Troubleshoot IP Phone Unregistration Issues in CUCM

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Introduction

This document describes how to begin troubleshooting an IP phone that goes unregistered or does not register with CUCM.

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco IP Phone registration process.
- Cisco Unified Communications Manager (CUCM)
- Domain Name System (DNS)

- Cisco Discovery Protocol (CDP)
- Dynamic Host Configuration Protocol(DHCP)
- Trivial File Transfer Protocol (TFTP)
- Voice Virtual LAN (Voice VLAN)
- Power Over Ethernet (PoE)

Components Used

The information in this document is based on these software and hardware versions:

- CUCM 11.5(1)SU9
- SIP IP Phone 8811 sip88xx.14-2-1-0001-14

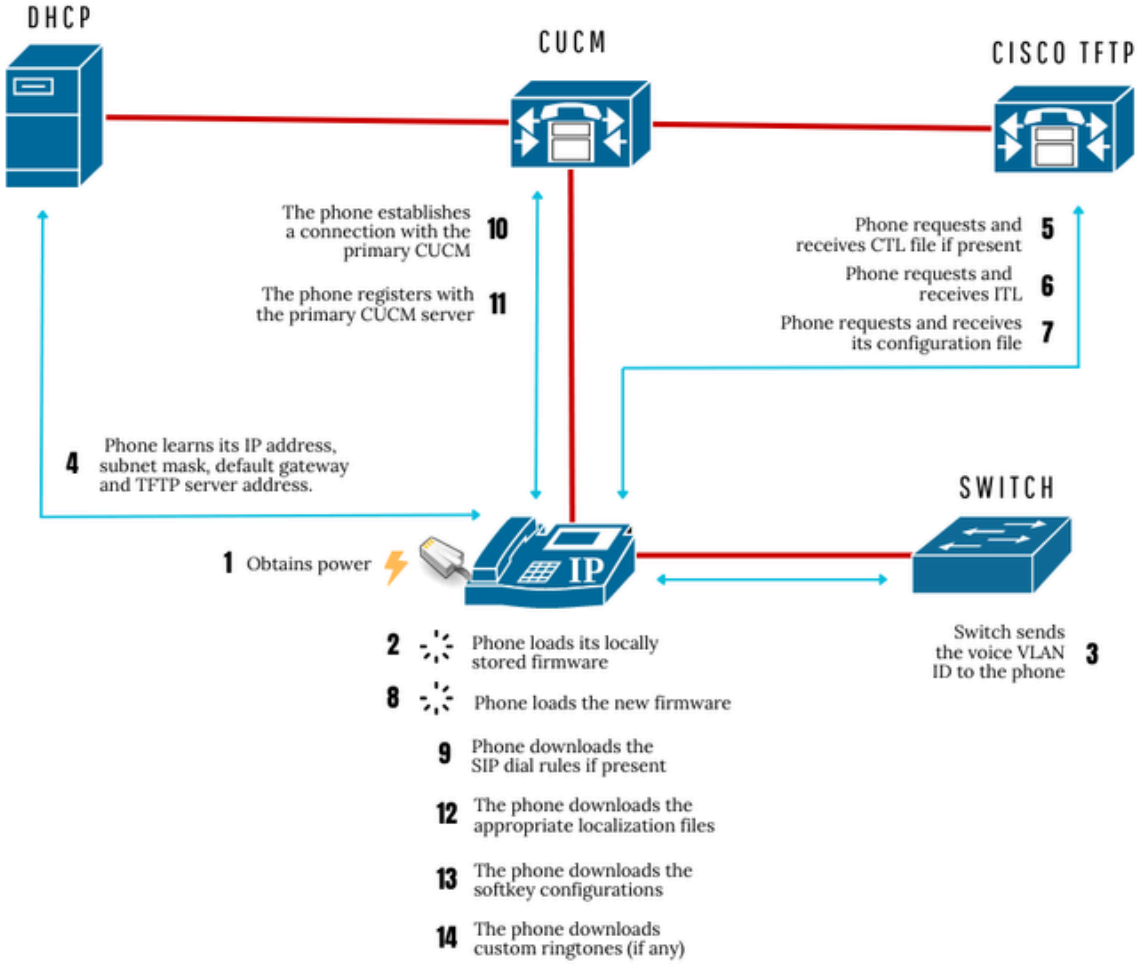
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

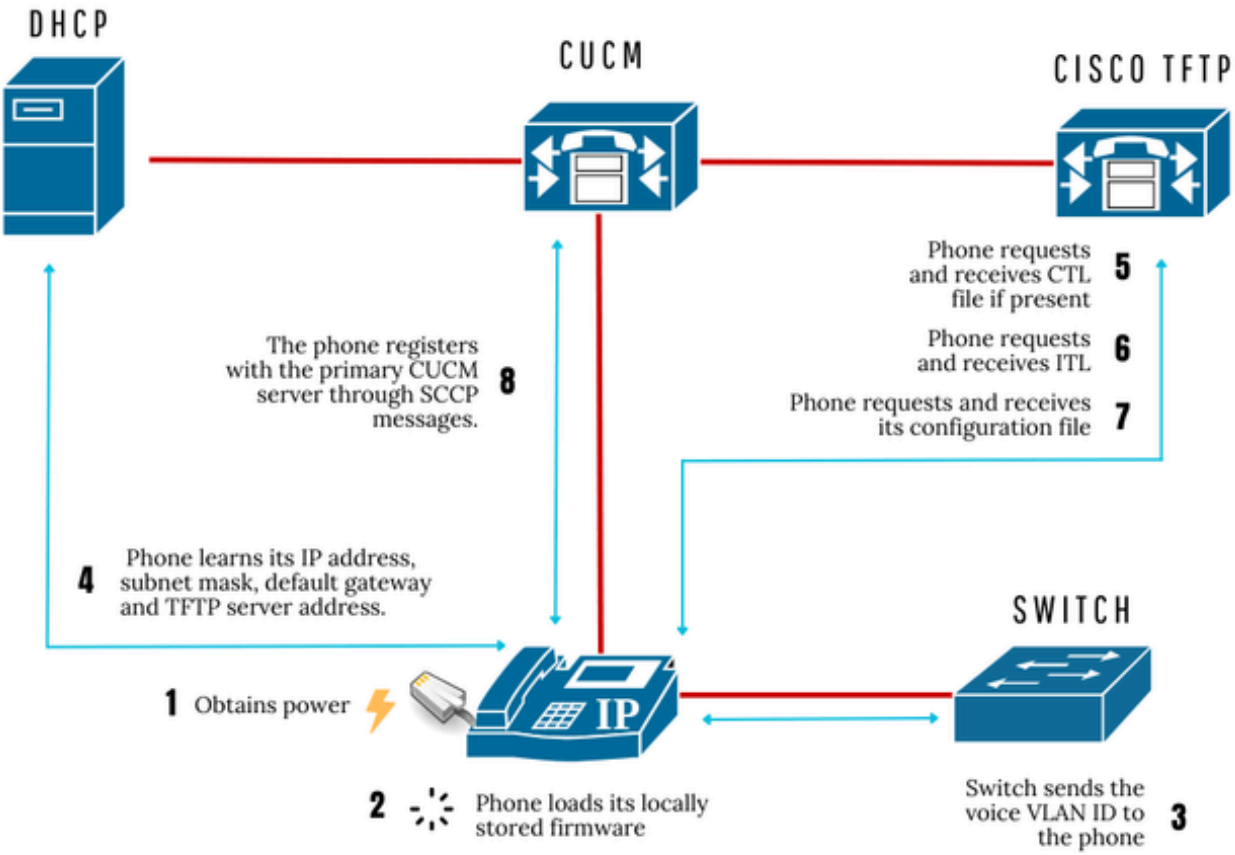
The registration of a device in CUCM depends on whether it is a device that uses Skinny Protocol (SCCP) or Session Initiation Protocol (SIP), between them a few steps change, however the troubleshoot is the same and focuses on the steps that the phone does to register.

It is essential to troubleshoot device registration issues by understanding the process the device goes through to register correctly.

SIP registration process



SCCP registration process



Problem

Some events such as power outstage, a hardware or software defect, unstable connections, lack of quality of service in the network, and others, can cause one or many phones to be unregistered from Call Manager. Whether it is a single event or something intermittent, it is important to clarify the problem in order to narrow it down.

Information to be clarified

- Full CUCM version
- Does it happen only with a specific model?
- Does it happen at a single site or location?
- How many phones are affected?
- Do all phones share the same firmware version?
- Have you recently upgraded or downgraded the firmware?
- Have you recently regenerated certificates?
- Have you done a factory reset?
- Is the issue reproducible at will?
- Take note of a few MAC addresses for affected phones and timestamp when issue starts to happen.

Logs to collect

It is necessary to have the logs of each component involved in the phone registration process to find where the issue is.

From Phone:

On IP phone web page:

- Phone Problem Report (PRT) or Console logs

On Wireshark (no always needed):

- Pcap from Phone

From CUCM:

From RTMT (Real Time Monitor Tool):

- Cisco CallManager Traces
- Event Viewer Application Log
- Event Viewer System Log
- Cisco TFTP

From CUCM CLI session (no always needed):

- Pcap from primary CUCM (where the phone registers)

From Switch:

- Span (optional in case phone pcap can not be collected)



Note: Have the **Timestamp** when issue occurred is important and phone(s) detail.

How to collect logs guides

- How to collect CUCM logs from RTMT
- How to collect IP Phone pcap
- How to collect CUCM pcap
- How to collect IP Phone PRT
- How to collect phone console logs
- How to collect a SPAN on switch

Understand PRT/console logs

The process that the phone takes to request specific features (IP, Configuration file and others) from the other components involved can be seen in the PRT or in the console logs. The PRT includes the console logs.



Note: To be able to read the console logs within the PRT, it is necessary to uncompress the folders contained in the path **prt-date-time-MACAddress > data > logsave > main**

********** PRT/Console logs shows how phone loads its firmware image: **********

```
1429 NOT Jul 21 18:05:16.217247 (620-869) JAVA-SIPCC-PLAT_API: extract_release_num_from_phone_load_name
```

********** Phone requests the Certificate Trust List (CTL) file **********

```
2056 NOT Jul 21 18:05:24.839195 (351-928) downd-GETXXTP [GT351][src=CTLSEPD0EC35C1D98E.tlv][dest=/tmp/C
2057 NOT Jul 21 18:05:24.839912 (351-928) downd-handle_get_file:SEP file is:SEPD0EC35C1D98E.cnf.xml
2058 NOT Jul 21 18:05:24.840023 (351-928) downd-handle_get_file:dst:/tmp/CTLFile.tlv
2059 NOT Jul 21 18:05:24.891683 (351-928) downd-In normal mode, call - > makeXXTPrequest (V6...)
2060 NOT Jul 21 18:05:24.892095 (351-928) downd-EMCC mode is false
2061 NOT Jul 21 18:05:24.893087 (351-928) downd-parseDhcpInfoIntoTftpList(): no valid load server
2062 NOT Jul 21 18:05:24.893555 (351-928) downd-AUTH.SRVR [GT351] look up server - 0 - 198.51.100.30
2063 NOT Jul 21 18:05:24.944833 (351-928) downd-AUTH.SRVR [GT351] authentication retval = 9
2064 NOT Jul 21 18:05:24.944987 (351-928) downd-XXTP Non secure file requested
2065 NOT Jul 21 18:05:24.945138 (351-928) downd-tftp.avail file does not exist, so creating it
```

If the cluster is in non-secure mode, the TFTP sends 404 Not Found to the request (if cluster is in mixed mode, TFTP should send a 200 OK)

```
2078 NOT Jul 21 18:05:24.947516 (351-931) downd-XXX arg[4] CTLSEPD0EC35C1D98E.tlv
2079 NOT Jul 21 18:05:24.947550 (351-931) downd-XXX arg[5] /tmp/CTLFile.tlv
2080 NOT Jul 21 18:05:24.947584 (351-931) downd-XXX arg[6] (null)
2081 NOT Jul 21 18:05:24.976370 (931-931) GHTTP-LIMIT downdload will be limited to 8192 KB
2082 ERR Jul 21 18:05:24.994707 (931-931) GHTTP-http get [HTTP/1.1 404 Not Found^M
```

********** Phone requests Identity Trust List (ITL) file **********

```
2088 NOT Jul 21 18:05:25.049240 (351-935) downd-GETXXTP [GT351][src=ITLSEPD0EC35C1D98E.tlv][dest=/tmp/I
2089 NOT Jul 21 18:05:25.049419 (351-935) downd-handle_get_file:SEP file is:SEPD0EC35C1D98E.cnf.xml
2090 NOT Jul 21 18:05:25.049484 (351-935) downd-handle_get_file:dst:/tmp/ITLFile.tlv
2091 NOT Jul 21 18:05:25.049525 (351-935) downd-handle_get_file:downloading ITLFILE
2092 NOT Jul 21 18:05:25.100110 (351-935) downd-In normal mode, call - > makeXXTPrequest (V6...)
```

TFTP sends 200 OK for the ITL File request

```
2110 NOT Jul 21 18:05:25.153781 (351-938) downd-XXX arg[4] ITLSEPD0EC35C1D98E.tlv
2111 NOT Jul 21 18:05:25.153815 (351-938) downd-XXX arg[5] /tmp/ITLFile.tlv
2112 NOT Jul 21 18:05:25.153849 (351-938) downd-XXX arg[6] (null)
2113 NOT Jul 21 18:05:25.166084 (938-938) GHTTP-LIMIT downdload will be limited to 8192 KB
2114 NOT Jul 21 18:05:25.168904 (938-938) GHTTP-hdr->HTTP/1.1 200 OK
2115 NOT Jul 21 18:05:25.169081 (938-938) GHTTP-hdr->Content-length: 11698
2116 NOT Jul 21 18:05:25.169149 (938-938) GHTTP-hdr->Cache-Control: no-store
2117 NOT Jul 21 18:05:25.169211 (938-938) GHTTP-hdr->Content-type: */*
2118 NOT Jul 21 18:05:25.170338 (351-935) downd-PARENT, child process status: 25600
2119 NOT Jul 21 18:05:25.170472 (351-935) downd-NORMAL tftp-exit 100
2120 NOT Jul 21 18:05:25.170724 (351-935) downd-XXTP complete - status = 100
2121 NOT Jul 21 18:05:25.170755 (351-935) downd-cancel the monitor timer
2122 NOT Jul 21 18:05:25.175638 (355-939) SECUREAPP-validateSignedCTL: new TL matches old, not updating
2123 NOT Jul 21 18:05:25.186516 (351-935) downd-DDGETTFTP.RESULT [_100_ HTTP NO ERROR
```

********** Phone requests to TFTP the configuration file **********

```
2140 NOT Jul 21 18:05:26.436017 (351-965) downd-GETXXTP [GT351][src=SEPD0EC35C1D98E.cnf.xml][dest=/tmp/
2141 NOT Jul 21 18:05:26.436216 (351-965) downd-handle_get_file:SEP file is:SEPD0EC35C1D98E.cnf.xml
2142 NOT Jul 21 18:05:26.436285 (351-965) downd-handle_get_file:dst:/tmp/ram/SEPD0EC35C1D98E.cnf.xml.19
```

```
2143 NOT Jul 21 18:05:26.436346 (351-965) downd-handle_get_file:downloading CNF FILE
2144 NOT Jul 21 18:05:26.487402 (351-965) downd-In normal mode, call - > makeXXTPrequest (V6...)
2145 NOT Jul 21 18:05:26.487841 (351-965) downd-EMCC mode is false
2146 NOT Jul 21 18:05:26.488595 (351-965) downd-parseDhcpInfoIntoTftpList(): no valid load server
2147 NOT Jul 21 18:05:26.488787 (351-965) downd-AUTH.SRVR [GT351] look up server - 0 - 198.51.100.30
2148 NOT Jul 21 18:05:26.539279 (351-965) downd-AUTH.SRVR [GT351] authentication retval = 9
2149 NOT Jul 21 18:05:26.539419 (351-965) downd-XXTP Secure file requested
2150 NOT Jul 21 18:05:26.539536 (351-965) downd-XXTP authenticated file approved - add .sgn if necessar
```

********** Phone downloads the configuration file **********

```
137 NOT Jul 21 18:05:26.432207 (620-840) JAVA-configmgr MQThread|cip.cfg.Config: - Requesting CONFIG fi
2138 INF Jul 21 18:05:26.432653 (620-840) JAVA-[[MESSAGE_1.0]]: [CONFIG-MGR] --> tftpRequest(ram/SEPD0E
2139 NOT Jul 21 18:05:26.435882 (351-965) downd-start the monitor timer
2140 NOT Jul 21 18:05:26.436017 (351-965) downd-GETXXTP [GT351][src=SEPD0EC35C1D98E.cnf.xml][dest=/tmp/
2141 NOT Jul 21 18:05:26.436216 (351-965) downd-handle_get_file:SEP file is:SEPD0EC35C1D98E.cnf.xml
2142 NOT Jul 21 18:05:26.436285 (351-965) downd-handle_get_file:dst:/tmp/ram/SEPD0EC35C1D98E.cnf.xml.19
2143 NOT Jul 21 18:05:26.436346 (351-965) downd-handle_get_file:downloading CNF FILE
2144 NOT Jul 21 18:05:26.487402 (351-965) downd-In normal mode, call - > makeXXTPrequest (V6...)
2145 NOT Jul 21 18:05:26.487841 (351-965) downd-EMCC mode is false
2146 NOT Jul 21 18:05:26.488595 (351-965) downd-parseDhcpInfoIntoTftpList(): no valid load server
2147 NOT Jul 21 18:05:26.488787 (351-965) downd-AUTH.SRVR [GT351] look up server - 0 - 198.51.100.30
2148 NOT Jul 21 18:05:26.539279 (351-965) downd-AUTH.SRVR [GT351] authentication retval = 9
2149 NOT Jul 21 18:05:26.539419 (351-965) downd-XXTP Secure file requested
2150 NOT Jul 21 18:05:26.539536 (351-965) downd-XXTP authenticated file approved - add .sgn if necessar
```

TFTP sends 200 OK to the configuration file request

```
2163 NOT Jul 21 18:05:26.541364 (351-968) downd-XXX arg[4] SEPD0EC35C1D98E.cnf.xml.sgn
2164 NOT Jul 21 18:05:26.541398 (351-968) downd-XXX arg[5] /tmp/ram/SEPD0EC35C1D98E.cnf.xml.19036
2165 NOT Jul 21 18:05:26.541432 (351-968) downd-XXX arg[6] (null)
2166 NOT Jul 21 18:05:26.552194 (968-968) GHTTP-LIMIT downdload will be limited to 8192 KB
2167 NOT Jul 21 18:05:26.603994 (968-968) GHTTP-hdr->HTTP/1.1 200 OK
2168 NOT Jul 21 18:05:26.604360 (968-968) GHTTP-hdr->Content-length: 14939
2169 NOT Jul 21 18:05:26.604470 (968-968) GHTTP-hdr->Cache-Control: no-store
2170 NOT Jul 21 18:05:26.604523 (968-968) GHTTP-hdr->Content-type: */*
2171 NOT Jul 21 18:05:26.607331 (351-965) downd-PARENT, child process status: 25600
2172 NOT Jul 21 18:05:26.607479 (351-965) downd-NORMAL tftp-exit 100
2173 NOT Jul 21 18:05:26.607504 (351-965) downd-XXTP complete - status = 100
```

********** Phone loads the new firmware **********

```
2202 NOT Jul 21 18:05:27.530229 (620-981) JAVA-Seamless Upgrade Thread|UpgradeService: - Got request fo
2203 NOT Jul 21 18:05:27.530908 (620-981) JAVA-Seamless Upgrade Thread|UpgradeService: - and (sip88xx.1
```

********** Phone charges all the parameters written on the configuration file **********

```
4479 NOT Jul 17 22:29:45.818159 (559-1232) JAVA-configmgr MQThread|cip.cfg.Config: - HEADSET_DISCOVERY_
4480 NOT Jul 17 22:29:45.819013 (559-1232) JAVA-configmgr MQThread|cip.cfg.SipConfig: - Entering setPro
4481 NOT Jul 17 22:29:45.998381 (559-1232) JAVA-configmgr MQThread|cip.cfg.SipConfig:? - embrace featur
4482 NOT Jul 17 22:29:46.037905 (559-1232) JAVA-configmgr MQThread|cip.cfg.SipConfig: - Exiting setProt
4483 NOT Jul 17 22:29:46.106088 (559-1232) JAVA-configmgr MQThread|cip.cfg.Config: - CUCM in config fil
4484 NOT Jul 17 22:29:46.107950 (559-1232) JAVA-configmgr MQThread|cip.cfg.Config: - CUCM in config fil
4485 NOT Jul 17 22:29:46.109415 (559-1232) JAVA-configmgr MQThread|cip.cfg.Config: - CUCM in config fil
4486 NOT Jul 17 22:29:46.111032 (559-1232) JAVA-configmgr MQThread|cip.cfg.Config: - CUCM in config fil
4487 NOT Jul 17 22:29:46.112528 (559-1232) JAVA-configmgr MQThread|cip.cfg.Config: - CUCM in config fil
4488 WRN Jul 17 22:29:46.291408 (345-2829) SECUREAPP-SEC_CAPF_N_IN_USE: CAPF not in use, user cancel ig
4489 NOT Jul 17 22:29:46.341949 (559-1232) JAVA-configmgr MQThread|cip.sec.CapfProperty:? - CapfProp 96
```

********** Register message **********

```
6260 DEB Jul 17 22:29:50.880584 (610-796) JAVA-SIPCC-SIP_STATE: 201/1, sip_reg_sm_change_state: Registra
6261 DEB Jul 17 22:29:50.880638 (610-796) JAVA-SIPCC-SIP_MSG_SEND: ccsip_register_send_msg: cmd=85=SIP_
6262 DEB Jul 17 22:29:50.880750 (610-796) JAVA-SIPCC-SIP_STATE: 201/1, sip_reg_sm_change_state: Registra
```

********** Phone sends a SIP REGISTER message to CUCM **********

```
76 DEB Jul 17 22:29:50.882403 (610-796) JAVA-sipio-sent---> REGISTER sip:198.51.100.31 SIP/2.0^M
Via: SIP/2.0/TCP 198.51.100.109:50020;branch=z9hG4bK775c97a8^M
From: <sip:***@198.51.100.31>;tag=d0ec35c1d98e2e142ea51ccd-2fdbbe4d^M
To: <sip:***@198.51.100.31>^M
Call-ID: d0ec35c1-d98e0017-3593f645-7a3311ca@198.51.100.109^M
Max-Forwards: 70^M
Session-ID: 0ffda3aa00105000a000d0ec35c1d98e;remote=00000000000000000000000000000000^M
Date: Mon, 17 Jul 2023 22:29:50 GMT^M
CSeq: 11749 REGISTER^M
User-Agent: Cisco-CP8811/14.2.1^M
Contact: <sip:***@198.51.100.109:50020;transport=tcp>;+sip.instance="<urn:uuid:00000000-0000-0000-0000-
Supported: replaces,join,sdp-anat,norefersub,resource-priority,extended-refer,X-cisco-callinfo,X-cisco-
Content-Length: 0^M
Expires: 3600^M
^M
```

********** SIP Trying message to the REGISTER received from CUCM **********

```
6284 DEB Jul 17 22:29:50.884485 (610-796) JAVA-sipio-recv<--- SIP/2.0 100 Trying^M
Via: SIP/2.0/TCP 198.51.100.109:50020;branch=z9hG4bK775c97a8^M
From: <sip:***@198.51.100.31>;tag=d0ec35c1d98e2e142ea51ccd-2fdbbe4d^M
To: <sip:***@198.51.100.31>^M
Date: Mon, 17 Jul 2023 22:29:52 GMT^M
Call-ID: d0ec35c1-d98e0017-3593f645-7a3311ca@198.51.100.109^M
CSeq: 11749 REGISTER^M
Content-Length: 0^M
^M
```

********** 200 OK in response to the REGISTER message from CUCM **********

```
6294 DEB Jul 17 22:29:50.885744 (610-796) JAVA-sipio-recv<--- SIP/2.0 200 OK^M
Via: SIP/2.0/TCP 198.51.100.109:50020;branch=z9hG4bK775c97a8^M
From: <sip:***@198.51.100.31>;tag=d0ec35c1d98e2e142ea51ccd-2fdbbe4d^M
To: <sip:***@198.51.100.31>;tag=696179034^M
Date: Mon, 17 Jul 2023 22:29:52 GMT^M
Call-ID: d0ec35c1-d98e0017-3593f645-7a3311ca@198.51.100.109^M
Server: Cisco-CUCM14.0^M
CSeq: 11749 REGISTER^M
Expires: 120^M
Contact: <sip:***@198.51.100.109:50020;transport=tcp>;+sip.instance="<urn:uuid:00000000-0000-0000-0000-
Supported: X-cisco-srtp-fallback,X-cisco-sis-10.0.0^M
Content-Length: 0^M
^M
```

IP Phone PCAP Register process

In pcap is shown the complete process on how device perform the communication with the other components as CUCM, TFTP, DHCP. If you want to see in detail what was not seen in the logs, the pcap would be necessary.

A recommended filter in case SIP devices: (((tcp) || (http)) || (sip)) && (ip.addr == XX.XX.XX.XX)

A recommended filter in case SCCP devices: (((tcp) || (http)) || (skinny)) && (ip.addr == XX.XX.XX.XX)

Where the XX.XX.XX.XX is the IP of the phone.

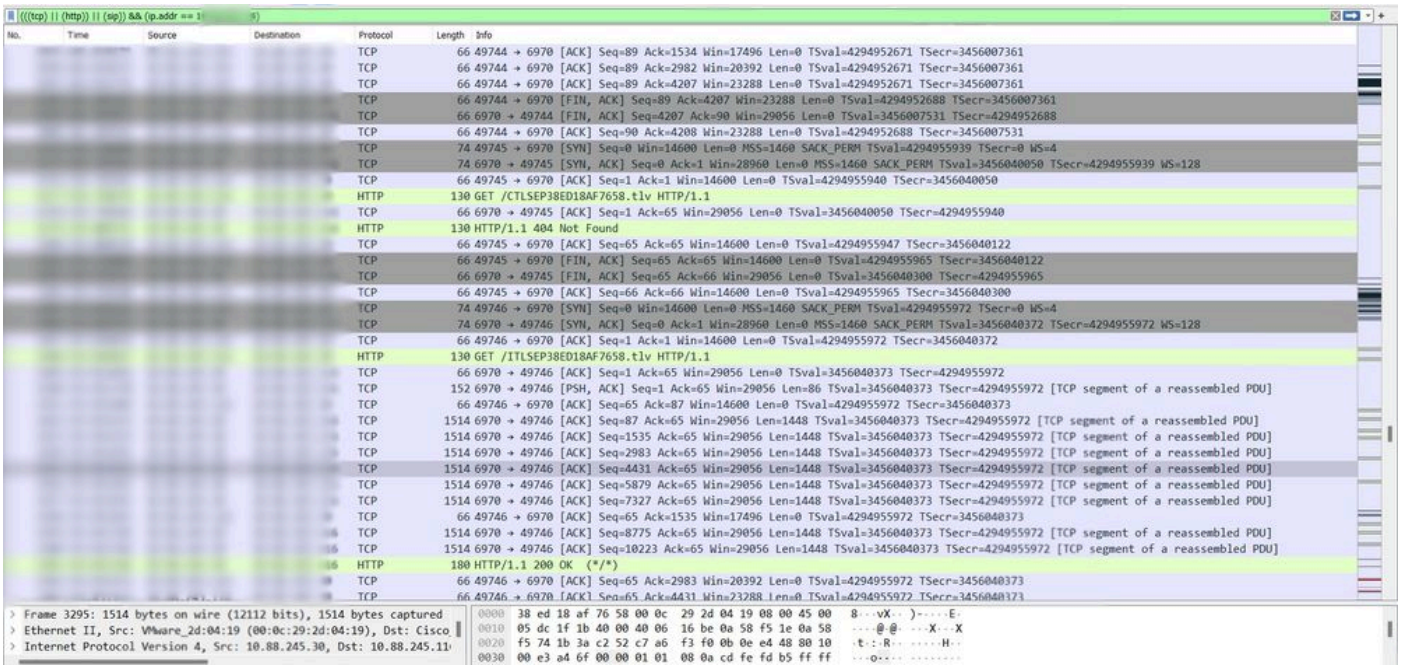
or another option

In case SIP devices: (((tcp) || (http)) || (sip)) && (eth.addr == YYYYYYYYYYYY)

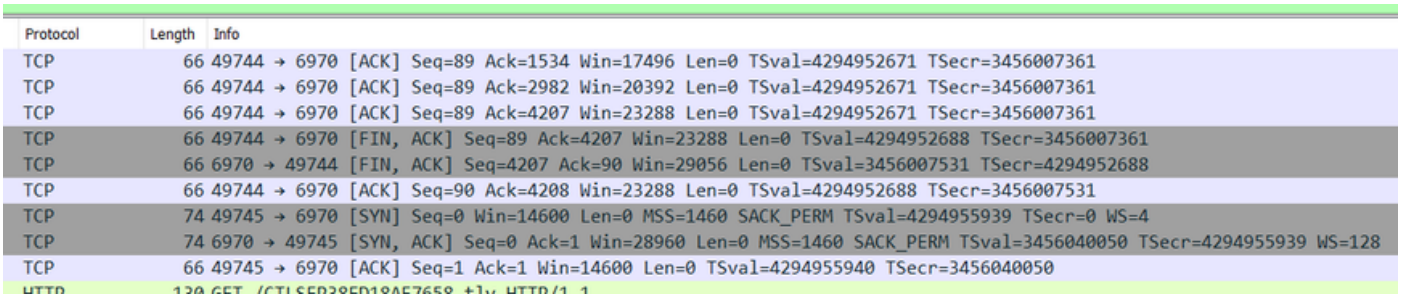
in case SCCP devices: (((tcp) || (http)) || (skinny)) && (eth.addr == YYYYYYYYYYYY)

Where the YYYYYYYYYYYY is the MAC of the phone.

You can also use the MAC address with the colon: eth.addr == YY:YY:YY:YY:YY:YY



The phone opens a TCP session with the TFTP



Phone request the CTL file and receives and 404 not found from the TFTP

```
TCP      66 49745 → 6970 [ACK] Seq=1 Ack=1 Win=14600 Len=0 TSval=4294955940 TSecr=3456040050
HTTP    130 GET /CTLSEP38ED18AF7658.tlv HTTP/1.1
TCP      66 6970 → 49745 [ACK] Seq=1 Ack=65 Win=29056 Len=0 TSval=3456040050 TSecr=4294955940
HTTP    130 HTTP/1.1 404 Not Found
TCP      66 49745 → 6970 [ACK] Seq=65 Ack=65 Win=14600 Len=0 TSval=4294955947 TSecr=3456040122
TCP      66 49745 → 6970 [FIN, ACK] Seq=65 Ack=65 Win=14600 Len=0 TSval=4294955965 TSecr=3456040122
TCP      66 6970 → 49745 [FIN, ACK] Seq=65 Ack=66 Win=29056 Len=0 TSval=3456040300 TSecr=4294955965
TCP      66 49745 → 6970 [ACK] Seq=66 Ack=66 Win=14600 Len=0 TSval=4294955965 TSecr=3456040300
TCP      74 49746 → 6970 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_PERM TSval=4294955972 TSecr=0 WS=4
TCP      74 6970 → 49746 [SYN, ACK] Seq=0 Ack=1 Win=28960 Len=0 MSS=1460 SACK_PERM TSval=3456040372 TSecr=4294955972 WS=128
TCP      66 49746 → 6970 [ACK] Seq=1 Ack=1 Win=14600 Len=0 TSval=4294955972 TSecr=3456040372
HTTP    130 GET /ITLSEP38ED18AF7658.tlv HTTP/1.1
```

Phone request the ITL file and receives from TFTP the file via TCP packets

```
TCP      66 49746 → 6970 [ACK] Seq=1 Ack=1 Win=14600 Len=0 TSval=4294955972 TSecr=3456040372
HTTP    130 GET /ITLSEP38ED18AF7658.tlv HTTP/1.1
TCP      66 6970 → 49746 [ACK] Seq=1 Ack=65 Win=29056 Len=0 TSval=3456040373 TSecr=4294955972
TCP     152 6970 → 49746 [PSH, ACK] Seq=1 Ack=65 Win=29056 Len=86 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=87 Win=14600 Len=0 TSval=4294955972 TSecr=3456040373
TCP    1514 6970 → 49746 [ACK] Seq=87 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP    1514 6970 → 49746 [ACK] Seq=1535 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP    1514 6970 → 49746 [ACK] Seq=2983 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP    1514 6970 → 49746 [ACK] Seq=4431 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP    1514 6970 → 49746 [ACK] Seq=5879 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP    1514 6970 → 49746 [ACK] Seq=7327 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=1535 Win=17496 Len=0 TSval=4294955972 TSecr=3456040373
TCP    1514 6970 → 49746 [ACK] Seq=8775 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
TCP    1514 6970 → 49746 [ACK] Seq=10223 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
HTTP    180 HTTP/1.1 200 OK  (*/*)
```

TFTP sends 200 OK for ITL file request, the phone ACKs the data it received and closes the TCP session

```
TCP    1514 6970 → 49746 [ACK] Seq=10223 Ack=65 Win=29056 Len=1448 TSval=3456040373 TSecr=4294955972 [TCP segment of a reassembled PDU]
HTTP    180 HTTP/1.1 200 OK  (*/*)
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=2983 Win=20392 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=4431 Win=23288 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=5879 Win=26184 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=7327 Win=29080 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=8775 Win=31976 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=10223 Win=34872 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=11671 Win=37768 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [ACK] Seq=65 Ack=11785 Win=37768 Len=0 TSval=4294955972 TSecr=3456040373
TCP      66 49746 → 6970 [FIN, ACK] Seq=65 Ack=11785 Win=37768 Len=0 TSval=4294955993 TSecr=3456040373
TCP      66 6970 → 49746 [FIN, ACK] Seq=11785 Ack=66 Win=29056 Len=0 TSval=3456040580 TSecr=4294955993
TCP      66 49746 → 6970 [ACK] Seq=66 Ack=11786 Win=37768 Len=0 TSval=4294955993 TSecr=3456040580
```

Phone closes TCP connection

Note: For each request to TFTP the phone try to establish a new TCP connection

Phone requests the configuration file to TFTP and receives from TFTP the file via TCP packets

```
TCP          66 49747 → 6970 [ACK] Seq=1 Ack=1 Win=14600 Len=0 TSval=4294956120 TSecr=3456041859
HTTP        135 GET /SEP38ED18AF7658.cnf.xml.sgn HTTP/1.1
TCP          66 6970 → 49747 [ACK] Seq=1 Ack=70 Win=29056 Len=0 TSval=3456041859 TSecr=4294956120
TCP         152 6970 → 49747 [PSH, ACK] Seq=1 Ack=70 Win=29056 Len=86 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=87 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=1535 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=2983 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=4431 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=5879 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=7327 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=8775 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=10223 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP        1514 6970 → 49747 [ACK] Seq=11671 Ack=70 Win=29056 Len=1448 TSval=3456042050 TSecr=4294956120 [TCP segment of a reassembled PDU]
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=87 Win=14600 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=1535 Win=17496 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=2983 Win=20392 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=4431 Win=23288 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=5879 Win=26184 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=7327 Win=29080 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=8775 Win=31976 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=10223 Win=34872 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=11671 Win=37768 Len=0 TSval=4294956140 TSecr=3456042050
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=13119 Win=40664 Len=0 TSval=4294956140 TSecr=3456042050
TCP        1514 6970 → 49747 [ACK] Seq=13119 Ack=70 Win=29056 Len=1448 TSval=3456042051 TSecr=4294956140 [TCP segment of a reassembled PDU]
```

TFTP sends 200 OK for ITL file request, the phone ACKs the data it received

```
HTTP        708 HTTP/1.1 200 OK  (*/*)
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=14567 Win=43560 Len=0 TSval=4294956140 TSecr=3456042051
TCP          66 49747 → 6970 [ACK] Seq=70 Ack=15209 Win=43560 Len=0 TSval=4294956140 TSecr=3456042051
TCP          66 49747 → 6970 [FIN, ACK] Seq=70 Ack=15209 Win=43560 Len=0 TSval=4294956154 TSecr=3456042051
TCP          66 6970 → 49747 [FIN, ACK] Seq=15209 Ack=71 Win=29056 Len=0 TSval=3456042190 TSecr=4294956154
TCP          66 49747 → 6970 [ACK] Seq=71 Ack=15210 Win=43560 Len=0 TSval=4294956154 TSecr=3456042190
TCP          74 49748 → 6970 [SYN] Seq=0 Win=14600 Len=0 MSS=1460 SACK_PERM TSval=4294956540 TSecr=0 WS=4
TCP          74 6970 → 49748 [SYN, ACK] Seq=0 Ack=1 Win=28960 Len=0 MSS=1460 SACK_PERM TSval=3456046055 TSecr=4294956540 WS=128
TCP          66 49748 → 6970 [ACK] Seq=1 Ack=1 Win=14600 Len=0 TSval=4294956540 TSecr=3456046055
HTTP        148 GET /Desktops/800x480x24/WestRockv3-2.png.sgn HTTP/1.1
```

Phone requests the configurations from TFTP and receives each file via TCP packets.

```
HTTP        147 GET /English_United_States/sl-be-sip.jar.sgn HTTP/1.1
HTTP        739 HTTP/1.1 200 OK  (*/*)
HTTP        138 GET /United_States/g3-tones.xml.sgn HTTP/1.1
HTTP        931 HTTP/1.1 200 OK  (*/*)
HTTP        148 GET /Desktops/800x480x24/WestRockv3-2.png.sgn HTTP/1.1
HTTP        631 HTTP/1.1 200 OK  (*/*)
HTTP        124 GET /AppDialRules.xml HTTP/1.1
HTTP         91 HTTP/1.1 200 OK  (*/*)
HTTP        154 GET /SKb0ec918f-b9ee-994b-57ae-345883c1fde8.xml.sgn HTTP/1.1
HTTP       1291 HTTP/1.1 200 OK  (*/*)
HTTP        130 GET /CTLSEP38ED18AF7658.tlv HTTP/1.1
HTTP        130 HTTP/1.1 404 Not Found
HTTP        130 GET /ITLSEP38ED18AF7658.tlv HTTP/1.1
HTTP        180 HTTP/1.1 200 OK  (*/*)
HTTP        135 GET /SEP38ED18AF7658.cnf.xml.sgn HTTP/1.1
HTTP        708 HTTP/1.1 200 OK  (*/*)
HTTP        148 GET /Desktops/800x480x24/WestRockv3-2.png.sgn HTTP/1.1
HTTP        124 GET /AppDialRules.xml HTTP/1.1
HTTP         91 HTTP/1.1 200 OK  (*/*)
HTTP        154 GET /SKb0ec918f-b9ee-994b-57ae-345883c1fde8.xml.sgn HTTP/1.1
HTTP       1291 HTTP/1.1 200 OK  (*/*)
```

SIP Register messages and 200 OK from CUCM.



CUCM Traces

********** REFER to inform CUCM about the last registration status **********

```
REFER sip:198.51.100.31 SIP/2.0
Via: SIP/2.0/TCP 198.51.100.109:50806;branch=z9hG4bK25771c8e
From: "2001" <sip:2001@198.51.100.109>;tag=d0ec35c1d98e00030abbb40d-0dadaa5e
To: <sip:198.51.100.31>
Call-ID: d0ec35c1-d98e0003-657a07f3-6d626333@198.51.100.109
Session-ID: 92eb5cca00105000a000d0ec35c1d98e;remote=00000000000000000000000000000000
Date: Fri, 21 Jul 2023 18:05:31 GMT
CSeq: 1000 REFER
User-Agent: Cisco-CP8811/14.2.1
Expires: 10
Max-Forwards: 70
Contact: <sip:fa7155fd-ec0d-7b35-c49b-86e9f163bf11@198.51.100.109:50806;transport=tcp>;+u.sip!devicenam
Require: norefersub
Referred-By: "2001" <sip:2001@198.51.100.109>
Refer-To: cid:28820b4e@198.51.100.109
Content-Id: <28820b4e@198.51.100.109>
Allow: ACK,BYE,CANCEL,INVITE,NOTIFY,OPTIONS,REFER,REGISTER,UPDATE,SUBSCRIBE
Content-Length: 1693
Content-Type: application/x-cisco-alarm+xml
Content-Disposition: session;handling=required
```

```
<?xml version="1.0" encoding="UTF-8"?>
<x-cisco-alarm>
<Alarm Name="LastOutOfServiceInformation">
<ParameterList>
<String name="DeviceName">SEPD0EC35C1D98E</String>
<String name="DeviceIPv4Address">198.51.100.109/24</String>
<String name="IPv4DefaultGateway">198.51.100.1</String>
<String name="DeviceIPv6Address"></String>
<String name="IPv6DefaultGateway"></String>
<String name="ModelNumber">CP-8811</String>
<String name="NeighborIPv4Address">198.51.100.98</String>
<String name="NeighborIPv6Address"></String>
<String name="NeighborDeviceID">jpazjaim_SW</String>
<String name="NeighborPortID">GigabitEthernet0/2</String>
<Enum name="DHCPv4Status">1</Enum>
<Enum name="DHCPv6Status">3</Enum>
```

<Enum name="TFTPCfgStatus">1</Enum>
<Enum name="DNSStatusUnifiedCM1">0</Enum>
<Enum name="DNSStatusUnifiedCM2">0</Enum>
<Enum name="DNSStatusUnifiedCM3">0</Enum>
<Enum name="DNSv6StatusUnifiedCM1">0</Enum>
<Enum name="DNSv6StatusUnifiedCM2">0</Enum>
<Enum name="DNSv6StatusUnifiedCM3">0</Enum>
<String name="VoiceVLAN">360</String>
<String name="UnifiedCMIPAddress">198.51.100.31</String>
<String name="LocalPort">50020</String>
<String name="TimeStamp">1689962095016</String>
<Enum name="ReasonForOutOfService">25</Enum>
<String name="LastProtocolEventSent">Sent:REGISTER sip:198.51.100.31 SIP/2.0 Cseq:11810 REGISTER CallId
<String name="LastProtocolEventReceived">Rcvd:SIP/2.0 202 Accepted Cseq:1000 REFER CallId:d0ec35c1-d98e
<String name="ReasonForOutOfServiceText">LastTimeInitialized</String>
<String name="ActiveInterface">Wired</String>
</ParameterList>
</Alarm>
</x-cisco-alarm>

********** 202 Accepted message to the REFER **********

SIP/2.0 202 Accepted
Via: SIP/2.0/TCP 198.51.100.109:50806;branch=z9hG4bK25771c8e
From: "2001" <sip:2001@198.51.100.109>;tag=d0ec35c1d98e00030abbb40d-0dadaa5e
To: <sip:198.51.100.31>;tag=1984400291
Date: Fri, 21 Jul 2023 18:08:58 GMT
Call-ID: d0ec35c1-d98e0003-657a07f3-6d626333@198.51.100.109
CSeq: 1000 REFER
Contact: <sip:198.51.100.31:5060;transport=tcp>
Content-Length: 0

********** REGISTER SIP messages from IP Phone **********

REGISTER sip:198.51.100.31 SIP/2.0
Via: SIP/2.0/TCP 198.51.100.109:50806;branch=z9hG4bK0aeff5a4
From: <sip:2001@198.51.100.31>;tag=d0ec35c1d98e00044e764ab3-2227c9d6
To: <sip:2001@198.51.100.31>
Call-ID: d0ec35c1-d98e0002-71e1f429-052f5580@198.51.100.109
Max-Forwards: 70
Session-ID: 92eb5cca00105000a000d0ec35c1d98e;remote=00000000000000000000000000000000
Date: Fri, 21 Jul 2023 18:05:31 GMT
CSeq: 101 REGISTER
User-Agent: Cisco-CP8811/14.2.1
Contact: <sip:fa7155fd-ec0d-7b35-c49b-86e9f163bf11@198.51.100.109:50806;transport=tcp>;+sip.instance="<

```
Supported: replaces,join,sdp-anat,norefersub,resource-priority,extended-refer,X-cisco-callinfo,X-cisco-
Reason: SIP;cause=200;text="cisco-alarm:25 Name=SEPD0EC35C1D98E ActiveLoad=sip88xx.14-2-1-0001-14.loads
Expires: 3600
Content-Type: multipart/mixed; boundary=uniqueBoundary
Mime-Version: 1.0
Content-Length: 1313
```

********** CUCM send the 200 OK to the REGISTER message **********

```
SIP/2.0 200 OK
Via: SIP/2.0/TCP 198.51.100.109:50806;branch=z9hG4bK0aeff5a4
From: <sip:2001@198.51.100.31>;tag=d0ec35c1d98e00044e764ab3-2227c9d6
To: <sip:2001@198.51.100.31>;tag=757446526
Date: Fri, 21 Jul 2023 18:08:58 GMT
Call-ID: d0ec35c1-d98e0002-71e1f429-052f5580@198.51.100.109
Server: Cisco-CUCM14.0
CSeq: 101 REGISTER
Expires: 120
Contact: <sip:fa7155fd-ec0d-7b35-c49b-86e9f163bf11@198.51.100.109:50806;transport=tcp>;+sip.instance="<
Supported: X-cisco-srtp-fallback,X-cisco-sis-10.0.0
Content-Type: application/x-cisco-remotecc-response+xml
Content-Length: 381
```

Troubleshoot many endpoints unregistration

For this issue, a couple of **MAC addresses of some affected phones are needed**.

To make easier the process, it is necessary to have a text editor such as Notepad++, Visual Studio or others.

To troubleshoot this issue, the event viewer logs can be verified. In the event viewer logs, events such as the registered and unregistered endpoint, ITL and CTL information, endpoint type, active firmware, phone protocol, reason for non-registration and much more can be found here.

Steps to narrow down the issue:

1. Open logs folder in your text editor
2. Search in all the folders
3. Search for **endpointunregistered**

   This shows us all the results from syslog folder and SDL files that contain this word.

<#root>

5440:

Jul 17 21:45:17

 cucmsub local6 6 ccm: 19: xxxxxxx.xxxxxx.xx Jul 18 2023 02:45:17 UTC : %UC_CALLMANAGER-6-EndPointUnreg

DeviceName=SEPXXXXXXXXXXXX

][IPAddress=198.51.100.117][Protocol=SIP][DeviceType=622][Description=SEPXXXXXXXXXXX_CP_7841][

Reason=28

][IPAddrAttributes=0][AppID=Cisco CallManager][ClusterID=SSPTSite}][NodeID=cucmsub]: An endpoint has un

EndPointUnregistered System Error message explanation

IPAddress: IP for the affected endpoint.

DeviceName: Mac Address for affected endpoint.

Protocol: Protocol with which the endpoint was registered.
DeviceType: Type of endpoint model.

To know the device type model number and name, run on CLI: run sql select enum,name from typemodel
Description: Description set in Call Manager when registering the phone.

Reason: Reason of the system error message.

Find all the reasons for system error messages here.
IPAddrAttributes: Describe the use of the IP.
AppID: Type of unified server.
NodeID: Node name.

You must focus on the reason number of the error message, mac address and timestamp to match the alert with your occurrence and then navigate to the page where reasons are found.

Note: The page for system error message contains all alarms available on RTMT, the explanation and description of reasons why the alarm was triggered.

Once you open the page:

1. Press CTRL + F (on windows) or Command + F (on MacOs)

2. Search for EndPointUnregistered



Error Message

%UC_CALLMANAGER-3-EndPointUnregistered: %[DeviceName=String][MACAddress=String][IPAddress=String] [Protocol=String][DeviceType=Enum][Description=String][Reason=Enum][IPV6Address=String][IPAddrAttributes=Enum] [IPV6AddrAttributes=Enum][LastSignalReceived=String][CallState=String][AppID=String][ClusterID=String] [NodeID=String]: An endpoint has unregistered.

Explanation An endpoint that has previously registered with Cisco Unified Communications Manager has unregistered. In cases of normal unregistration with reason code 'CallManagerReset', 'CallManagerRestart', 'DeviceInitiatedReset', 'EMLoginLogout', or 'EMCCLoginLogout', the severity of this alarm is lowered to INFORMATIONAL. An endpoint can unregister for many reasons, both intentional such as manually resetting the device after a configuration change, or unintentional such as loss of network connectivity. Other causes for this alarm could include a phone being registered to a secondary node and then the primary node coming online, causing the phone to rehome to the primary Unified CM node. Or, lack of a KeepAlive message being returned from the Unified CM node to which this endpoint was registered. Unregistration also occurs if Unified CM receives a duplicate registration request for this same device.

Recommended Action Actions to take vary depending on the reason specified for the endpoint unregistration. If the reason is ConfigurationMismatch, go to the Device Configuration page in Cisco Unified CM Administration, make a change to the Description field for this device, click Save, then reset the device. In the case of a network connectivity problem or loss of KeepAlives, use network diagnostic tools and the Cisco Unified CM Reporting tool to fix any reported network or Unified CM system errors. In the case of an endpoint rehoming to the primary Unified CM node, watch for a successful registration of the device on the primary node. In the case of a duplicate registration request, it may be a non-malicious occurrence due to timing of an endpoint registering and unregistering; if duplicate registration requests continue or if the same endpoint has different IP addresses, confirm the IP address on the physical device itself by checking the settings on the device (settings button). If unregistration of this device was expected, no action is required. Also, refer to the reason code descriptions in this alarm for additional recommended actions.

Reason Code - Enum Definitions

Enum Definitions - DeviceType

Value	Definition
1	CISCO_30SP+
2	CISCO_12SP+
3	CISCO_12SP

---

3. Scroll down until you find **Enum Definitions - Reason**

4. Search the number(s) of the reasons on the system error message

28	FallbackInitiated - The device has initiated a fallback and will automatically re-register to a higher-priority Unified CM. No action is necessary.

In case more information is needed, **the pcap on the phone** is the best option to view the phone registration process step by step.

Device Type Model List

To know the device types associated with the **DeviceType** field that appear in the alert, you can run a query in the CLI of the CUCM where the phones are registered.

Query: run sql select enum,name from typemodel

```
enum name
===== ================================================
1 Cisco 30 SP+
2 Cisco 12 SP+
3 Cisco 12 SP
4 Cisco 12 S
5 Cisco 30 VIP
6 Cisco 7910
7 Cisco 7960
8 Cisco 7940
9 Cisco 7935
10 Cisco VGC Phone
11 Cisco VGC Virtual Phone
12 Cisco ATA 186
15 EMCC Base Phone
20 SCCP Phone
30 Analog Access
40 Digital Access
42 Digital Access+
43 Digital Access WS-X6608
47 Analog Access WS-X6624
48 VGC Gateway
50 Conference Bridge
51 Conference Bridge WS-X6608
52 Cisco IOS Conference Bridge (HDV2)
53 Cisco Conference Bridge (WS-SVC-CMM)
61 H.323 Phone
62 H.323 Gateway
70 Music On Hold
71 Device Pilot
72 CTI Port
73 CTI Route Point
80 Voice Mail Port
83 Cisco IOS Software Media Termination Point (HDV2)
84 Cisco Media Server (WS-SVC-CMM-MS)
85 Cisco Video Conference Bridge (IPVC-35xx)
```

86 Cisco IOS Heterogeneous Video Conference Bridge
87 Cisco IOS Guaranteed Audio Video Conference Bridge
88 Cisco IOS Homogeneous Video Conference Bridge
90 Route List
100 Load Simulator
110 Media Termination Point
111 Media Termination Point Hardware
112 Cisco IOS Media Termination Point (HDV2)
113 Cisco Media Termination Point (WS-SVC-CMM)
115 Cisco 7941
119 Cisco 7971
120 MGCP Station
121 MGCP Trunk
122 GateKeeper
124 7914 14-Button Line Expansion Module
125 Trunk
126 Tone Announcement Player
131 SIP Trunk
132 SIP Gateway
133 WSM Trunk
134 Remote Destination Profile
227 7915 12-Button Line Expansion Module
228 7915 24-Button Line Expansion Module
229 7916 12-Button Line Expansion Module
230 7916 24-Button Line Expansion Module
232 CKEM 36-Button Line Expansion Module
253 SPA8800
254 Unknown MGCP Gateway
255 Unknown
302 Cisco 7985
307 Cisco 7911
308 Cisco 7961G-GE
309 Cisco 7941G-GE
335 Motorola CN622
336 Third-party SIP Device (Basic)
348 Cisco 7931
358 Cisco Unified Personal Communicator
365 Cisco 7921
369 Cisco 7906
374 Third-party SIP Device (Advanced)
375 Cisco TelePresence
376 Nokia S60
404 Cisco 7962
412 Cisco 3951
431 Cisco 7937
434 Cisco 7942
435 Cisco 7945
436 Cisco 7965
437 Cisco 7975
446 Cisco 3911
468 Cisco Unified Mobile Communicator
478 Cisco TelePresence 1000
479 Cisco TelePresence 3000
480 Cisco TelePresence 3200
481 Cisco TelePresence 500-37
484 Cisco 7925
493 Cisco 9971
495 Cisco 6921
496 Cisco 6941
497 Cisco 6961
503 Cisco Unified Client Services Framework
505 Cisco TelePresence 1300-65

520 Cisco TelePresence 1100
521 Transnova S3
522 BlackBerry MVS VoWifi
537 Cisco 9951
540 Cisco 8961
547 Cisco 6901
548 Cisco 6911
550 Cisco ATA 187
557 Cisco TelePresence 200
558 Cisco TelePresence 400
562 Cisco Dual Mode for iPhone
564 Cisco 6945
575 Cisco Dual Mode for Android
577 Cisco 7926
580 Cisco E20
582 Generic Single Screen Room System
583 Generic Multiple Screen Room System
584 Cisco TelePresence EX90
585 Cisco 8945
586 Cisco 8941
588 Generic Desktop Video Endpoint
590 Cisco TelePresence 500-32
591 Cisco TelePresence 1300-47
592 Cisco 3905
593 Cisco Cius
594 VKEM 36-Button Line Expansion Module
596 Cisco TelePresence TX1310-65
597 Cisco TelePresence MCU
598 Ascom IP-DECT Device
599 Cisco TelePresence Exchange System
604 Cisco TelePresence EX60
606 Cisco TelePresence Codec C90
607 Cisco TelePresence Codec C60
608 Cisco TelePresence Codec C40
609 Cisco TelePresence Quick Set C20
610 Cisco TelePresence Profile 42 (C20)
611 Cisco TelePresence Profile 42 (C60)
612 Cisco TelePresence Profile 52 (C40)
613 Cisco TelePresence Profile 52 (C60)
614 Cisco TelePresence Profile 52 Dual (C60)
615 Cisco TelePresence Profile 65 (C60)
616 Cisco TelePresence Profile 65 Dual (C90)
617 Cisco TelePresence MX200
619 Cisco TelePresence TX9000
620 Cisco TelePresence TX9200
621 Cisco 7821
622 Cisco 7841
623 Cisco 7861
626 Cisco TelePresence SX20
627 Cisco TelePresence MX300
628 IMS-integrated Mobile (Basic)
631 Third-party AS-SIP Endpoint
632 Cisco Cius SP
633 Cisco TelePresence Profile 42 (C40)
634 Cisco VXC 6215
635 CTI Remote Device
640 Usage Profile
642 Carrier-integrated Mobile
645 Universal Device Template
647 Cisco DX650
648 Cisco Unified Communications for RTX
652 Cisco Jabber for Tablet

659 Cisco 8831
681 Cisco ATA 190
682 Cisco TelePresence SX10
683 Cisco 8841
684 Cisco 8851
685 Cisco 8861
688 Cisco TelePresence SX80
689 Cisco TelePresence MX200 G2
690 Cisco TelePresence MX300 G2
20000 Cisco 7905
30002 Cisco 7920
30006 Cisco 7970
30007 Cisco 7912
30008 Cisco 7902
30016 Cisco IP Communicator
30018 Cisco 7961
30019 Cisco 7936
30027 Analog Phone
30028 ISDN BRI Phone
30032 SCCP gateway virtual phone
30035 IP-STE
36041 Cisco TelePresence Conductor
36042 Cisco DX80
36043 Cisco DX70
36049 BEKEM 36-Button Line Expansion Module
36207 Cisco TelePresence MX700
36208 Cisco TelePresence MX800
36210 Cisco TelePresence IX5000
36213 Cisco 7811
36216 Cisco 8821
36217 Cisco 8811
36219 Interactive Voice Response
36224 Cisco 8845
36225 Cisco 8865
36227 Cisco TelePresence MX800 Dual
36232 Cisco 8851NR
36235 Cisco Spark Remote Device
36239 Cisco Webex DX80
36241 Cisco TelePresence DX70
36247 Cisco 7832
36248 Cisco 8865NR
36250 Cisco Meeting Server
36251 Cisco Webex Room Kit
36254 Cisco Webex Room 55
36255 Cisco Webex Room Kit Plus
36256 CP-8800-Video 28-Button Key Expansion Module
36257 CP-8800-Audio 28-Button Key Expansion Module
36258 Cisco 8832
36259 Cisco Webex Room 70 Single
36260 Cisco 8832NR
36262 Cisco ATA 191
36265 Cisco Webex Room 70 Dual
36292 Cisco Webex Room Kit Pro
36295 Cisco Webex Room 55 Dual
36296 Cisco Webex Room 70 Single G2
36297 Cisco Webex Room 70 Dual G2
36299 Cisco Webex Room Kit Mini
36304 Cisco Webex Board 55
36305 Cisco Webex Board 70
36306 Cisco Webex Board 85
36307 Cisco Webex Desk Pro
36308 Cisco Webex Room Panorama

```
36309 Cisco Webex Room 70 Panorama
36312 Cisco Webex Room Phone
```

Note: The result of the query can change based on the CUCM version.

Related Information

- **Cisco Technical Support & Downloads**