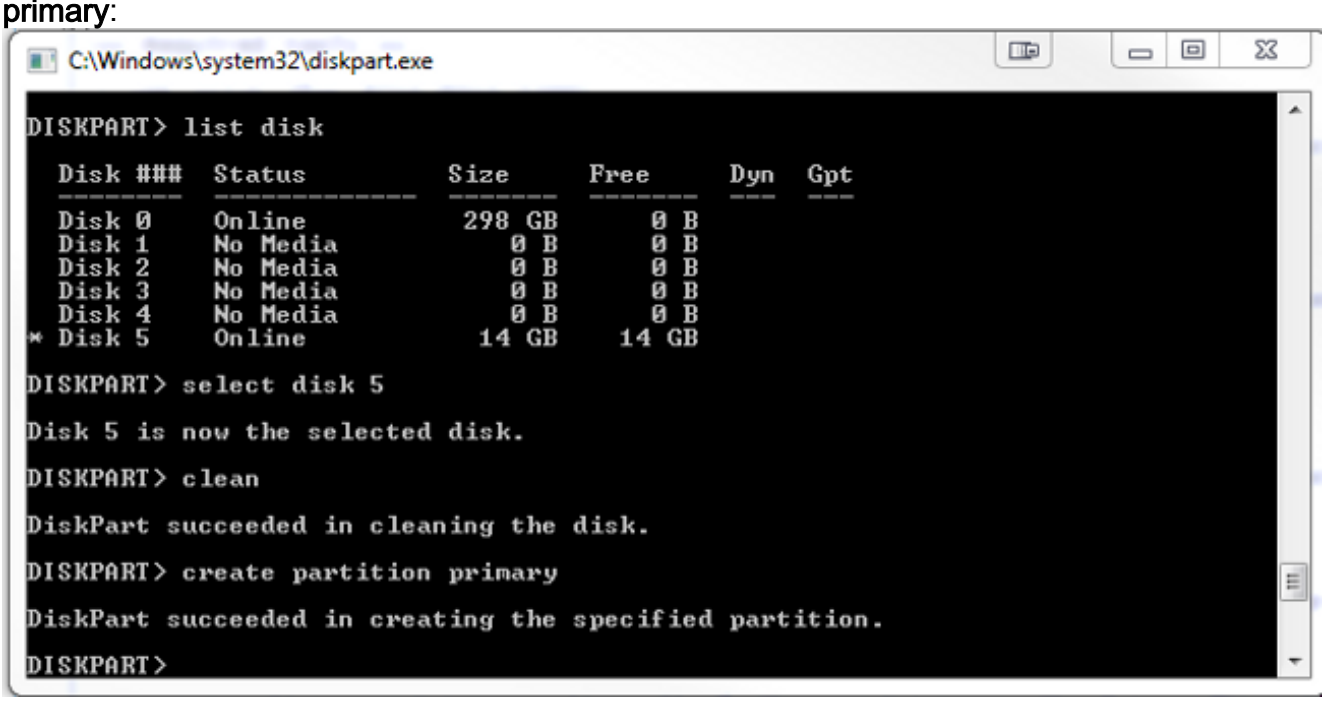
6. 銷毀驅動器上的所有分割槽。若要執行此操作，請輸入clean。**無確認和警告。這將破壞驅動器上的分割槽表，使恢復任何資料更加困難。請務必檢查您選擇的驅動器是否正確！**



7. 輸入list partition以驗證分割槽表是否已清除：



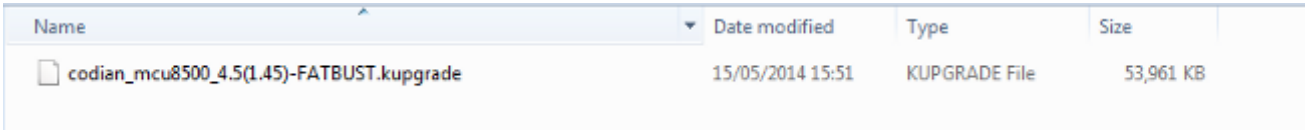
8. 要建立使用整個驅動器的分割槽，請輸入**create partition primary**:



9. 格式化新分割槽。它是檔案分配表32(FAT32)，這一點很重要，以便MCU/TS可以識別它。無法識別Mac或新技術檔案系統(NTFS)格式化的驅動器。為此，請輸入**format fs=fat32 quick**作為FAT32的快速格式
   :

現在，您可以在「My Computer：（我的電腦：）」中檢視磁碟

10. 將fatbust映像複製到磁碟。Fatbust映像特定於要恢復的硬體平台。與普通軟體更新一樣，您只能對8510刀片應用8510胖子，對5300單元應用5300胖子，等等。請從TAC取得映像並將其複製到USB磁碟機
：

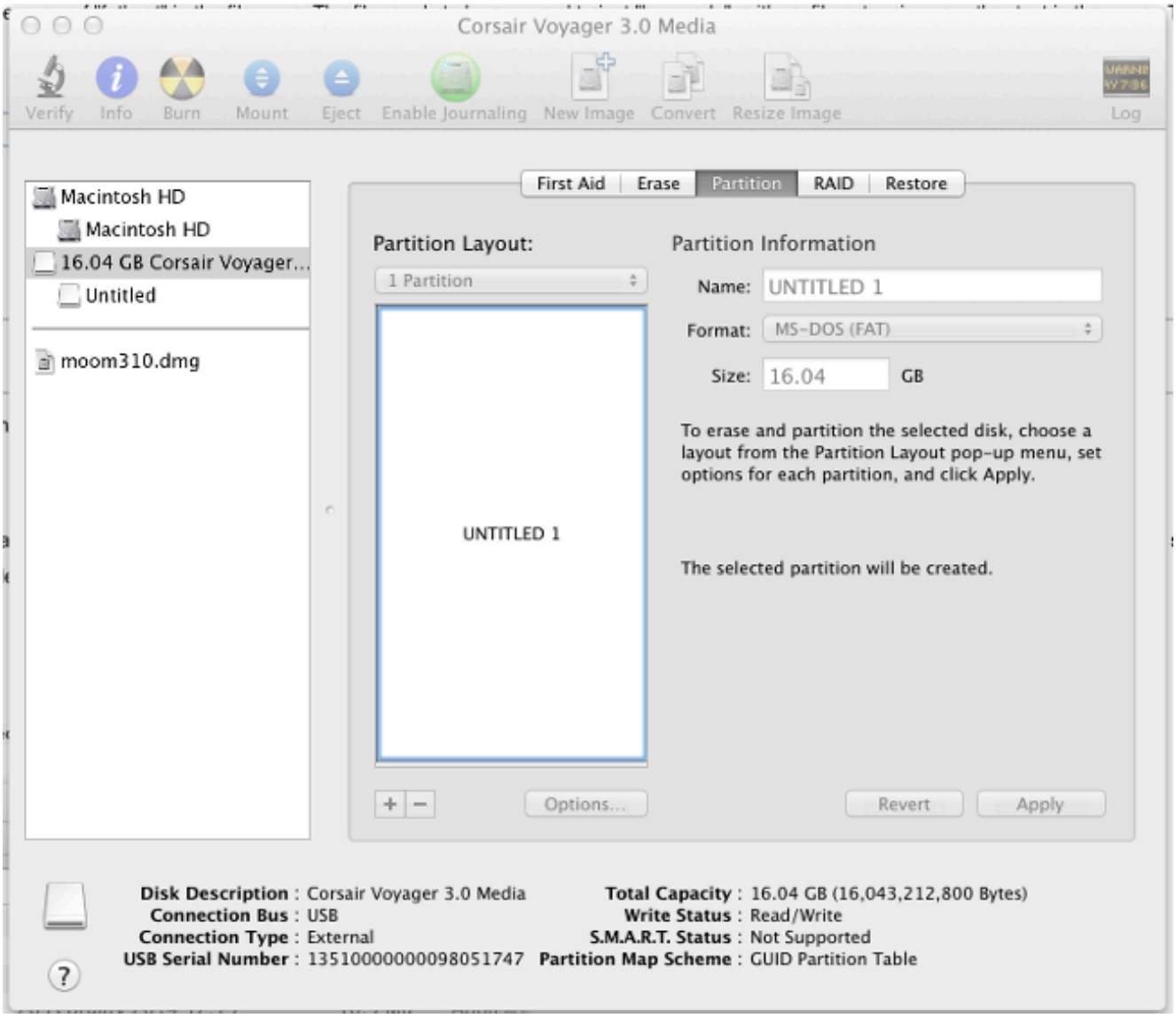


您可以通過在檔名中出現「fatbut」來區分胖子與正常影象之間的區別。檔案需要重新命名為「kupgrade」，名稱中不包含副檔名或其他文本。為此，請將該檔案重新命名為Windows中的任何其他檔案（並接受有關副檔名更改的警告
）：

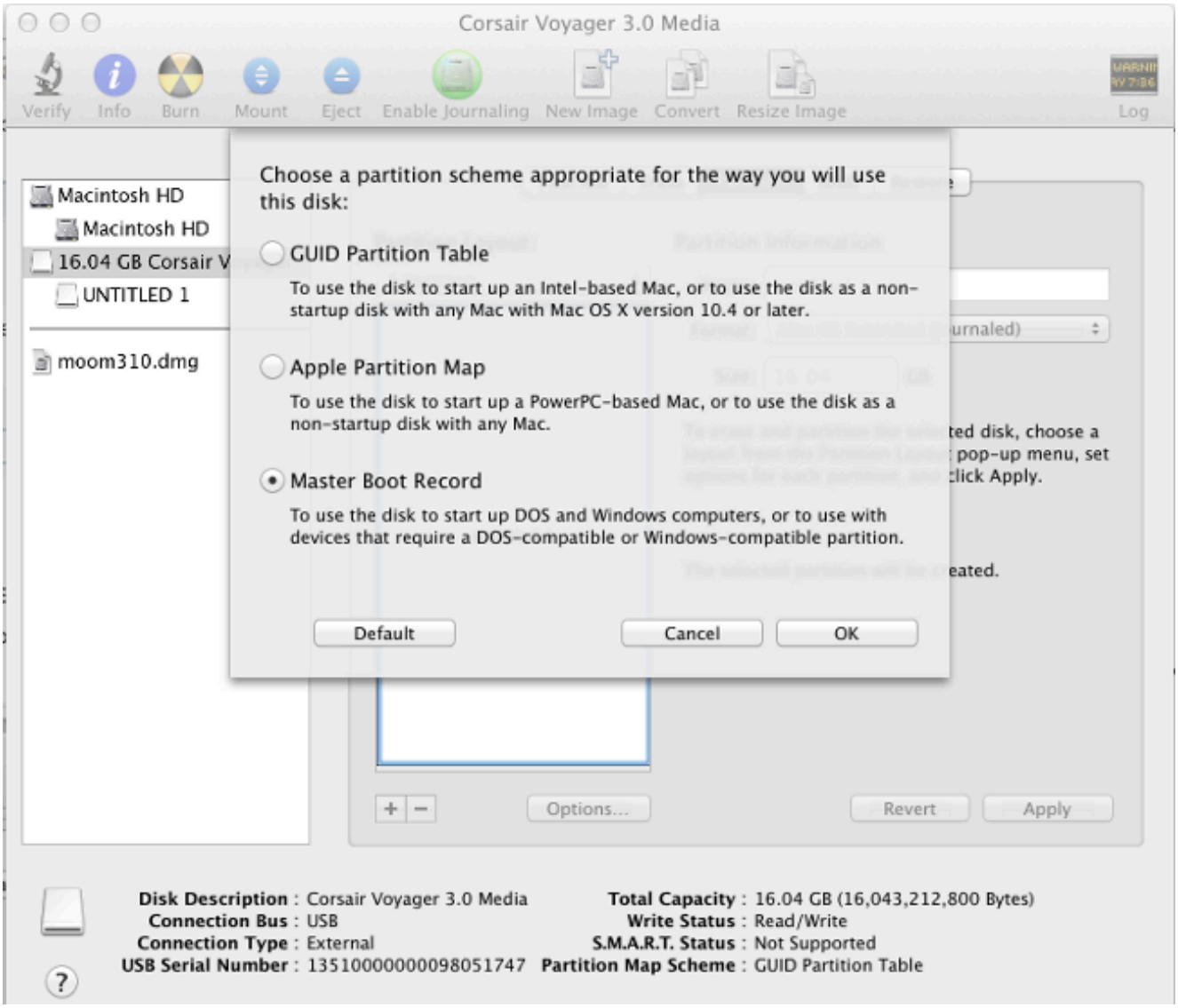
儲存裝置現在已準備好恢復該裝置。

準備USB閃存檔或快閃記憶體卡 — Mac

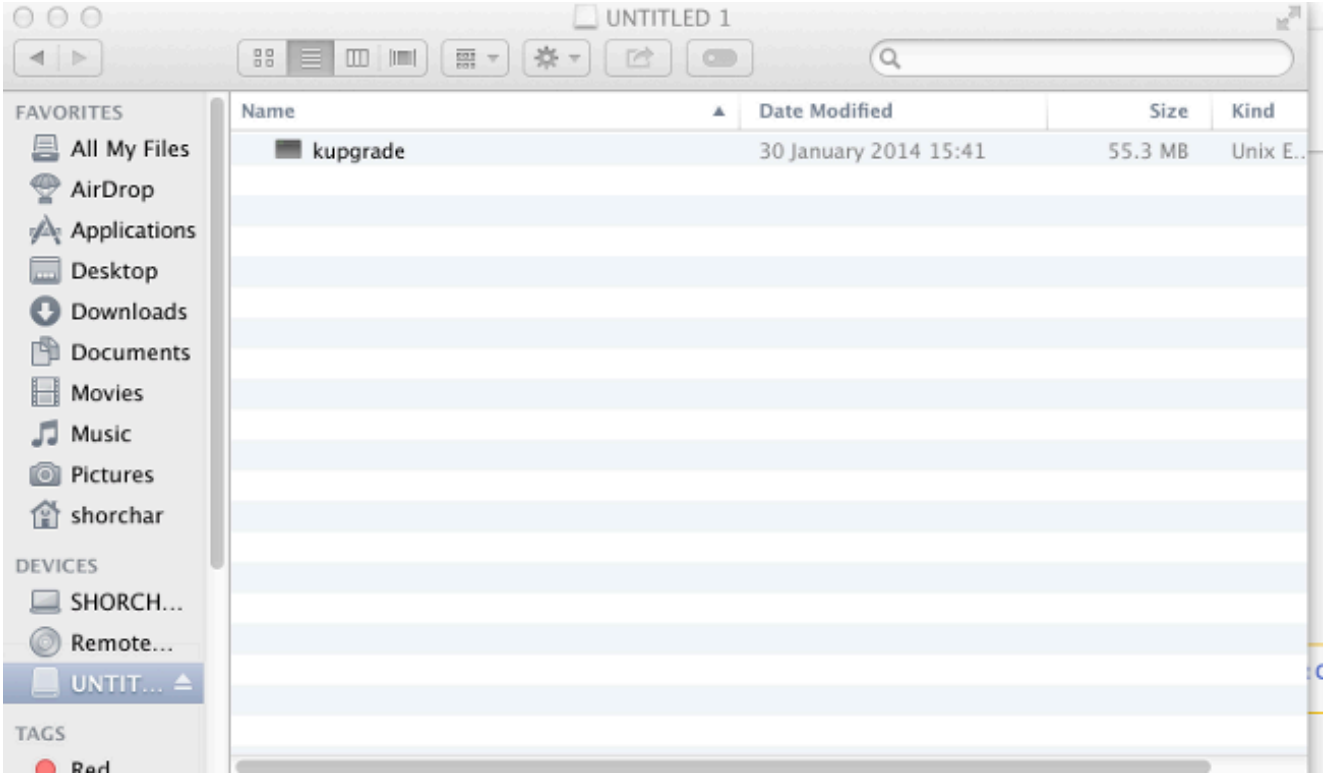
1. 將儲存裝置連線到Mac的USB埠（USB驅動器或USB快閃記憶體卡讀卡器）。
2. 啟動磁碟實用程式。在選單欄的聚光燈搜尋框中輸入**Disk Utility**，或選擇**Applications > Utilities > Disk Utility**。
3. 按一下要格式化的裝置。請記住仔細檢查是否計畫格式化正確的驅動器，然後按一下「Partition（分割槽）」頁籤。在Current下拉框中選擇**1 Partition**，然後在Format下拉框中選擇**MS-DOS(FAT)**。名字並不重要
：



4. 按一下視窗底部的**Options**。請務必選擇**Master Boot Record**作為分割槽方案，因為預設情況下，Mac會嘗試使用全域性唯一識別符號(GUID)分割槽表
：



5. 按一下「Apply」。格式化完成後，您應該擁有正確格式化的裝置。轉到Finder中的裝置，然後像複製其他檔案一樣將檔案複製到USB驅動器。然後按一下該檔案，按return鍵，將其重新命名為「kupgrade」
：



儲存裝置可供使用。

恢復 — 8510 / 8710

8510和8710的步驟相同，因為它們是相同的硬體。

為了恢復裝置：

1. 如前所述準備USB介面。
2. 將USB資料線插入刀片前面靠近控制檯連線的頂部的兩個USB埠之一。將控制檯電纜連線到控制檯埠並載入終端模擬器(串列埠設定為38400bps、8個資料位、1個停止位、無奇偶校驗):
3. 重新啟動裝置。輸入**shutdown**並重新啟動**到序列主控台：**

```
      MCU:> shutdown
shutting down
MCU:> reboot
104725.174 SYSTEM : Warning : Product activation key required
reboot: waiting for shutdown to complete
104729.531 SYSTEM : Info : shutdown monitor - shutdown initiated
104729.531 GATEKEEPER : Info : shutdown initiated
104729.531 GATEKEEPER : Info : shutdown complete
104729.531 CONFERENCE : Info : no active participants - shutdown now complete
104730.032 SYSTEM : Info : shutdown process - all priority 100 handlers complete
104730.032 SYSTEM : Info : shutdown process - shutdown complete
Waiting (max 60 seconds) for system process `vnlru' to stop...done
Waiting (max 60 seconds) for system process `fastpath' to stop...done
Waiting (max 60 seconds) for system process `bufdaemon' to stop...done
Waiting (max 60 seconds) for system process `syncer' to stop...
Syncing disks, vnodes remaining...0 0 done
All buffers synced.
Uptime: 29m39s
...
Rebooting...
cpu_reset: Stopping other CPUs
Host requested soft-reboot... Asserting nHOST_RESET
HUB configured.
Hardware Revision = 0x01
```

```
SlotID = 0xf2
Asserting MCU_DSP_PWR_EN
Deasserting nHOST_RESET
```

裝置重新啟動時，您應該會看到一條消息，表明裝置正在從USB裝置載入kupgrade檔案。當裝置完成複製並開始啟動時，拔下USB插棒：

```
     Checking system timer ... OK
EEPROM digest:
84 b2 ce a9 66 a2 4f 9b e4 b0 6b 66 c1 53 a9 82
FreeUsbd v.0.1.2
USB pre initialised
FIDDLESTICKS
Host stat now 42

USB mass storage manufacturer : General (8644)
USB mass storage product name : USB Flash Disk (8003)
USB mass storage serial number: 0531230000000636
Number of logical drives: 1

USB drive (1) mounted: fsName 'usbfs2a'
kernel_boot(usbfs1a:kupgrade)
kernel_boot(usbfs2a:kupgrade)
.................................................
No fat payload ## unplug here
Image version: 4.0(2.8)
entrypoint 0xc045f2b0
KDB: debugger backends: ddb
KDB: current backend: ddb
Copyright (c) 1992-2013 The FreeBSD Project.
Copyright (c) 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
The Regents of the University of California. All rights reserved.
FreeBSD is a registered trademark of The FreeBSD Foundation.
FreeBSD 8.4-RELEASE #0: Fri Jan 31 13:08:49 GMT 2014
```

4. 裝置啟動後，恢復過程開始。建立新分割槽，然後複製檔案並更新韌體，就像普通更新一樣：

```
*********************
* Starting kupgrade *
*********************
Mounting filesystems...
ugen2.2: <General> at usbus2 (disconnected)
umass0: at uhub2, port 2, addr 2 (disconnected)
(da0:umass-sim0:0:0:0): lost device - 0 outstanding, 3 refs
(da0:umass-sim0:0:0:0): got CAM status 0xa
(da0:umass-sim0:0:0:0): fatal error, failed to attach to device
(da0:umass-sim0:0:0:0): removing device entry
kupgrade running in mode: fatbust
ugen1.2: <TANDBERG 09> at usbus1
Erasing ALL filesystems in 5 seconds...
Creating partition table
******* Working on device /dev/ada0 *******
Creating disk label
Creating root fs
/dev/ada0s2a: 384.0MB (786432 sectors) block size 16384, fragment size 2048 using 4
cylinder groups of 96.02MB, 6145 blks, 12352 inodes.
super-block backups (for fsck -b #) at: 160, 196800, 393440, 590080
newfs: Cannot retrieve operator gid, using gid 0.
Creating cfg fs
/dev/ada0s2b: 16.0MB (32768 sectors) block size 16384, fragment size 2048 using 4
cylinder groups of 4.02MB, 257 blks, 576 inodes.
super-block backups (for fsck -b #) at: 160, 8384, 16608, 24832
newfs: Cannot retrieve operator gid, using gid 0.
Creating rdwr fs
/dev/ada0s2d: 64.0MB (131072 sectors) block size 16384, fragment size 2048 using 4
cylinder groups of 16.02MB, 1025 blks, 2112 inodes.
super-block backups (for fsck -b #) at: 160, 32960, 65760, 98560
```

```
newfs: Cannot retrieve operator gid, using gid 0.
Creating cdr fs
/dev/ada0s2e: 256.0MB (524288 sectors) block size 16384, fragment size 2048 using 4
cylinder groups of 64.02MB, 4097 blks, 8256 inodes.
super-block backups (for fsck -b #) at: 160, 131264, 262368, 393472
newfs: Cannot retrieve operator gid, using gid 0.
Creating fat fs
/dev/ada0s1: 529040 sectors in 66130 FAT32 clusters (4096 bytes/cluster)
BytesPerSec=512 SecPerClust=8 ResSectors=4 FATs=2 Media=0xf0 SecPerTrack=36
Heads=255 HiddenSecs=0 HugeSectors=530082 FATsecs=518 RootCluster=2 FSInfo=1 Backup=2
All filesystems recreated, mounting...
Verify fat filesystem:

** /dev/ada0s1
** Phase 1 - Read and Compare FATs
** Phase 2 - Check Cluster Chains
** Phase 3 - Checking Directories
** Phase 4 - Checking for Lost Files
1 files, 264516 free (66129 clusters)
default v1
Upgrading system:
Extracting cfg
: 0% 25% 50% 75% 100%
********************************************************************************
Extracting file system:
0% 25% 50% 75% 100%
********************************************************************************
Extracting fat:
0% 25% 50% 75% 100%
********************************************************************************
Upgrading flash systems
Upgrading LOM:
This version is already installed. Skipping.
Upgrading HUB:
This version is already installed. Skipping.
Upgrading L2:
This version is already installed. Skipping.
Upgrading LCD:
This version is already installed. Skipping.
Upgrade complete.
Rebooting...
Waiting (max 60 seconds) for system process `vnlru' to stop...done
Waiting (max 60 seconds) for system process `bufdaemon' to stop...done
Waiting (max 60 seconds) for system process `syncer' to stop...
Syncing disks, vnodes remaining...0 0 done
All buffers synced.
Uptime: 56s
```

5. 裝置重新引導，希望正常引導至MCU/TS應用程式，此時您可以正常重新配置它。如果此時裝置仍未啟動，請聯絡TAC。

恢復 — 4500系列

1. 按照前面的說明準備CF卡。您應該具有格式化的CF卡。確保卡上的唯一檔案是「kupgrade」，並且它包含fatbust映像。
2. 將卡放入MCU前面的CF卡插槽中。將控制檯電纜連線到控制檯埠並載入終端模擬器(串列埠設定為38400bps、8個資料位、1個停止位、無奇偶校驗)
3. 您可能需要按幾次**Enter**鍵才能獲取MCU提示。如果有控制檯，請輸入**shutdown**以關閉MCU。然後輸入**reboot**以重新啟動它。如果MCU未啟動，則在MCU重新啟動之前將其重新通電或插入卡。在啟動過程中，您應該看到MCU知道您插入的CF卡。執行此操作後，它會嘗試將升級

檔案複製到其記憶體中，並開始從中啟動：

```
  rebooting
*** (C) Codian Ltd 2004-2005 ***
Resetting PCI
Calling Mpc107init
Mpc107init done
Testing SDRAM data lines ... ok
Testing SDRAM address lines ... ok
Relocating .text from FFF00000-FFF0B36E to 0E010000
Relocating .data from FFF0B380 to 0E01B380-0E01B7C8
Clearing .bss from 0E01B7C8-0E09EDA4
Initialising timebase regs
Calling main L1 strap : built at Jul 7 2005 - 23:19:46
L2 found : image size 000362e4 version 2005:07:08 11:19
Starting L2
L2 Bootstrap
Relocating .text from FFF10000-FFF450B0 to 0E010000
Relocating .data from FFF450C0 to 0E0450C0-0E0462E4
Clearing .bss from 0E0462E4-0E0CA930
Calling main Hello from l2_main
card detected in internal slot (EXCA_STATUS = 4c)
waiting until status ready ...ok!
mounting dos0
fatsize = 00010000
card detected in external slot (EXCA_STATUS = 6f)
waiting until status ready ...ok!
mounting dos1
fatsize = 0001e600
Product - Unknown (00000054)
MAC address - 00:0d:7c:e2:00:06
Serial number - XX710003
Motherboard serial number - SM00674
Slotmask : 00000028
03 - SD01127
05 - SD01234
Devmode : 00010000
Trying dos1:kupgrade
copying dos1:kupgrade to md0:00000000.................................
.........................0226bbe6 bytes copied # the unit is copying the image
Image version : 4.5(1.45)
fd=7
loadelf fd=7 Elf_Ehdr=0xefffe58 marks=0xe0c632c flags=0000003f
loadelf line 78
loadelf line 86
loadelf line 93
loadelf line 150
loadelf line 165
loadelf line 178
loadelf line 200
loadelf line 200
ok
MARK[0] = 00090000
MARK[1] = 00090000
MARK[2] = 00000001
MARK[3] = 024f7da8
MARK[4] = 02530838
calling ksyms_init (startkernel=0x090000 endkernel=0x253b000 edata=0x0
end=0x7f454c46 startsym=0x24f7da8 endsym=0x2530838
ksyms_init
Loaded initial symtab at 0x24f7da8, strtab at 0x25162dc, # entries 7245
Copyright (c) 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003
The NetBSD Foundation, Inc. All rights reserved.
Copyright (c) 1982, 1986, 1989, 1991, 1993 The Regents of the
```

```
University of California. All rights reserved.
NetBSD 1.6ZG (RAMDISK) #0: Fri Sep 6 20:35:51 UTC 2013
jenkins@bv-freebsd-01:/scratch/jenkins/workspace/netbsd1.6-ramdisk--
default/systems/os/netbsd/src/sys/arch/
marvin/compile/obj/RAMDISK
total memory = 240 MB
avail memory = 183 MB
using 3072 buffers containing 12388 KB of memory
sysctl_createv: sysctl_create(cacheinfo) returned 17
mainbus0 (root)mainbus_attach

eumbbus_match: cpu eumbbus
cpu0 at mainbus0: Version 0x8081 (Revision 0x1014), ID 0 (primary)
cpu0: HID0 90c000<DOZE,DPM,ICE,DCE>
config_found cpu done
eumbbus_match: eumbbus eumbbus
eumbbus0 at mainbus0eumbbus_attach
....... .......
wd0 at atabus0 drive 0: <SILICONSYSTEMS INC 256MB>
wd0: drive supports 1-sector PIO transfers, LBA addressing
wd0: 248 MB, 994 cyl, 16 head, 32 sec, 512 bytes/sect x 508928 sectors
howto 2 bootdev 0 boot device: wd0
root on md0a dumps on md0b
about to call domountroothook
about to call vfs_mountroot
rtcinit()
Warm Boot
Time is now 02:11:16.53 07/08/14

root file system type: ffs
Enabling serial port...
Setting up serial terminal...
Starting kupgrade process
**********
* Starting kupgrade *
********** # remove CF card here

Checking filesystems...
Mounting filesystems...
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
Mounting flash card...
kupgrade running in mode: fatbust # recovery process begins
Erasing ALL filesystems in 5 seconds...
Wipe MBR
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
32+0 records in
32+0 records out
16384 bytes transferred in 0.675 secs (24272 bytes/sec)
Add MBR
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
wd0: no disk label
fdisk: partition table invalid, no magic in sector 0
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
wd0: no disk label
fdisk: partition table invalid, no magic in sector 0
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
wd0: no disk label
fdisk: partition table invalid, no magic in sector 0
card ready
```

```
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
wd0: no disk label
fdisk: partition table invalid, no magic in sector 0
add cf disklabel
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
wd0: no disk label
disklabel: Invalid signature in mbr record 0
newfs 0a
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
/dev/rwd0a: 64.0MB (131072 sectors) block size 8192, fragment size 1024
using 4 cylinder groups of 16.00MB, 2048 blks, 3968 inodes.
super-block backups (for fsck -b #) at: 32, 32800, 65568, 98336,
newfs 0d
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
/dev/rwd0d: 8.0MB (16384 sectors) block size 8192, fragment size 1024
using 4 cylinder groups of 2.00MB, 256 blks, 448 inodes.
super-block backups (for fsck -b #) at: 32, 4128, 8224, 12320,
newfs 0b
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
/dev/rwd0b: 130748 sectors in 32687 FAT16 clusters (2048 bytes/cluster)
MBR type: 6
bps=512 spc=4 res=1 nft=2 rde=512 mid=0xf8 spf=128 spt=32 hds=16 hid=32 bsec=131040
card ready
rbus_space_alloc: addr 0, size 1000, mask fff, align 1000
Extracting read-write fs

0% 0 0.00 KB/s --:-- ETA
19% 175 KB 174.38 KB/s 00:04 ETA/
100% 885 KB 439.40 KB/s 00:00 ETA
100% 885 KB 415.22 KB/s 00:00 ETA
/dev/rwd0a: 64.0MB (131072 sectors) block size 8192, fragment size 1024
using 4 cylinder groups of 16.00MB, 2048 blks, 3968 inodes.
super-block backups (for fsck -b #) at: 32, 32800, 65568, 98336,
Extracting root fs 0% 0 0.00 KB/s --:-- ETA 1% 722 KB 701.11 KB/s 01:26
ETA 2% 1554 KB 754.67 KB/s 01:19 ETA 3% 2335 KB 777.73 KB/s 01:15
ETA 4% 3058 KB 763.62 KB/s 01:16 ETA 6% 3826 KB 757.91 KB/s 01:15
ETA ... 99% 61359 KB 748.26 KB/s 00:00 ETA 99% 61375 KB 739.24 KB/s 00:00
ETA 99% 61407 KB 730.89 KB/s 00:00 ETA 100% 61411 KB 722.43 KB/s 00:00
ETA 100% 61411 KB 715.36 KB/s 00:00 ETA
Upgrade complete
umount: /rootfs: Device busy
Rebooting...
Aug 7 02:13:32 reboot: rebooted by root

Aug 7 02:13:32 init: single user shell terminated, restarting

syncing disks... done
rebooting

*** (C) Codian Ltd 2004-2005 ***

Resetting PCI
Calling Mpc107init
Mpc107init done
Testing SDRAM data lines ... ok
Testing SDRAM address lines ... ok
Relocating .text from FFF00000-FFF0B36E to 0E010000
Relocating .data from FFF0B380 to 0E01B380-0E01B7C8
Clearing .bss from 0E01B7C8-0E09EDA4
Initialising timebase regs
```

```
Calling main L1 strap : built at Jul 7 2005 - 23:19:46
L2 found : image size 000362e4 version 2005:07:08 11:19
Starting L2
L2 Bootstrap
Relocating .text from FFF10000-FFF450B0 to 0E010000
Relocating .data from FFF450C0 to 0E0450C0-0E0462E4
Clearing .bss from 0E0462E4-0E0CA930
Calling main Hello from l2_main
card detected in internal slot (EXCA_STATUS = 4c)
waiting until status ready ...ok!
mounting dos0
fatsize = 00010000
no card in external slot (EXCA_A[EXCA_STATUS] = 00)
Product - Unknown (00000054)
MAC address - 00:0d:7c:e2:00:06
Serial number - XX710003
Motherboard serial number - SM00674
Slotmask : 00000028
03 - SD01127
05 - SD01234
Devmode : 00010000
Trying dos1:kupgrade
error opening source file dos1:kupgrade
Trying dos0:kupgrade
error opening source file dos0:kupgrade
Trying dos0:netbsd
copying dos0:netbsd to md0:00000000.......................002f09c3 bytes copied
Image version : 4.5(1.45)
fd=6
loadelf fd=6 Elf_Ehdr=0xefffe58 marks=0xe0c632c flags=0000003f
loadelf line 78
loadelf line 86
loadelf line 93
loadelf line 150
loadelf line 165
loadelf line 178
loadelf line 200
loadelf line 200
ok
MARK[0] = 00090000
MARK[1] = 00090000
MARK[2] = 00000001
MARK[3] = 005ff688
MARK[4] = 00648c48
Copyright (c) 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006,
2007, 2008, 2009, 2010 The NetBSD Foundation, Inc. All rights reserved.
Copyright (c) 1982, 1986, 1989, 1991, 1993 The Regents of the
University of California. All rights reserved.
NetBSD 5.1 (ZAPHODCONF) #0: Tue Apr 1 17:33:24 BST 2014
root@bv-ubuntu-09:/ram-work/systems/os/netbsd5_1/usr/src/sys
/arch/sandpoint/compile/obj/ZAPHODCONF
boot process continues
```

裝置重新引導，希望正常引導至MCU/TS應用程式，此時您可以正常重新配置它。如果此時裝置仍未啟動，請聯絡Cisco TAC

驗證

目前沒有適用於此組態的驗證程序。

疑難排解

目前尚無適用於此組態的具體疑難排解資訊。