

升级有CCME的IP电话固件

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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 ？在Cisco IOS的路由器？版本12.4(4)T用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

有关文档规则的详细信息，请参阅 [Cisco 技术提示规则](#)。

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

需要的 SCCP 固件文件可以从 [7900 系列 Cisco IP 电话的 FW 下载 \(NON SIP\) - 软件下载 \(仅限注册用户\)](#)。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
```

- 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，不能使用固件文件的扩展名 (.bin 或 .sbn)。**
- 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。您也可以用户在用户准备就绪时，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 per 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:172.16.2.101 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-to nes.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_S tates/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_S tates/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

故障排除

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] SEP000A8A
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 [0x650210AC]
*Nov 30 09:15:34.869 UTC: 22: Name=SEP000A8A93E0F9 Load=7.2(3.0) Last=Reset-Reset
*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 SEP000A8A93E0F9
*Nov 30 09:15:34.869 UTC: ephone-(1)[1] StationIdentifier Instance 1 deviceType 7
*Nov 30 09:15:34.869 UTC: ephone-1[-1]:stationIpAddress 172.16.2.101
*Nov 3
Reset/Restart-all looking for phones registered as type 6 Telecaster 7910 0 09:15:34.869 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 socket [1]
*Nov 30 09:15:34.869 UTC: %IPPHONE-6-REGISTER: ephone-1:SEP000A8A93E0F9 IP:172.16.2.101 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 period 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: ephone-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-dials 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 offset=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：在升级过程中，如果 Cisco IP 电话的 LCD 显示 File Not Found，则这可能表明进行了将未签名映像加载到已具有签名映像的 Cisco IP 电话上的尝试。

[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](#)