

使用CCME升級IP電話韌體

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簡介

本文提供如何使用Cisco CallManager Express升級Cisco IP電話韌體的過程。

必要條件

需求

嘗試此組態之前，請確保符合以下要求：

- Cisco IP電話當前已向Cisco CallManager Express註冊。

採用元件

本檔案中的資訊是根據以下軟體和硬體版本，但適用於所有Cisco CallManager Express版本和Cisco IP電話負載：

- Cisco IOS?Cisco IOS上的路由器？版本12.4(4)T，帶Cisco CallManager Express版本3.4(0)
- Cisco IP電話7960

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。

慣例

請參閱[思科技術提示慣例以瞭解更多有關文件慣例的資訊。](#)

背景資訊

已簽名和未簽名的映像 (映像身份驗證)

Cisco IP電話7960和7940上使用兩種型別的映像：已簽名和未簽名的映像。映像身份驗證通過已簽名的二進位制檔案執行。帶簽名的映像的副檔名為.sbn，而無簽名的映像的副檔名為.bin。

低於5.x的映像版本接受未簽名的二進位制檔案。映像版本5.x及更高版本僅接受帶簽名的二進位制檔案，這提高了Cisco IP電話7960和7940的安全性。但是，使用已簽名的二進位制檔案不允許返回到早期的未簽名的韌體映像。一旦安裝了版本5.0的韌體映像（無論使用哪種協定），就不能用任何以前的版本替換該映像。韌體映像隻能用5.x或更高版本的另一個已簽名映像替換。安裝後，所有低於版本5.0的Cisco IP電話7960和7940版本都不會載入到電話上。

設定

本節提供升級Cisco IP電話韌體的資訊。

下載

所需的SCCP韌體檔案可以從[Cisco IP Phone FW 7900系列 \(非SIP \) 下載 — 軟體下載](#) (僅限註冊客戶)。下載適用於思科IP電話型號的適當.zip檔案。根據Cisco IP電話的型號，.zip檔案可以包含一個或多個檔案。

用於Cisco IP電話型號7960和7940的韌體版本7.2(3)的.zip檔案cmterm-7940-7960-sccp.7-2-3.zip包括以下檔案：

- P00307020300.bin
- 00307020300億比索
- P00307020300.sb2
- P00307020300.loads

同樣，Cisco IP電話型號7905G的韌體.zip檔案cmterm-7905G-sccp.6-1-1包括以下檔案：

- CP7905060101SCCP050429A.sbin
- CP7905060101SCCP050429A.zup

逐步配置

要配置適用的韌體，請完成以下步驟：

1. 將所有韌體檔案傳輸到Cisco CallManager Express的快閃記憶體中。若要驗證檔案的傳輸，請發出**show flash**指令：

```
Router_CCME#show flash
```

```
--#- --length-- -----date/time----- path
```

```
!--- Part of output elided. 13 128996 Nov 30 2005 07:05:36 +00:00 P00307020300.bin 14  
129400 Nov 30 2005 07:06:02 +00:00 P00307020300.sbn 15 681290 Nov 30 2005 07:06:18 +00:00
```

P00307020300.sb2 16 461 Nov 30 2005 07:06:34 +00:00 P00307020300.loads 24612864 bytes available (103567360 bytes used)

2. 使用以下配置使思科IP電話可下載檔案：

```
Router_CCME#configure terminal
Router_CCME(config)#tftp-server flash: P00307020300.bin
Router_CCME(config)#tftp-server flash: P00307020300.sbn
Router_CCME(config)#tftp-server flash: P00307020300.sb2
Router_CCME(config)#tftp-server flash: P00307020300.loads
```

3. 為Cisco IP電話配置適當的韌體：

```
Router_CCME#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router_CCME(config)#telephony-service
Router_CCME(config-telephony)#load 7960-7940 P00307020300
Updating CNF files
CNF files updating complete
```

注意：在load命令中，不能提到韌體檔案的副檔名(.bin或.sbn)。

4. 重置Cisco IP電話，使其選擇新的韌體版本。如果您已計畫停機時間，請立即重置所有電話。當使用者準備就緒時，還可以單獨重置電話。

```
Router_CCME(config-telephony)#reset ?
  H.H.H          mac address
  all            reset all ethernet phones
  cancel        cancel in progress reset
  sequence-all  reset all ethernet phones sequentially, wait for each phone to
                re-register before resetting the next phone. This prevents
                possible conflict between phones when accessing IOS TFTP
                services.

Router_CCME(config-telephony)#reset all
Reset 1 phones: at 15 second interval - this could take several minutes p
er phone
Starting with 7960 phones

Router_CCME(config-telephony)#
Reset-All: Requesting Reset for phone SEP000A8A93E0F9 at 172.16.2.101 deviceType
 7 Telecaster 7960 Idle [count=1]

*Nov 30 09:21:39.803 UTC: %IPPHONE-6-UNREGISTER_NORMAL: ephone-1:SEP000A8A93E0F9
 IP:172.16.2.101 Socket:1 DeviceType:Phone has unregistered normally.
Reset/Restart-all looking for phones registered as type 8 Telecaster 7940
Reset/Restart-all looking for phones registered as type 6 Telecaster 7910
Reset/Restart-all looking for phones registered as type 20000 7905
*Nov 30 09:21:53.803 UTC: %IPPHONE-6-REG_ALARM: 22: Name=SEP000A8A93E0F9 Load=7.
2(3.0) Last=Reset-Reset
*Nov 30 09:21:53.803 UTC: %IPPHONE-6-REGISTER: ephone-1:SEP000A8A93E0F9 IP:172.1
6.2.101 Socket:1 DeviceType:Phone has registered.
Reset/Restart-all looking for phones registered as type 30008 7902
Reset/Restart-all looking for phones registered as type 30007 7912
Reset/Restart-all looking for phones registered as type 30002 7920
Reset/Restart-all looking for phones registered as type 30016 CIPC
Reset/Restart-all looking for phones registered as type 30006 7970
Reset/Restart-all looking for phones registered as type 119 7971
Reset/Restart-all looking for phones registered as type 115 7941
Reset/Restart-all looking for phones registered as type 308 7961GE
Reset/Restart-all looking for phones registered as type 309 7941GE
Reset/Restart-all looking for phones registered as type 307 7911
Reset/Restart-all looking for phones registered as type 302 7985
Reset/Restart-all looking for phones registered as type 30018 7961
Reset/Restart-all looking for phones registered as type 30019 7936
Reset/Restart-all looking for phones registered as type 12 ATA Phone
```

```

Reset/Restart-all looking for phones registered as type 30027 SCCP Gateway (AN)
Reset/Restart-all looking for phones registered as type 30028 SCCP Gateway (BRI)

Reset/Restart-all looking for phones registered as type 9 7935
Reset/Restart-all looking for phones registered as type 1 30SP+
Reset/Restart-all looking for phones registered as type 2 12SP+
Reset/Restart-all looking for phones registered as type 3 12SP
Reset/Restart-all looking for phones registered as type 4 12
Reset/Restart-all looking for phones registered as type 5 30VIP
Reset/Restart-all looking for phones registered as type 80 Unity Voice Port
Reset/Restart-all looking for phones registered as type 21 Unity Voice Port
Reset/Restart-all looking for phones registered as type -1 Unknown -1
Reset-All issued for 1 phones
43 seconds (wait for last phone to re-register)

```

```

Router_CCME

Router_CCME#show ephone phone-load
DeviceName          CurrentPhoneload
PreviousPhoneload   LastReset
=====
=====
SEP000A8A93E0F9    7.2(3.0)                7.2(2.0)
Initialized

```

驗證

使用本節內容，確認您的組態是否正常運作。

發出以下命令以驗證您的設定：

- **show telephony-service all** — 顯示所有Cisco IP電話、語音埠和Cisco IOS電話服務路由器的撥號對等體的詳細配置。

```

Router_CCME#show telephony-service all
CONFIG [Version=3.4(0)]
=====
Version 3.4(0)
Cisco CallManager Express
For on-line documentation please see:
www.cisco.com/univercd/cc/td/doc/product/access/ip_ph/ip_ks/index.htm

ip source-address 172.16.2.211 port 2000
load 7960-7940 P00307020300
max-ephones 1
max-dn 1
max-conferences 8 gain -6
dspfarm units 0
dspfarm transcode sessions 0
hunt-group report delay 1 hours
max-redirect 5
time-format 12
date-format mm-dd-yy
timezone 0 Greenwich Standard Time
keepalive 30
timeout interdigit 10
timeout busy 10
timeout ringing 180
caller-id name-only: enable
edit DN through Web: disabled.
edit TIME through web: disabled.

```

```

Log (table parameters):
  max-size: 150
  retain-timer: 15
create cnf-files version-stamp Jan 01 2002 00:00:00
transfer-system full-consult
auto assign 1 to 1
local directory service: enabled.

ephone-dn 1
number 7001
preference 0 secondary 9
huntstop
call-waiting beep

Number of Configured ephones 1 (Registered 1)
ephone 1
mac-address 000A.8A93.E0F9
type 7960
button 1:1
!

voice-port 50/0/1
  station-id number 7001
!

dial-peer voice 20011 pots
  destination-pattern 7001$
  huntstop
  progress_ind setup enable 3
  port 50/0/1

tftp-server system:/its/SEPDEFAULT.cnf
tftp-server system:/its/SEPDEFAULT.cnf alias SEPDefault.cnf
tftp-server system:/its/XMLDefault.cnf.xml alias XMLDefault.cnf.xml
tftp-server system:/its/ATADefault.cnf.xml
tftp-server system:/its/XMLDefault7960.cnf.xml alias SEP000A8A93E0F9.cnf.xml
tftp-server system:/its/united_states/7960-tones.xml alias United_States/7960-tones.xml
tftp-server system:/its/united_states/7960-font.xml alias English_United_States/7960-font.xml
tftp-server system:/its/united_states/7960-dictionary.xml alias English_United_States/7960-dictionary.xml
tftp-server system:/its/united_states/7960-kate.xml alias English_United_States/7960-kate.xml
tftp-server system:/its/united_states/SCCP-dictionary.xml alias English_United_States/SCCP-dictionary.xml

```

- **show ephone** — 顯示有關已註冊Cisco IP電話的資訊。

```
Router_CCME#show ephone
```

```

ephone-1 Mac:000A.8A93.E0F9 TCP socket:[1] activeLine:0 REGISTERED in SCCP ver 6
mediaActive:0 offhook:0 ringing:0 reset:0 reset_sent:0 paging 0 debug:1
IP:172.16.2.101 50230 Telecaster 7960 keepalive 5 max_line 6
button 1: dn 1 number 7001 CH1 IDLE

```

本節提供的資訊可用於對組態進行疑難排解。

以下debug命令可幫助識別韌體升級中的任何問題：

- debug tftp events
- debug ephone register

此範例顯示當Cisco IP電話7960成功升級至韌體版本7.2.2時產生的偵錯資訊：

```
*Nov 30 09:15:19.868 UTC: ephone-1[1]:UnregisterMessage after Reset/Restart sent
*Nov 30 09:15:19.868 UTC: ephone-1[1]:Phone Unregistered on socket [1] SEP000A8A93E0F9
93E0F9
*Nov 30 09:15:19.868 UTC: ephone-1[1]:UnregisterAck sent on socket [1] (0/0/10)
*Nov 30 09:15:19.868 UTC: %IPPHONE-6-UNREGISTER_NORMAL: ephone-1:SEP000A8A93E0F9
IP:172.16.2.101 Socket:1 DeviceType:Phone has unregistered normally.
*Nov 30 09:15:19.868 UTC: skinny_server_process: Socket error. errno=0
*Nov 30 09:15:19.868 UTC: ephone-1[1]:DisAssociate: Closed socket 1 for unregist
ered phone
*Nov 30 09:15:19.868 UTC: CLOSED Skinny socket 1 for de-registered phone
*Nov 30 09:15:30.976 UTC: TFTP: Looking for CTLSEP000A8A93E0F9.tlv
*Nov 30 09:15:30.984 UTC: TFTP: Looking for SEP000A8A93E0F9.cnf.xml
*Nov 30 09:15:31.504 UTC: TFTP: Opened system:/its/XMLDefault7960.cnf.xml, fd 0,
size 788 for process 216
*Nov 30 09:15:31.508 UTC: TFTP: Finished system:/its/XMLDefault7960.cnf.xml, tim
e 00:00:00 for process 216
Reset sequence-all, Ready to reset next phone (last 15 sec)

Reset/Restart-all looking for phones registered as type 8 Telecaster 7940
*Nov 30 09:15:34.384 UTC: New Skinny socket accepted [1] (0 active)
*Nov 30 09:15:34.384 UTC: sin_family 2, sin_port 50230, in_addr 172.16.2.101
*Nov 30 09:15:34.384 UTC: skinny_add_socket 1 172.16.2.101 50230
*Nov 30 09:15:34.869 UTC: %IPPHONE-6-REG_ALARM: 22: Name=SEP000A8A93E0F9 Load=7.
2(3.0) Last=Reset-Reset
*Nov 30 09:15:34.869 UTC:
Skinny StationAlarmMessage on socket [1] 172.16.2.101 SEP000A8A93E0F9
*Nov 30 09:15:34.869 UTC: severityInformational p1=2049 [0x801] p2=1694634156 [0
x650210AC]
*Nov 30 09:15:34.869 UTC: 22: Name=SEP000A8A93E0F9 Load=7.2(3.0) Last=Reset-Rese
t
*Nov 30 09:15:34.869 UTC: ephone-(1)[1] StationRegisterMessage (0/0/10) from 172
.16.2.101
*Nov 30 09:15:34.869 UTC: ephone-(1)[1] Register StationIdentifier DeviceName SE
P000A8A93E0F9
*Nov 30 09:15:34.869 UTC: ephone-(1)[1] StationIdentifier Instance 1 deviceTy
pe 7
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:stationIpAddr 172.16.2.101
*Nov 3
Reset/Restart-all looking for phones registered as type 6 Telecaster 7910 0 09:1
5:34.869 UTC: ephone-1[-1]:maxStreams 0
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:protocol Ver 0x84000006
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:phone-size 2820 dn-size 488
*Nov 30 09:15:34.869 UTC: ephone-(1) Allow any Skinny Server IP address 172.16.2
.211
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:Found entry 0 for 000A8A93E0F9
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:socket change -1 to 1
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:FAILED: CLOSED old socket -1
*Nov 30 09:15:34.869 UTC: ephone-1[1]:***Force device subtype to 0
*Nov 30 09:15:34.869 UTC: ephone-1[1]:phone SEP000A8A93E0F9 re-associate OK on s
ocket [1]
*Nov 30 09:15:34.869 UTC: %IPPHONE-6-REGISTER: ephone-1:SEP000A8A93E0F9 IP:172.1
6.2.101 Socket:1 DeviceType:Phone has registered.
```

*Nov 30 09:15:34.869 UTC: Phone
Reset/Restart-all looking for phones registered as type 20000 7905 0 socket 1
*Nov 30 09:15:34.869 UTC: Skinny Local IP address = 172.16.2.211 on port 2000

*Nov 30 09:15:34.869 UTC: Skinny Phone IP address = 172.16.2.101 50230
*Nov 30 09:15:34.869 UTC: ephone-1[1]:Signal protocol ver 5 to phone with ver 6
*Nov 30 09:15:34.869 UTC: ephone-1[1]:Date Format M/D/Y
*Nov 30 09:15:34.869 UTC: ephone-1[1]:RegisterAck sent to ephone 1: keepalive pe
riod 30 use sccp-version 5
*Nov 30 09:15:34.873 UTC: ephone-1[1]:CapabilitiesReq sent
*Nov 30 09:15:35.125 UTC: ephone-1[1]:CapabilitiesRes received
*Nov 30 09:15:35.125 UTC: ephone-1[1]:Caps list 7
WideBand_256K 120 ms
G711Ulaw64k 40 ms
G711Alaw64k 40 ms
G729AnnexB 60 ms
G729AnnexAwAnnexB 60 ms
G729 60 ms
G729AnnexA 60 ms

*Nov 30 09:15:35.125 UTC: ephone-1[1]:ButtonTemplateReqMessage
*Nov 30 09:15:35.
Reset/Restart-all looking for phones registered as type 30008 7902 125 UTC: eph
one-1[1]:CheckAutoReg
*Nov 30 09:15:35.125 UTC: ephone-1[1]:AutoReg is disabled
*Nov 30 09:15:35.125 UTC: ephone-1[1][SEP000A8A93E0F9]:Setting 6 lines 0 speed-d
ials on phone (max_line 6)
*Nov 30 09:15:35.125 UTC: ephone-1[1]:First Speed Dial Button location is 0 (0)
*Nov 30 09:15:35.125 UTC: ephone-1[1]:Configured 0 speed dial buttons
*Nov 30 09:15:35.125 UTC: ephone-1[1]:ButtonTemplate lines=6 speed=0 buttons=6 o
ffset=0
*Nov 30 09:15:35.381 UTC: ephone-1[1]:StationSoftKeyTemplateReqMessage
*Nov 30 09:15:35.381 UTC: ephone-1[1]:StationSoftKeyTemplateResMessage
*Nov 30 09:15:35.633 UTC: ephone-1[1]:StationSoftKeySetReqMessage
*Nov 30 09:15:35.633 UTC: ephone-1[1]:Removed SkPark key
*Nov 30 09:15:35.633 UTC: ephone-1[1]:StationSoftKeySetResMessage
*Nov 30 09:15:3
Reset/Restart-all looking for phones registered as type 30007 7912 5.885 UTC: e
phone-1[1]:StationLineStatReqMessage from ephone line 6
*Nov 30 09:15:35.885 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatReqMessage
from ephone line 6 Invalid DN 0
*Nov 30 09:15:35.885 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatResMessage
sent to ephone (1 of 6)
*Nov 30 09:15:36.137 UTC: ephone-1[1]:StationLineStatReqMessage from ephone line
5
*Nov 30 09:15:36.137 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatReqMessage
from ephone line 5 Invalid DN 0
*Nov 30 09:15:36.137 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatResMessage
sent to ephone (2 of 6)
*Nov 30 09:15:36.389 UTC: ephone-1[1]:StationLineStatReqMessage from ephone line
4
*Nov 30 09:15:36.389 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatReqMessage
from ephone line 4 Invalid DN 0
*Nov 30 09:15:36.38
Reset/Restart-all looking for phones registered as type 30002 7920 9 UTC: ephon
e-1[1][SEP000A8A93E0F9]:StationLineStatResMessage sent to ephone (3 of 6)
*Nov 30 09:15:36.641 UTC: ephone-1[1]:StationLineStatReqMessage from ephone line
3
*Nov 30 09:15:36.641 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatReqMessage
from ephone line 3 Invalid DN 0
*Nov 30 09:15:36.641 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatResMessage
sent to ephone (4 of 6)
*Nov 30 09:15:36.893 UTC: ephone-1[1]:StationLineStatReqMessage from ephone line
2

```

*Nov 30 09:15:36.893 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatReqMessage
from ephone line 2 Invalid DN 0
*Nov 30 09:15:36.893 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatResMessage
sent to ephone (5 of 6)
*Nov 30 09:15:37.145 UTC: ephone-1[1]:StationLineStatReqMessage from ephone line
1
*Nov 30 09:15:37.145 UTC: ephon
Reset/Restart-all looking for phones registered as type 30016 CIPC e-1[1]:Stati
onLineStatReqMessage ephone line 1 DN 1 = 7001 desc = 7001 label =
*Nov 30 09:15:37.145 UTC: ephone-1[1][SEP000A8A93E0F9]:StationLineStatResMessage
sent to ephone (6 of 6)
*Nov 30 09:15:37.145 UTC: ephone-1[1]:SkinnyCompleteRegistration
*Nov 30 09:15:37.221 UTC: TFTP: Looking for SEP000A8A93E0F9.cnf.xml
*Nov 30 09:15:37.221 UTC: TFTP: Opened system:/its/XMLDefault7960.cnf.xml, fd 0,
size 788 for process 216
*Nov 30 09:15:37.221 UTC: TFTP: Looking for RINGLIST.XML
*Nov 30 09:15:37.241 UTC: TFTP: Finished system:/its/XMLDefault7960.cnf.xml, tim
e 00:00:00 for process 216
*Nov 30 09:15:37.245 UTC: TFTP: Looking for DISTINCTIVERINGLIST.XML
*Nov 30 09:15:37.409 UTC: ephone-1[1]:Skinny Available Lines 6 set for socket [1
]
*Nov 30 09:15:37.409 UTC: ephone-1[1]:Already d
Reset/Restart-all looking for phones registered as type 30006 7970 one SkinnyCo
mpleteRegistration
Reset/Restart-all looking for phones registered as type 119 7971
Reset/Restart-all looking for phones registered as type 115 7941
Reset/Restart-all looking for phones registered as type 308 7961GE
Reset/Restart-all looking for phones registered as type 309 7941GE
Reset/Restart-all looking for phones registered as type 307 7911
Reset/Restart-all looking for phones registered as type 302 7985
Reset/Restart-all looking for phones registered as type 30018 7961
Reset/Restart-all looking for phones registered as type 30019 7936
Reset/Restart-all looking for phones registered as type 12 ATA Phone
Reset/Restart-all looking for phones registered as type 30027 SCCP Gateway (AN)
Reset/Restart-all looking for phones registered as type 30028 SCCP Gateway (BRI)

Reset/Restart-all looking for phones registered as type 9 7935
Reset/Restart-all looking for phones registered as type 1 30SP+
Reset/Restart-all looking for phones registered as type 2 12SP+
Reset/Restart-all looking for phones registered as type 3 12SP
Reset/Restart-all looking for phones registered as type 4 12
Reset/Restart-all looking for phones registered as type 5 30VIP
Reset/Restart-all looking for phones registered as type 80 Unity Voice Port
Reset/Restart-all looking for phones registered as type 21 Unity Voice Port
Reset/Restart-all looking for phones registered as type -1 Unknown -1
Reset-All issued for 1 phones
45 seconds (wait for last phone to re-register)

```

注意：在升級過程中，如果Cisco IP電話的LCD顯示File Not Found，這可能表示有人嘗試將未簽名的映像載入到已簽名的映像的Cisco IP電話。

[相關資訊](#)

- [Cisco 7940和7960 IP電話韌體升級表](#)
- [語音技術支援](#)
- [語音和IP通訊產品支援](#)
- [Cisco IP電話故障排除](#)
- [技術支援與文件 - Cisco Systems](#)