

# CUCM, 'ä½ç'™ã—ãÿIP Phonešã®LSCã®è"åš

å†...å®¹

æ!,è!❖

å%œ❖❖æ❖❖jã»¶

è!❖ã»¶

ä½ç'™ã,ã,³ã³ãf❖ãf¼ãf❖ãf³ãf^

èfEæ™èª~æž

MICã" LSC

è"åš

Network Topology

ççèª❖

ãf^ãf©ãf-ãf«ã,ãfãf¼ãf^

æœ%åš¹ã❖ªCAPFã,µãf¼ãf❖ã❖Eã❖,ã,šã❖¾ã❖ã,"

LSCi¼šæžç¶šã❖«ã±æ•—ã❖—ã❖¾ã❖—ã❖ÿ

LSCi¼šã±æ•—

LSC:Operation Pending

é-çé€æf...å ±

æ!,è!❖

ã❖"ã❖®ãf%ã,ãfãfãfãf^ã❖šã❖™ã€Cisco Internet Protocol Phone(Cisco IP Phone)ã❖«Locally Significant Certificate(LSC)ã,ã,³ã³ã,¹ãf^ãf¼ãf«ã❖™ã,ã-¹æ³•ã❖«ã❖±ã❖,ã❖!èª~æžã❖—ã❖¾ã❖™ã€,

å%œ❖❖æ❖❖jã»¶

è!❖ã»¶

æ-ã❖®é...ç»ã❖«é-çã❖™ã,çÿè~ã❖Eã❖,ã,ã❖"ã❖"ã❖Eæž"å¥"ã❖ã,CEã❖¾ã❖™ã€,

- Cisco Unified Communications Manager(CUCM)ã,ãf©ã,¹ã,çã,»ã,ãfãfãfãf^ã,£ãfçãf¼ãf%ã,³ãf—ã,ãfšãf³
- X.509 è"¼æžæ»,
- è!½é€ å...fã❖šã,³ã³ã,¹ãf^ãf¼ãf«ã❖❖ã,CEã,«è"¼æžæ»,(MIC)
- LSC
- Certificate Authority Proxy Function(CAPF)è"¼æžæ»,æ"❖ã½œ
- ãf†ãf•ã,©ãf«ãf~ã❖®ã,»ã,ãfãfãfãf^ã,£(SBD)
- å^æœÿãçjé¼ãfã,¹ãf^(ITL)ãf•ã,jã,³ãf«

ä½çç'™ã❖™ã,ã,³ã³ãf❖ãf¼ãf❖ãf³ãf^

ã"ã®ãf%ã,ãfãf;ãfãf^ã®æf...ã ±ã-ã€SBDã,'ã,µãfãf¼ãf^ã™ã,«CUCMãfãf¼ã,ãfSãfã  
8.0(1)ã»¥é™ã«ãÿã¥ã,,ã|ã,,ã¾ã™ã€,

---

æ³¼ã"ã®ã•é;Eã«è²ã½"ã™ã,ã®ã-ã€ãfãfã•ã,©ãf«ãf^ã®ã,»ã,ãfãfã  
Unified Reporting] > [System Reports] > [Unified CM Phone Feature List]  
ã«çS»ãã-ã€[Feature: Security By  
Default]ã®ãf-ãfãf¼ãf^ã,ã®ÿè;Eã-ã¾ã™ã€,

---

ã"ã®ãf%ã,ãfãf;ãfãf^ã®æf...ã ±ã-ã€ç%ã¹ã®šã®ãf©ãfœç'ãçfã«ã,ã,ãfãfã,ã,ã,ã

## èfEæ™-èª-æ~Ž

### MICã" LSC

802.1Xã¾ãÿã-Anyconnect Phone  
VPNã«è¼æ~Žæ,ãfãf¼ã,ã®èè¼ã,'ã½ç"ã™ã,ã'ã^ã-ã€MICã" LSCã®éã•ã

ã™ã¹ã|ã®Ciscoé»è±ã«ã-ã€ã¥ã'ãšãf-ãfã,ããfã,ãf^ãf¼ãf«ã•ã,EãÿMICã®  
Manufacturing CAã€Cisco Manufacturing CA SHA2ã€CAP-RTP-  
001ã€ã¾ãÿã-CAP-RTP-002ã®ã,,ãšã,Eãã®Cisco Manufacturing  
CAè¼æ~Žæ,ã«ã,ã£ã|ç½ããã•ã,Eã¾ã™ã€ã€»è±æ©ÿãEã"ã®è¼æ~Žæ,ã,

ã,æ-ãLSCãç®ççèè...ãã,ã£ã|é»è±æ©ÿã«ã,ã³çš,ã«ã,ããfã,ãf^ãf¼ãf«ã•ã  
VPNã,'èã®šã-ã¾ã™ã€MICãšã-ãããLSCã«ãÿã¥ã,,ã|è¼æ~Žæ,èè¼ã,

## èã®š

### Network Topology

ã"ã®ãf%ã,ãfãf;ãfãf^ãšã-ã€æ-ã®CUCMãf©ãfœã,µãf¼ãfã,'ã½ç"ã-ã¾ã™ã€-

- ao115pub - 10.122.138.102 - CUCMãf'ãf-ãfãfã,ãf£ãš,ã³TFTPã,µãf¼ãf
- ao115sub - 10.122.138.103 - CUCMã,µf-ã,ã,ãfããšã,ã³TFTPã,µãf¼ãf

CAPFè¼æ~Žæ,ãEæœÿé™ã^ãšã,Eãšããã,,ã"ã-ã€ãšã,ã³èç'ã,,ãªæã¥ã«æœÿé™  
Unified OS Administration] > [Security] > [Certificate Management] ã«çS»ãã-ã€[Find  
Certificate List where Certificate is exactly CAPF] ã«çS»ãã-ã¾ã™ã€,

Certificate List

https://10.122.138.102/cmplatform/certificateFindList.do

**Cisco Unified Operating System Administration**  
For Cisco Unified Communications Solutions

administrator

Show Settings Security Software Upgrades Services Help

Certificate List

Generate Self-signed Upload Certificate/Certificate chain Generate CSR

**Status**

1 records found

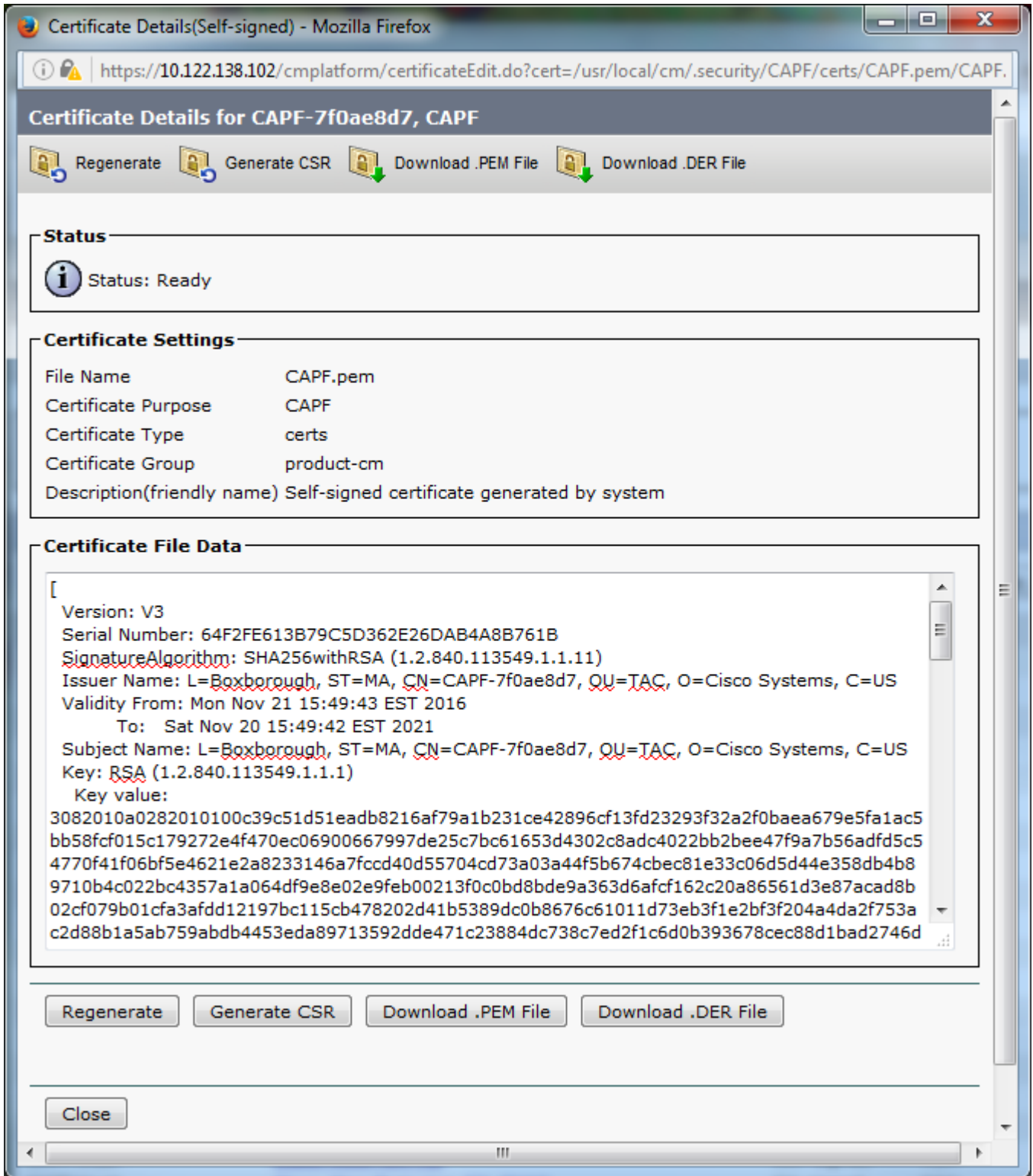
**Certificate List (1 - 1 of 1)**

Find Certificate List where Certificate is exactly CAPF Find Clear Filter + -

Certificate	Common Name	Type	Key Type	Distribution	Issued By	Expiration	
CAPF	<a href="#">CAPF-7f0ae8d7</a>	Self-signed	RSA	ao115pub	CAPF-7f0ae8d7	11/20/2021	Self-sign

Generate Self-signed Upload Certificate/Certificate chain Generate CSR

[Common Name] [Certificate  
 Details] [Certificate  
 File Data] [Validity  
 From:] [To:]



CAPF-7f0ae8d7, CAPF  
 CAPF-7f0ae8d7, CAPF

Bug ID

<https://10.122.138.102/cmplatform/certificateEdit.do?cert=/usr/local/cm/.security/CAPF/certs/CAPF.pem/CAPF>



3 SUBJECTNAME 64 CN=CAPF-7f0ae8d7;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US

4 FUNCTION 2 CAPF

5 ISSUERNAME 64 CN=CAPF-7f0ae8d7;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US

6 SERIALNUMBER 16 64:F2:FE:61:3B:79:C5:D3:62:E2:6D:AB:4A:8B:76:1B

7 PUBLICKEY 270

8 SIGNATURE 256

11 CERTHASH 20 C3 E6 97 D0 8A E1 0B F2 31 EC ED 20 EC C5 BC 0F 83 BC BC 5E

12 HASH ALGORITHM 1 null

ITL Record #:2

----

BYTEPOS TAG LENGTH VALUE

-----

1 RECORDLENGTH 2 717

2 DNSNAME 2

3 SUBJECTNAME 59 CN=ao115pub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US

4 FUNCTION 2 TVS

5 ISSUERNAME 59 CN=ao115pub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US

6 SERIALNUMBER 16 6B:99:31:15:D1:55:5E:75:9C:42:8A:CE:F2:7E:EA:E8

7 PUBLICKEY 270

8 SIGNATURE 256

11 CERTHASH 20 05 9A DE 20 14 55 23 2D 08 20 31 4E B5 9C E9 FE BD 2D 55 87

12 HASH ALGORITHM 1 null

ITL Record #:3

----

BYTEPOS TAG LENGTH VALUE

-----

1 RECORDLENGTH 2 1680

2 DNSNAME 2

3 SUBJECTNAME 71 CN=ITLRECOVERY\_ao115pub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US

4 FUNCTION 2 System Administrator Security Token

5 ISSUERNAME 71 CN=ITLRECOVERY\_ao115pub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US

6 SERIALNUMBER 16 51:BB:2F:1C:EE:80:02:16:62:69:51:9A:14:F6:03:7E

7 PUBLICKEY 270

8 SIGNATURE 256

9 CERTIFICATE 963 DF 98 C1 DB E0 61 02 1C 10 18 D8 BA F7 1B 2C AB 4C F8 C9 D5 (SHA1 Hash HEX)

This etoken was not used to sign the ITL file.

ITL Record #:4

----

BYTEPOS TAG LENGTH VALUE

-----

1 RECORDLENGTH 2 717
2 DNSNAME 2
3 SUBJECTNAME 59 CN=ao115sub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
4 FUNCTION 2 TVS
5 ISSUENAME 59 CN=ao115sub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
6 SERIALNUMBER 16 65:E5:10:72:E7:F8:77:DA:F1:34:D5:E3:5A:E0:17:41
7 PUBLICKEY 270
8 SIGNATURE 256
11 CERTHASH 20 00 44 54 42 B4 8B 26 24 F3 64 3E 57 8D 0E 5F B0 8B 79 3B BF
12 HASH ALGORITHM 1 null

ITL Record #:5

----

BYTEPOS TAG LENGTH VALUE

-----

1 RECORDLENGTH 2 1652
2 DNSNAME 2
3 SUBJECTNAME 59 CN=ao115sub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
4 FUNCTION 2 System Administrator Security Token
5 ISSUENAME 59 CN=ao115sub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
6 SERIALNUMBER 16 48:F7:D2:F3:A2:66:37:F2:DD:DF:C4:7C:E6:B9:CD:44
7 PUBLICKEY 270
8 SIGNATURE 256
9 CERTIFICATE 959 20 BD 40 75 51 C0 61 5C 14 0D 6C DB 79 E5 9E 5A DF DC 6D 8B (SHA1 Hash HEX)
This etoken was used to sign the ITL file.

ITL Record #:6

----

BYTEPOS TAG LENGTH VALUE

-----

1 RECORDLENGTH 2 1652
2 DNSNAME 2
3 SUBJECTNAME 59 CN=ao115sub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
4 FUNCTION 2 TFTP
5 ISSUENAME 59 CN=ao115sub;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
6 SERIALNUMBER 16 48:F7:D2:F3:A2:66:37:F2:DD:DF:C4:7C:E6:B9:CD:44
7 PUBLICKEY 270
8 SIGNATURE 256
9 CERTIFICATE 959 20 BD 40 75 51 C0 61 5C 14 0D 6C DB 79 E5 9E 5A DF DC 6D 8B (SHA1 Hash HEX)

ITL Record #:7

----

BYTEPOS TAG LENGTH VALUE

-----

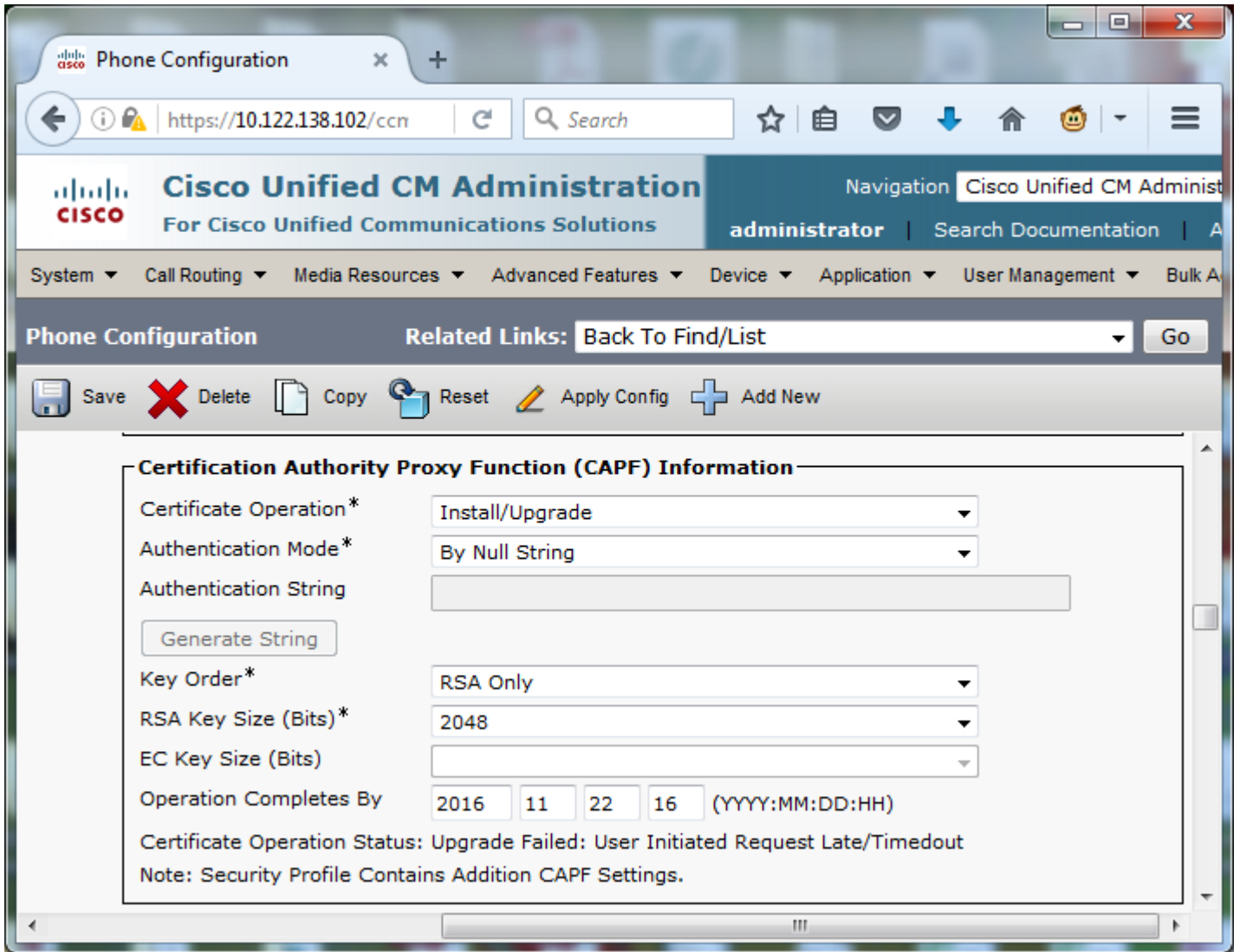
1 RECORDLENGTH 2 1031
2 DNSNAME 9 ao115sub
3 SUBJECTNAME 62 CN=ao115sub-EC;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
4 FUNCTION 2 TFTP
5 ISSUENAME 62 CN=ao115sub-EC;OU=TAC;O=Cisco Systems;L=Boxborough;ST=MA;C=US
6 SERIALNUMBER 16 53:CC:1D:87:BA:6A:28:BD:DA:22:B2:49:56:8B:51:6C
7 PUBLICKEY 97
8 SIGNATURE 103
9 CERTIFICATE 651 E0 CF 8A B3 4F 79 CE 93 03 72 C3 7A 3F CF AE C3 3E DE 64 C5 (SHA1 Hash HEX)

The ITL file was verified successfully.

ITLâ†...ã®ã, "ã³ãf^ãfaã "ã—ã!çç°èªã•ã,ŒãÿCAPFã, "ã³ãf^ãfaã,'ã½çç""ã—ã|ã€é

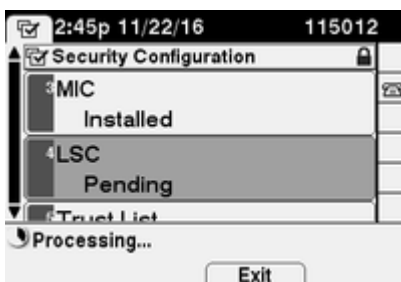






è'â@šãⓂⓂⓂ%oæ'ã,'äçⓂãã—ã |ã<ã,%oã€[Apply  
 Config]ã,'ã,ãfãffã,ã—ã¾ã™ã€,

ã³ã«çªã™ã,ã†ã«ã€é»è©±æ©ÿã@LSCã,ãftãf¼ã,ã,ã€[Pending]ã«ã%ã,ã,Šã



ã³ã«çªã™ã,ã†ã«ã€é»è©±æ©ÿãã,ãf¼ã,'ç'ÿæ^ã—ã¾ã™ã€,



valid CAPF

serverâ€¦â€¦ èj¨ çºã•ã,Çã¼ã™ã€„ã„Çã¯ã€ITLãf•ã,ã,ããf«ã«CAPFã,¨ãf³ãf^ãfã€Çã

LSCi¼šæŽŸç¶šã«ã±æ•—ã—ã¼ã—ãŸ

LSCã®ã,ããf³ã,¹ãf^ãf¼ãf«ã«ã±æ•—ã™ã,ã€„é»è©±æ©Ÿã®ã,¹ãftãf¼ã,¿ã,¹ãfjãffã,»ãf¼ã,ã

Connection

Failedã€ã€ èj¨ çºã•ã,Çã¼ã™ã€„ã„Çã¯ã€ã¬ã®ã„ãšã,Çã«ã€çš¶æ...ã,ç

- ITLãf•ã,ã,ããf«ã®CAPFè¨¼æ~Žæ,ã¨ ç¼¼ãœ¨ã®è¨¼æ~Žæ,ãÇã,€è†ã—ãªã„ã´ã
- CAPFã,ãf¼ãf“ã,¹ãÇãœæçã¼ãŸã¯éžã,çã,¯ãftã,£ãf-ãÇãã,Çã|ã„ã¼ã™ã
- é»è©±æ©ŸãÇããfãfãf^ãfãf¼ã,¯çµÇç“±ãšCAPFã,ããf¼ãf“ã,¹ã«ã^éãšãã¼ã

CAPFã,ãf¼ãf“ã,¹ãÇã,çã,¯ãftã,£ãf-ã«ãªã£ã|ã„ã„ã„ã¨ã¨ã,çç°èªã—ã€CAPFã,ããf¼ã

LSCi¼šã±æ•—

LSCã®ã,ããf³ã,¹ãf^ãf¼ãf«ã«ã±æ•—ã™ã,ã€„é»è©±æ©Ÿã®ã,¹ãftãf¼ã,¿ã,¹ãfjãffã,»ãf¼ã,ã

Failedã€ã€ èj¨ çºã•ã,Çã¼ã™ã€„ã„Çã¯ã€„[Phone Configuration]

Webãfšãf¼ã,ã«ã€[Certificate Operation Status: Upgrade Failed: User Initiated Request

Late/Timedout]

ã€èj¨ çºã•ã,Çã¼ã™ã€„ã„Çã¯ã€ã½œãÇæ™,é-ã¨ã—¥ã~ã«ã,^ã£ã|ã

LSC:Operation Pending

LSCã®ã,ããf³ã,¹ãf^ãf¼ãf«ã«ã±æ•—ã™ã,ã€„é»è©±æ©Ÿã®ã,¹ãftãf¼ã,¿ã,¹ãfjãffã,»ãf¼ã,ã

Connection Failedã€ã€ èj¨ çºã•ã,Çã¼ã™ã€„ã„Çã¯ã€„[Phone

Configuration]ãfšãf¼ã,ã«ã€[Certificate Operation Status: Operation Pending]

ã€èj¨ çºã•ã,Çã¼ã™ã€„ã„Çã¯ã€„[Certificate Operation Status: Operation Pending]

ã,¹ãftãf¼ã,¿ã,¹ãÇãèj¨ çºã•ã,Çã,çç¶ç“±ã¯ãã¼ã-ã¼ãšã™ã€„ãŸãããã°ã€

- é»è©±æ©Ÿã„šã®ITLãÇã€è¨ãšãã,ÇãŸTFTPã,ããf¼ãfãšç¼ãœ¨ã½ç¨ãã,Ç
- ç´æªã—ãŸITLã«é-çã™ã,ã•éjÇã„ã®çš¶æ...ãÇç™°ç“Ÿã™ã,ã¨ã€ãf†ã

itl reset

localkeyã,ã®ŸèjÇã™ã,ã¿...è|ãÇã,ã,šã¼ã™ã€„ã,¯ãfã,¹ã,¿ãÇæ•ãã^ãfçãf¼ãf%o

ctl reset

localkeyã,ã½ç¨ã™ã,ã¿...è|ãÇã,ã,šã¼ã™ã€„ã¬ã«ã€CUCMã®CLIãã,ã,ãçç

itl reset

localkeyã,ããfžãf³ãf%ã,ã®ŸèjÇã—ã,^ãããã—ãŸããããã«ã,ã...ããÇç™°ç“ŸãŸ

Bug ID

[CSCus33755](#)ã®ã,¨ãfãf¼ãšã,ã,ã¯è½æ€šãÇã,ã,šã¼ã™ã€„CUCMã®ããf¼ã

```

admin:show itl
Length of ITL file: 0
ITL File not found. To generate an ITL file, activate or restart the Cisco TFTP service as this
servers.
Error parsing the ITL File.

```





# Status messages

Cisco IP Phone CP-8845 ( SEP682C7B5C2342 )

[14:05:42 03/15/21] DNS unknown IPv4 host PUB11.brianw2.lab  
[14:05:44 03/15/21] VPN not configured  
[14:05:44 03/15/21] DNS unknown IPv4 host PUB11.brianw2.lab  
[11:13:25 03/16/21] SEP682C7B5C2342.cnf.xml.sgn(HTTP)  
[11:13:25 03/16/21] DNS unknown IPv4 host PUB11.brianw2.lab  
[11:13:27 03/16/21] VPN not configured  
**[11:13:27 03/16/21] DNS unknown IPv4 host PUB11.brianw2.lab**  
**[11:13:27 03/16/21] LSC: Connection failed**  
[11:13:50 03/16/21] LSC: Connection failed  
[11:14:10 03/16/21] LSC: Connection failed

ä, ä... ä^:

Cisco Bug ID

[CSCub62243](#):LSCä @ä, äfä, äf^äf/äf«ä æ-ç||šçš,, ä «ä±æ•—ä —ä ä ä ä ä ä @ä¼æCAPFä, ä

æ; ä¼ä, ä... ä^ ä @èæfæ... @ä°é ...i¼š

Cisco Bug ID

[CSCuz18034](#):LSCä æä, äfä, äf^äf/äf«ä •ä, æä Yä, ä fäf%ä fä, äfä f^ä ä äoeYé™ ä^†ä, æä, ä

é-ææf... ä ±

æ-ä @äf%ä, äfä f; äfä f^ä Sä -ä€ AnyConnect

VPNä, äf@ä, ä, äfä f^è è ¼ä 802.1Xè è ¼ä @ä, äfä f†ä, ä, äfä Sä @LSCä @ä½ç" ä

- [AnyConnect VPN é»è©± - IP Phoneä ASAä ä Sä, ä³ CUCM ä @ä fä f@ä f-ä f«ä, äfä f/ä f†ä, fä fä, °](#)
- [Identity-Based Networking Services: IP Telephony In IEEE 802.1X-Enabled Networks Deployment and Configuration Guide](#)

LSCè ä@sä @é« ä° | ä ä, ä, äf—ä,, ä, ä, Sä ¼ä ä™ ä€, ä "ä @ä, ä, äf—ä Sä -ä€ LSCè ¼äæ

è©³ç °ä «ä ä ä,, ä | ä -ä€ ä€æ CUCMä, äf/ä f%ä f'ä f/ä f†ä, fCAç/¼²ä ä» ä ä LSCä @ç"Yæ

- [ä f†ä, ä f<ä, «ä f« ä, ä f äf/ä f^ä ä f%ä, ä fä f; äfä f^ ä€" Cisco Systems](#)

## 翻訳について

シスコは世界中のユーザにそれぞれの言語でサポート コンテンツを提供するために、機械と人による翻訳を組み合わせて、本ドキュメントを翻訳しています。ただし、最高度の機械翻訳であっても、専門家による翻訳のような正確性は確保されません。シスコは、これら翻訳の正確性について法的責任を負いません。原典である英語版（リンクからアクセス可能）もあわせて参照することを推奨します。