

Troubleshoot IP Phone Registration Issues with CUCME

Contents

[Introduction](#)

[SCCP Phone Registration Issues](#)

[Different Type of Issues with SCCP Phones](#)

[SIP Phone Registration Issues](#)

[Different Type of Issues with SIP Phones](#)

Introduction

This document describes how to troubleshoot Skinny Client Control Protocol (SCCP) and Session Initiation Protocol (SIP) Phone registrations issues on Cisco Unified Communications Manager Express (CUCME).

SCCP Phone Registration Issues

Use the **show ephone registered** command to display the status of registered Skinny Client Control Protocol phones.

```
Router# show ephone registeredephone-12[11] Mac:001A.A11B.7D6D TCP socket:[5] activeLine:0
whisperLine:0 REGISTERED in SCCP ver 15/12 max_streams=1mediaActive:0 whisper_mediaActive:0
startMedia:0 offhook:0 ringing:0 reset:0 reset_sent:0 paging 0 debug:0 caps:7IP:10.10.1.17 *
35177 6941 keepalive 3593 max_line 4 available_line 3button 1: cw:1 dn 11 number 1001 CH1
IDLE          CH2  IDLEbutton 2: cw:1 dn 56 number 6971 auto dial 6970 CH1  IDLEbutton 3: cw:1
dn 10 number 1000 CH1  IDLE          CH2  IDLE1 feature buttons enabled: dndPreferred Codec:
g711ulawLpcor Type: none
```

Use the **show ephone** command to display the status of Skinny Client Control Protocol phones that are not registered or are trying to register.

```
Router# show ephone
```

```
ephone-8[7] Mac:000A.B7B1.444A TCP socket:[5] activeLine:0 whisperLine:0 REGISTERED in SCCP ver
11/9 max_streams=1

mediaActive:0 whisper_mediaActive:0 startMedia:0 offhook:0 ringing:0 reset:0 reset_sent:0 paging
0 debug:0 caps:8 privacy:0

IP:10.4.188.99 * 50007 Telecaster 7940 keepalive 8424 max_line 2 available_line 2

button 1: cw:1 ccw:(0 0)

      dn 6 number 6006 CH1  IDLE          CH2  IDLE          overlay shared

button 2: cw:1 ccw:(0 0 0 0 0 0 0 0)
```

```

dn 42 number 6042 CH1 IDLE          CH2 IDLE          CH3 IDLE          CH4 IDLE
CH5 IDLE          CH6 IDLE          CH7 IDLE          CH8 IDLE          shared

```

```
overlay 1: 6(6006) 7(6007) 8(6008)
```

```
Preferred Codec: g711ulaw
```

```
Lpcor Type: local Incoming: ephone_group1 Outgoing: ephone_group1
```

To display the log of ephones that unsuccessfully attempt to register with Cisco Unified CUCME, use the **show ephone attempted-registrations** command in privileged EXEC mode.

```

Router# show ephone attempted-registrations Attempting Mac address:Num      Mac Address
DateTime                               DeviceType-----
-----1                               C863.8475.5417      22:52:05 UTC Thu Apr 28 2005      SCCP
Gateway (AN) 2          C863.8475.5408      22:52:05 UTC Thu Apr 28 2005      SCCP Gateway (AN)
... .25          000D.28D7.7222      22:26:32 UTC Thu Apr 28 2005      Telecaster 7960 26
000D.BDB7.A9EA      22:25:59 UTC Thu Apr 28 2005      Telecaster 7960 ...47
C863.94A8.D40F      22:52:17 UTC Thu Apr 28 2005      SCCP Gateway (AN) 48
C863.94A8.D411      22:52:18 UTC Thu Apr 28 2005      SCCP Gateway (AN) 49
C863.94A8.D400      22:52:15 UTC Thu Apr 28 2005      SCCP Gateway (AN)

```

In case this is a phone replacement be apprised auto-registration is disabled to make sure we have done the ephone and ephone-dn configuration as per The Home Depot standard.

Different Type of Issues with SCCP Phones

Step 1. Not booting up/nothing in the display: Verify the switch port PoE configuration and compare it with a working port.

Step 2. Not getting IP address (stuck in configuring IP/getting wrong IP address/not getting TFTP Server IP).

1. Verify if DHCP is enabled on the phone from the settings menu
2. Check the switch port is configured with correct voice VLAN (check on the switch port the phone is connected to)

show run interface fast/gig x/x

show cdp neighbor detail

Step 3. Not registering even if the IP address is updated:

1. Verify network connectivity between the CUCME and IP Phone.
2. debug ip tcp transaction.
3. The configuration of the CUCME, the Phone MAC address, phone type etc.
4. Are the Cisco phone firmware files required for each phone type installed in flash memory
“show flash”
5. Verify if the phone requests/downloads correct configuration files using the following debugs.
6. debug tftp event/packet.
7. debug ephone register mac-address <MAC of the Phone>.

Step 4. Not registering with CUCME even after downloading configuration file:

1. Verify if the TCP session to port 2000 is open from Skinny Client Control Protocol Phone.

2. Useful debugs
3. debug ip tcp transaction
4. debug tftp event/packet
5. debug ephone register mac-address <MAC of the Phone>

Note: Post any configuration change make sure you create a new configuration file using the command "create cnf-files" and do a write-memory.

SIP Phone Registration Issues

Use the **show voice register statistics** command to display statistics associated with the registration event.

```
Router# show voice register statisticsSample Output:Global statistics Active registrations : 2
Total SIP phones registered: 2 Total Registration Statistics Registration requests : 3
Registration success : 2 Registration failed : 1 unRegister requests : 0
unRegister success : 0 unRegister failed : 0 Attempts to register after last
unregister : 1 Last Register Request Time : *11:42:31.783 UTC Wed Sep 16 2009
Last Unregister Request Time : Register Success Time : *11:11:56.707 UTC Wed Sep 16
2009 Unregister Success Time : Register pool 1 statistics Active registrations : 1
Total SIP phones registered: 1 Total Registration Statistics Registration requests : 1
Registration success : 1 Registration failed : 0 unRegister requests : 0
unRegister success : 0 unRegister failed : 0 Attempts to register after last
unregister : 0 Last Register Request Time : *11:11:54.615 UTC Wed Sep 16 2009
Last Unregister Request Time : Register Success Time : *11:11:54.623 UTC Wed Sep 16
2009 Unregister Success Time : Register pool 2 statistics Active registrations : 1
Total SIP phones registered: 1 Total Registration Statistics Registration requests : 1
Registration success : 1 Registration failed : 0 unRegister requests : 0
unRegister success : 0 unRegister failed : 0 Attempts to register after last
unregister : 0 Last Register Request Time : *11:11:56.707 UTC Wed Sep 16 2009
Last Unregister Request Time : Register Success Time : *11:11:56.707 UTC Wed Sep 16
2009 Unregister Success Time
```

Use the **show voice register all** command to display configuration and registration information for Session Initiation Protocol phones in Cisco Unified CUCME.

```
Router# show voice register pool allPool Tag 5Config:Mac address is B4A4.E328.4698Type is 9971
addon 1 CKEMNumber list 1 : DN 2Number list 2 : DN 3Proxy Ip address is 0.0.0.0DTMF Relay is
disabledCall Waiting is enabledDnD is disabledVideo is enabledCamera is enabledBusy trigger per
button value is 0keep-conference is enabledregistration expires timer max is 200 and min is
60kpm1 signal is enabledLpcor Type is none
```

To display the details of phones that attempt to register with CUCME or Cisco Unified SRST and fail, use the **show voice register pool attempted-registrations** command in privileged EXEC mode.

```
Router# show voice register pool attempted-registrationsPhones that have attempted registrations
and have failed: MAC address: 001b.535c.d410 IP address : 8.3.3.111 Attempts : 5 Time of
first attempt : *10:49:51.542 UTC Wed Oct 14 2009 Time of latest attempt: *10:50:00.886 UTC Wed
Oct 14 2009 Reason for failure : No pool match for the registration request MAC
address: 0015.c68e.6d13 IP address : 8.33.33.112 Attempts : 4 Time of first attempt :
```

*10:49:53.418 UTC Wed Oct 14 2009 Time of latest attempt: *10:50:00.434 UTC Wed Oct 14 2009
Reason for failure : No pool match for the registration request MAC address:
0009.43E9.0B35 IP address : 9.13.40.83 Attempts : 1 Time of first attempt : *10:49:57.866
UTC Wed Oct 14 2009 Time of latest attempt: *10:49:57.866 UTC Wed Oct 14 2009 Reason for
failure : No pool match for the registration request

For Session Initiation Protocol Phone, verify if the **registrar server** is enabled in the CUCME

In case this is a phone replacement be apprised auto-registration is disabled to make sure we have done the pool and dn configuration as per The Home Depot standard.

Different Type of Issues with SIP Phones

Step 1. Not booting up/nothing in the display:

Verify the switch port PoE configuration and compare it with a working port.

Step 2. Not getting IP address (stuck in configuring IP)/getting wrong IP address/not getting TFTP Server IP:

1. Verify if DHCP is enabled on the phone from the settings menu.
2. Check the switch port is configured with correct voice VLAN (check on the switch port the phone is connected to).

show run interface fast/gig x/x

show cdp neighbor detail

Step 3. Not registering even if the IP address is updated:

1. Verify network connectivity between the CUCME and IP Phone.
2. debug ip tcp transaction.
3. The configuration of the CUCME, the Phone MAC address, phone type etc.
4. Are the Cisco phone firmware files required for each phone type installed in flash memory
show flash.
5. Verify if the phone requests/downloads correct configuration files using the following debugs.
6. debug tftp event/packet.

Step 4. Do not register with CUCME even after the configuration file is downloaded:

1. Verify if the TCP session to port 5060 is open from Session Initiation Protocol Phone.
2. The Register SIP messages are coming in from the Phone.
3. debug ccsip message.
4. debug voice register error.
5. debug voice register event.

Note: Post any configuration change make sure you create a new configuration file using the command **create profile** and do a write-memory.