

升级有CCME的IP电话固件

目录

[简介](#)

[先决条件](#)

[要求](#)

[使用的组件](#)

[规则](#)

[背景信息](#)

[签名和未签名映像 \(映像认证\)](#)

[配置](#)

[下载](#)

[分步配置](#)

[验证](#)

[故障排除](#)

[相关信息](#)

简介

本文档介绍了使用 Cisco CallManager Express 升级 Cisco IP 电话固件的过程。

先决条件

要求

尝试进行此配置之前，请确保满足以下要求：

- 当前使用 Cisco CallManager Express 来注册 Cisco IP 电话。

使用的组件

本文档中的信息基于这些软件和硬件版本，但这些信息适用于所有 Cisco CallManager Express 版本和 Cisco IP 电话负载：

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

本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

规则

有关文档约定的更多信息，请参考 [Cisco 技术提示约定](#)。

背景信息

签名和未签名映像 (映像认证)

在 Cisco IP 电话 7960 和 7940 上使用的映像有两种类型：签名映像和未签名映像。映像认证是通过签名二进制文件进行的。签名映像具有 .sbn 扩展名，而未签名映像具有 .bin 扩展名。

低于 5.x 的映像版本接受未签名二进制文件。映像版本 5.x 及更高版本仅接受签名二进制文件，这样可提高 Cisco IP 电话 7960 和 7940 上的安全性。但是，使用签名二进制文件时，您将无法返回到更早的未签名固件映像。一旦安装了版本 5.0 固件映像（无论使用何种协议），就不能用任何以前的版本替换该映像。只能将该固件映像替换为另一个版本为 5.x 或更高版本的签名映像。用于 Cisco IP 电话 7960 和 7940 的低于版本 5.0 的所有版本在安装之后都不会加载到电话上。

配置

本部分提供了有关升级 Cisco IP 电话固件的信息。

下载

所需的 SCCP 固件文件可从思科 IP 电话 [FW 7900 系列 \(非 SIP\) — 软件下载 \(仅限注册客户\)](#) 下载。针对 Cisco IP 电话型号下载相应的 .zip 文件。根据 Cisco IP 电话的具体型号，.zip 文件可能包含一个或多个文件。

用于 Cisco IP 电话型号 7960 和 7940 的固件版本 7.2(3) .zip 文件 **cmterm-7940-7960-sccp.7-2-3.zip** 包括以下文件：

- P00307020300.bin
- P00307020300.sbn
- P00307020300.sb2
- P00307020300.loads

同样，用于 Cisco IP 电话型号 7905G 的固件 .zip 文件 **cmterm-7905G-sccp.6-1-1** 包括以下文件：

- CP7905060101SCCP050429A.sbin
- CP7905060101SCCP050429A.zup

分步配置

若要配置适用的固件，请完成以下步骤：

1. 将所有固件文件传输到 Cisco CallManager Express 的闪存。为了验证文件传输，请发出 **show flash** 命令：

```
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. 使这些文件可供具有此配置的 Cisco IP 电话下载：

```
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. 为 Cisco IP 电话配置相应的固件：

```
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，不能提及固件文件的扩展名(.bin或.sbn)。

4. 重置 Cisco IP 电话以使它们选择新固件版本。如果已计划停机，请一次重置所有电话。您也可以用户在准备就绪时，分别重置电话。

```
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

```

验证

使用本部分可确认配置能否正常运行。

发出以下命令以验证您的配置：

- **show telephony-service all** — 显示 Cisco IOS 电话服务路由器的所有 Cisco IP 电话、语音端口和拨号对等体的详细配置。

```

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** — 显示有关已注册 Cisco IP 电话的信息。

```
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

```

本部分提供的信息可用于对配置进行故障排除。

以下 debug 命令可帮助确定固件升级中的任何问题：

- debug tftp events
- debug ephone register

下面的示例显示了 Cisco IP 电话 7960 成功升级到固件版本 7.2.2 时生成的调试信息：

```
*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：在升级期间，如果Cisco IP电话的LCD显示“File Not Found”，这可能表示尝试将未签名的映像加载到已具有签名映像的Cisco IP电话上。

[相关信息](#)

- [Cisco 7940 和 7960 IP 电话固件升级表](#)
- [语音技术支持](#)
- [语音和 IP 通信产品支持](#)
- [Cisco IP 电话故障排除](#)
- [技术支持和文档 - Cisco Systems](#)