CHAPTER 47

Configuring the TLS Proxy for Encrypted Voice Inspection

This chapter describes how to configure the adaptive security appliance for the TLS Proxy for Encrypted Voice Inspection feature.

This chapter includes the following sections:

Information about the TLS Proxy for Encrypted Voice Inspection

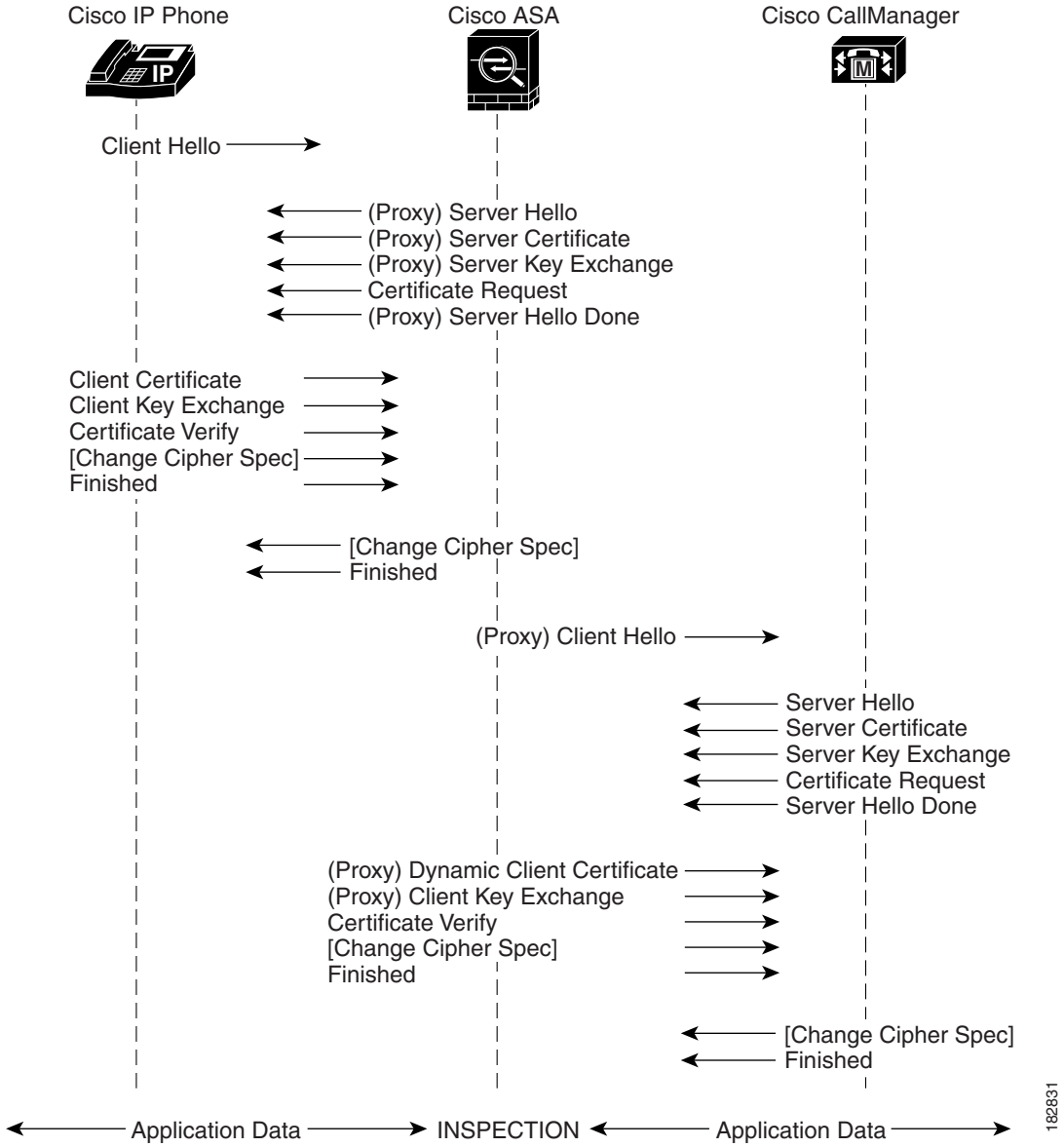
End-to-end encryption often leaves network security appliances “blind” to media and signaling traffic, which can compromise access control and threat prevention security functions. This lack of visibility can result in a lack of interoperability between the firewall functions and the encrypted voice, leaving businesses unable to satisfy both of their key security requirements.

The ASA is able to intercept and decrypt encrypted signaling from Cisco encrypted endpoints to the Cisco Unified Communications Manager (Cisco UCM), and apply the required threat protection and access control. It can also ensure confidentiality by re-encrypting the traffic onto the Cisco UCM servers.

Typically, the ASA TLS Proxy functionality is deployed in campus unified communications network. This solution is ideal for deployments that utilize end to end encryption and firewalls to protect Unified Communications Manager servers.

The security appliance in Figure 47-1 serves as a proxy for both client and server, with Cisco IP Phone and Cisco UCM interaction.

Figure 47-1 TLS Proxy Flow



Decryption and Inspection of Unified Communications Encrypted Signaling

With encrypted voice inspection, the security appliance decrypts, inspects and modifies (as needed, for example, performing NAT fixup), and re-encrypts voice signaling traffic while all of the existing VoIP inspection functions for Skinny and SIP protocols are preserved. Once voice signaling is decrypted, the plaintext signaling message is passed to the existing inspection engines.

The security appliance acts as a TLS proxy between the Cisco IP Phone and Cisco UCM. The proxy is transparent for the voice calls between the phone and theCisco UCM. Cisco IP Phones download a Certificate Trust List from the Cisco UCM before registration which contains identities (certificates) of the devices that the phone should trust, such as TFTP servers and Cisco UCM servers. To support server

proxy, the CTL file must contain the certificate that the security appliance creates for the Cisco UCMs. To proxy calls on behalf of the Cisco IP Phone, the security appliance presents a certificate that the Cisco UCM can verify, which is a Local Dynamic Certificate for the phone, issued by the certificate authority on the security appliance.

TLS proxy is supported by the Cisco Unified CallManager Release 5.1 and later. You should be familiar with the security features of the Cisco UCM. For background and detailed description of Cisco UCM security, see the Cisco Unified CallManager document:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/5_0/sec_vir/ae/sec504/index.htm

TLS proxy applies to the encryption layer and must be configured with an application layer protocol inspection. You should be familiar with the inspection features on the ASA, especially Skinny and SIP inspection.

Supported Cisco UCM and IP Phones for the TLS Proxy

Cisco Unified Communications Manager

The following releases of the Cisco Unified Communications Manager are supported with the TLS proxy:

- Cisco Unified CallManager Version 4.*x*
- Cisco Unified CallManager Version 5.0
- Cisco Unified CallManager Version 5.1
- Cisco Unified Communications Manager 6.1
- Cisco Unified Communications Manager 7.0
- Cisco Unified Communications Manager 8.0

Cisco Unified IP Phones

The following IP phones in the Cisco Unified IP Phones 7900 Series are supported with the TLS proxy:

- Cisco Unified IP Phone 7985
- Cisco Unified IP Phone 7975
- Cisco Unified IP Phone 7971
- Cisco Unified IP Phone 7970
- Cisco Unified IP Phone 7965
- Cisco Unified IP Phone 7962
- Cisco Unified IP Phone 7961
- Cisco Unified IP Phone 7961G-GE
- Cisco Unified IP Phone 7960
- Cisco Unified IP Phone 7945
- Cisco Unified IP Phone 7942
- Cisco Unified IP Phone 7941
- Cisco Unified IP Phone 7941G-GE
- Cisco Unified IP Phone 7940
- Cisco Unified Wireless IP Phone 7921

- Cisco Unified Wireless IP Phone 7925
- Cisco IP Communicator (CIPC) for softphones

CTL Client Overview

The CTL Client application supplied by Cisco Unified CallManager Release 5.1 and later supports a TLS proxy server (firewall) in the CTL file. Figure 47-2 through Figure 47-5 illustrate the TLS proxy features supported in the CTL Client.

Figure 47-2 CTL Client TLS Proxy Features — Add Firewall

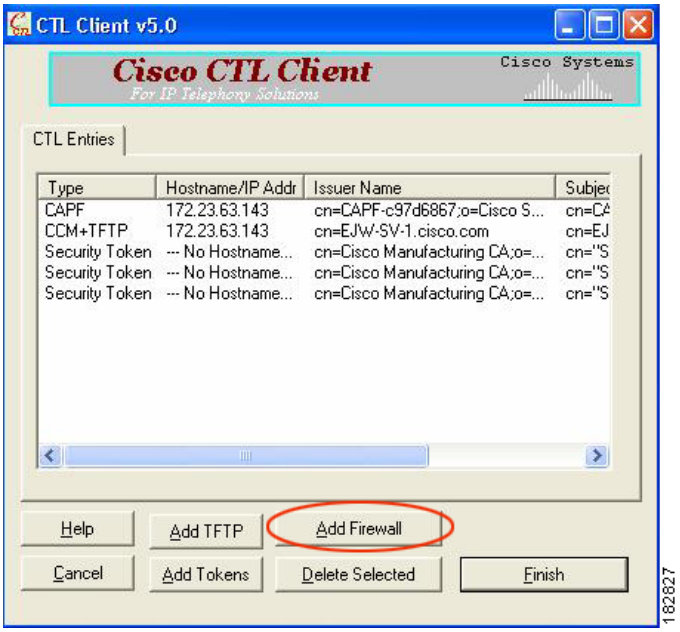


Figure 47-2 shows support for adding a CTL entry consisting of the security appliance as the TLS proxy.

Figure 47-3 CTL Client TLS Proxy Features — ASA IP Address or Domain Name

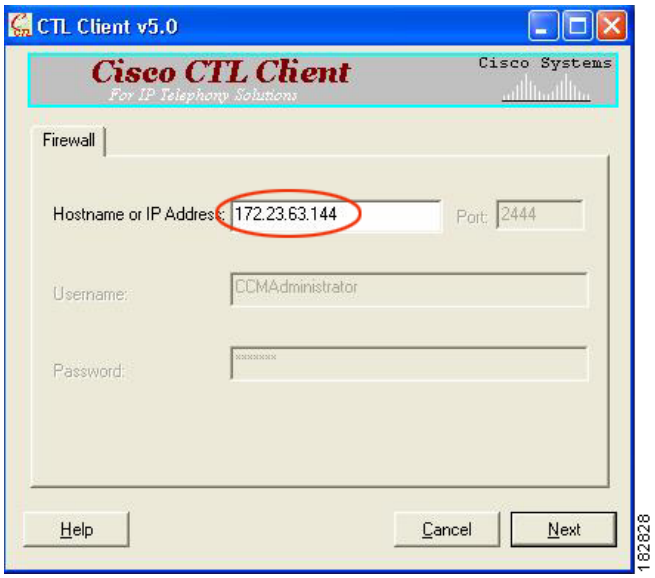


Figure 47-3 shows support for entering the security appliance IP address or domain name in the CTL Client.

Figure 47-4 CTL Client TLS Proxy Features — CTL Entry for ASA

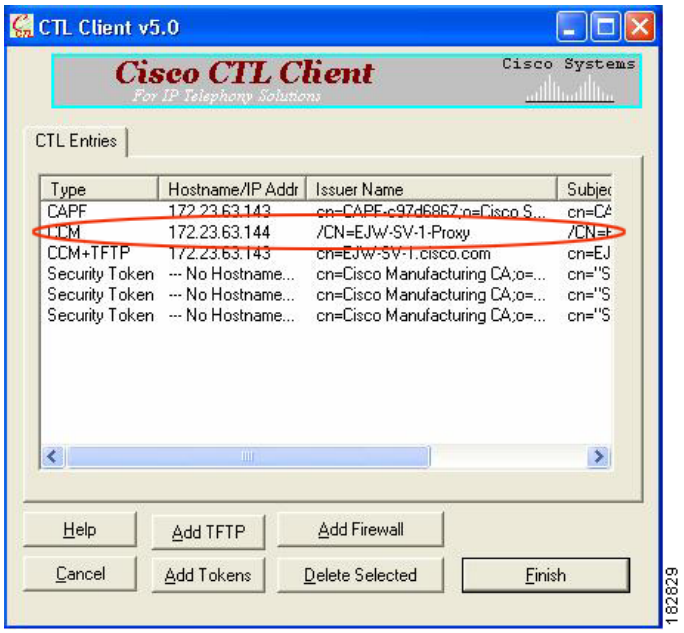
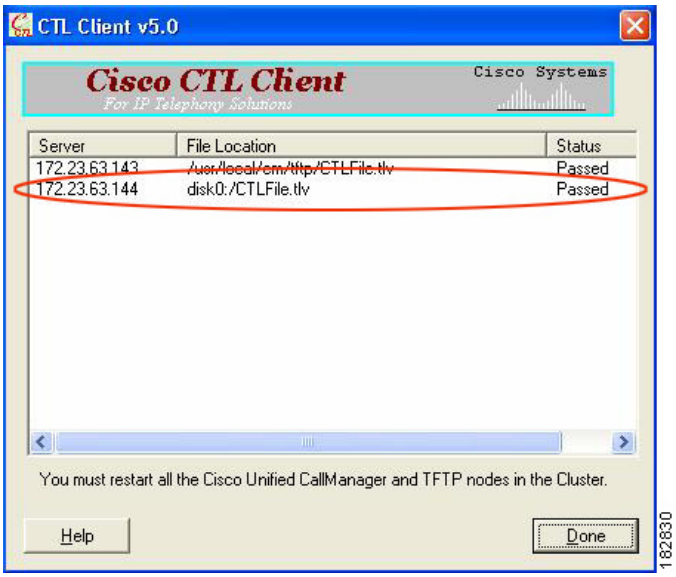


Figure 47-4 shows that the CTL entry for the security appliance as the TLS proxy has been added. The CTL entry is added after the CTL Client connects to the CTL Provider service on the security appliance and retrieves the proxy certificate.

Figure 47-5 CTL Client TLS Proxy Features — CTL File Installed on the ASA



The security appliance does not store the raw CTL file in the flash, rather, it parses the CTL file and installs appropriate trustpoints. Figure 47-5 indicates the installation was successful.

Licensing for the TLS Proxy

The TLS proxy for encrypted voice inspection feature supported by the ASA require a Unified Communications Proxy license.

The TLS proxy for encrypted voice inspection feature is licensed by TLS session. For the TLS proxy, each endpoint utilizes one Unified Communications Proxy session.

Table 47-1 shows the Unified Communications Proxy license details by platform.

Table 47-1 License Requirements for the Security Appliance

Security Appliance Platform	Max UC Proxy Licenses	Tiers for UC Proxy Licenses
ASA 5505	24	24
ASA 5510	100	24, 50, 100
ASA 5520	1,000	24, 50, 100, 250, 500, 750, 1000
ASA 5540	2,000	24, 50, 100, 250, 500, 750, 1000, 2000
ASA 5550	3,000	24, 50, 100, 250, 500, 750, 1000, 2000, 3000
ASA 5580	10,000	24, 50, 100, 250, 500, 750, 1000, 2000, 3000, 5000, 10000

Table 47-2 shows the default and maximum TLS session details by platform.

Table 47-2 Default and Maximum TLS Sessions on the Security Appliance

Security Appliance Platform	Default TLS Sessions	Maximum TLS Sessions
ASA 5505	10	80
ASA 5510	100	200
ASA 5520	300	1200
ASA 5540	1000	4500
ASA 5550	2000	4500
ASA 5580	4000	13,000

A Unified Communications Proxy license is applied the same way as other licensed features (such as, SSL VPN), via the **activation-key** command. For more information about licensing, see Chapter 3, "Managing Feature Licenses."

Prerequisites for the TLS Proxy for Encrypted Voice Inspection

Before configuring TLS proxy, the following prerequisites are required:

- You must set clock on the security appliance before configuring TLS proxy. To set the clock manually and display clock, use the **clock set** and **show clock** commands. We recommend that the security appliance use the same NTP server as the Cisco Unified CallManager cluster. TLS handshake may fail due to certificate validation failure if clock is out of sync between the security appliance and the Cisco Unified CallManager server.
- 3DES-AES license is needed to interoperate with the Cisco Unified CallManager. AES is the default cipher used by the Cisco Unified CallManager and Cisco IP Phone.
- Import the following certificates which are stored on the Cisco UCM. These certificates are required by the ASA for the phone proxy.
  - Cisco_Manufacturing_CA
  - CAP-RTP-001
  - CAP-RTP-002
  - CAPF certificate (Optional)

    If LSC provisioning is required or you have LSC enabled IP phones, you must import the CAPF certificate from the Cisco UCM. If the Cisco UCM has more than one CAPF certificate, you must import all of them to the ASA.

  See Chapter 46, "Configuring the Cisco Phone Proxy."For example, the CA Manufacturer certificate is required by the phone proxy to validate the IP phone certificate.

Configuring the TLS Proxy for Encrypted Voice Inspection

This section includes the following topics:

Task flow for Configuring the TLS Proxy for Encrypted Voice Inspection

To configure the security appliance for TLS proxy, perform the following steps:

Step 1 (Optional) Set the maximum number of TLS proxy sessions to be supported by the security appliance using the following command, for example:

```
hostname(config)# tls-proxy maximum-sessions 1200
```

Note The **tls-proxy maximum-sessions** command controls the memory size reserved for cryptographic applications such as TLS proxy. Crypto memory is reserved at the time of system boot. You may need to reboot the security appliance for the configuration to take effect if the configured maximum sessions number is greater than the currently reserved.

Step 2 Create trustpoints and generate certificates for the TLS Proxy for Encrypted Voice Inspection. See Creating Trustpoints and Generating Certificates, page 47-9.

Step 3 Create the internal CA to sign the LDC for Cisco IP Phones. See Creating an Internal CA, page 47-10.

Step 4 Create the CTL provider instance. See Creating a CTL Provider Instance, page 47-11.

Step 5 Create the TLS proxy instance. See Creating the TLS Proxy Instance, page 47-12.

Step 6 Enable the TLS proxy y with SIP and Skinny inspection. See Enabling the TLS Proxy Instance for Skinny or SIP Inspection, page 47-13.

Step 7 Export the local CA certificate (ldc_server) and install it as a trusted certificate on the Cisco UCM server.

a. Use the following command to export the certificate if a trust-point with **proxy-ldc-issuer** is used as the signer of the dynamic certificates, for example:

```
hostname(config)# crypto ca export ldc_server identity-certificate
```

b. For the embedded local CA server LOCAL-CA-SERVER, use the following command to export its certificate, for example:

```
hostname(config)# show crypto ca server certificate
```

Save the output to a file and import the certificate on the Cisco UCM. For more information, see the Cisco Unified CallManager document:
http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/5_0/iptp_adm/504/iptpch6.htm#wp1040848

After this step, you may use the Display Certificates function on the Cisco Unified CallManager GUI to verify the installed certificate:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/5_0/iptp_adm/504/iptpch6.htm#wp1040354

Step 8 Run the CTL Client application to add the server proxy certificate (ccm_proxy) to the CTL file and install the CTL file on the security appliance. See the Cisco Unified CallManager document for information on how to configure and use CTL Client:

http://www.cisco.com/univercd/cc/td/doc/product/voice/c_callmg/5_1/nci/p08/secuauth.htm

Note You will need the CTL Client that is released with Cisco Unified CallManager Release 5.1 to interoperate with the security appliance. See the "CTL Client Overview" section on page 47-4 for more information regarding TLS proxy support.

Creating Trustpoints and Generating Certificates

The Cisco UCM proxy certificate could be self-signed or issued by a third-party CA. The certificate is exported to the CTL client.

Prerequisites

Import the required certificates, which are stored on the Cisco UCM. See the "Certificates from the Cisco UCM" section on page 46-6 and the "Importing Certificates from the Cisco UCM" section on page 46-15.

	Command	Purpose
Step 1	hostname(config)# **crypto key generate rsa label** *key-pair-label* **modulus** *size* **Examples:** hostname(config)# **crypto key generate rsa label ccm_proxy_key modulus 1024** hostname(config)# **crypto key generate rsa label ldc_signer_key modulus 1024** hostname(config)# **crypto key generate rsa label phone_common modulus 1024**	Creates the RSA keypair that can be used for the trustpoints. The keypair is used by the self-signed certificate presented to the local domain containing the Cisco UP (proxy for the remote entity). **Note** We recommend that you create a different key pair for each role.
Step 2	hostname(config)# **crypto ca trustpoint** *trustpoint_name* **Example:** hostname(config)# **! for self-signed CCM proxy certificate** hostname(config)# **crypto ca trustpoint ccm_proxy**	Enters the trustpoint configuration mode for the specified trustpoint so that you can create the trustpoint for the Cisco UMA server. A trustpoint represents a CA identity and possibly a device identity, based on a certificate issued by the CA.
Step 3	hostname(config-ca-trustpoint)# **enrollment self**	Generates a self-signed certificate.
Step 4	hostname(config-ca-trustpoint)# **fqdn none**	Specifies not to include a fully qualified domain name (FQDN) in the Subject Alternative Name extension of the certificate during enrollment.

	Command	Purpose
Step 5	hostname(config-ca-trustpoint)# **subject-name** *X.500_name* **Example:** hostname(config-ca-trustpoint)# **subject-name cn=EJW-SV-1-Proxy**	Includes the indicated subject DN in the certificate during enrollment Cisco IP Phones require certain fields from the X.509v3 certificate to be present to validate the certificate via consulting the CTL file. Consequently, the **subject-name** entry must be configured for a proxy certificate trustpoint. The subject name must be composed of the ordered concatenation of the CN, OU and O fields. The CN field is mandatory; the others are optional. **Note** Each of the concatenated fields (when present) are separated by a semicolon, yielding one of the following forms: CN=xxx;OU=yyy;O=zzz CN=xxx;OU=yyy CN=xxx;O=zzz CN=xxx
Step 6	hostname(config-ca-trustpoint)# **keypair** *keyname* **Example:** hostname(config-ca-trustpoint)# **keypair ccm_proxy_key**	Specifies the key pair whose public key is to be certified.
Step 7	hostname(config-ca-trustpoint)# **exit**	Exits from the CA Trustpoint configuration mode.
Step 8	hostname(config)# **crypto ca enroll** *trustpoint* **Example:** hostname(config)# **crypto ca enroll ccm_proxy**	Starts the enrollment process with the CA and specifies the name of the trustpoint to enroll with.

What to Do Next

Once you have created the trustpoints and generated the certificates, create the internal CA to sign the LDC for Cisco IP Phones. See Creating an Internal CA, page 47-10.

Creating an Internal CA

Create an internal local CA to sign the LDC for Cisco IP Phones.

This local CA is created as a regular self-signed trustpoint with **proxy-ldc-issuer** enabled. You can use the embedded local CA LOCAL-CA-SERVER on the ASA to issue the LDC.

	Command	Purpose
Step 1	hostname(config)# **crypto ca trustpoint** *trustpoint_name* **Example:** hostname(config)# **! for the internal local LDC issuer** hostname(config)# **crypto ca trustpoint ldc_server**	Enters the trustpoint configuration mode for the specified trustpoint so that you can create the trustpoint for the LDC issuer.
Step 2	hostname(config-ca-trustpoint)# **enrollment self**	Generates a self-signed certificate.

	Command	Purpose
Step 3	`hostname(config-ca-trustpoint)# proxy-ldc-issuer`	Issues TLS proxy local dynamic certificates. The **proxy-ldc-issuer** command grants a crypto trustpoint the role as local CA to issue the LDC and can be accessed from crypto ca trustpoint configuration mode. The **proxy-ldc-issuer** command defines the local CA role for the trustpoint to issue dynamic certificates for TLS proxy. This command can only be configured under a trustpoint with "enrollment self."
Step 4	`hostname(config-ca-trustpoint)# fqdn` *fqdn* **Example:** `hostname(config-ca-trustpoint)# fqdn my-ldc-ca.exmaple.com`	Includes the indicated FQDN in the Subject Alternative Name extension of the certificate during enrollment.
Step 5	`hostname(config-ca-trustpoint)# subject-name` *X.500_name* **Example:** `hostname(config-ca-trustpoint)# subject-name cn=FW_LDC_SIGNER_172_23_45_200`	Includes the indicated subject DN in the certificate during enrollment
Step 6	`hostname(config-ca-trustpoint)# keypair` *keyname* **Example:** `hostname(config-ca-trustpoint)# keypair ldc_signer_key`	Specifies the key pair whose public key is to be certified.
Step 7	`hostname(config-ca-trustpoint)# exit`	Exits from the CA Trustpoint configuration mode.
Step 8	`hostname(config)# crypto ca enroll` *trustpoint* **Example:** `hostname(config)# crypto ca enroll ldc_server`	Starts the enrollment process with the CA and specifies the name of the trustpoint to enroll with.

What to Do Next

Once you have created the internal CA, create the CTL provider instance. See Creating a CTL Provider Instance, page 47-11.

Creating a CTL Provider Instance

Create a CTL Provider instance in preparation for a connection from the CTL Client.

The default port number listened by the CTL Provider is TCP 2444, which is the default CTL port on the Cisco UCM. Use the **service port** command to change the port number if a different port is used by the Cisco UCM cluster.

	Command	Purpose
Step 1	hostname(config)# **ctl-provider** *ctl_name* **Example:** hostname(config)# **ctl-provider my_ctl**	Enters the CTL provider configuration mode so that you can create the Certificate Trust List provider instance.
Step 2	hostname(config-ctl-provider)# **client interface** *if_name ipv4_addr* **Example:** hostname(config-ctl-provider)# **client interface inside address 172.23.45.1**	Specifies clients allowed to connect to the Certificate Trust List provider. Where **interface** *if_name* specifies the interface allowed to connect and *ipv4_addr* specifies the IP address of the client. More than one command may be issued to define multiple clients.
Step 3	hostname(config-ctl-provider)# **client username** *user_name* **password** *password* **encrypted** **Example:** hostname(config-ctl-provider)# **client username CCMAdministrator password XXXXXX encrypted**	Specifies the username and password for client authentication. The username and password must match the username and password for Cisco UCM administration.
Step 4	hostname(config-ctl-provider)# **export certificate** *trustpoint_name* **Example:** hostname(config-ctl-provider)# **export certificate**	Specifies the certificate to be exported to the client. The certificate will be added to the Certificate Trust List file composed by the CTL client. The trustpoint name in the **export** command is the proxy certificate for the Cisco UCM server.
Step 5	hostname(config-ctl-provider)# **ctl install**	Enables the CTL provider to parse the CTL file from the CTL client and install trustpoints for entries from the CTL file. Ttrustpoints installed by this command have names prefixed with "_internal_CTL_<ctl_name>."

What to Do Next

Once you have created the CTL provider instance, create the TLS proxy instance. See Creating the TLS Proxy Instance, page 47-12.

Creating the TLS Proxy Instance

Create the TLS proxy instance to handle the encrypted signaling.

	Command	Purpose
Step 1	hostname(config)# **tls-proxy** *proxy_name* **Example:** hostname(config)# tls-proxy my_proxy	Creates the TLS proxy instance.
Step 2	hostname(config-tlsp)# **server trust-point** *proxy_trustpoint* **Example:** hostname(config-tlsp)# server trust-point ccm_proxy	Specifies the proxy trustpoint certificate to present during TLS handshake. The **server** command configures the proxy parameters for the original TLS server. In other words, the parameters for the ASA to act as the server during a TLS handshake, or facing the original TLS client.
Step 3	hostname(config-tlsp)# **client ldc issuer** *ca_tp_name* **Example:** hostname(config-tlsp)# client ldc issuer ldc_server	Sets the local dynamic certificate issuer. The local CA to issue client dynamic certificates is defined by the **crypto ca trustpoint** command and the trustpoint must have **proxy-ldc-issuer** configured, or the default local CA server (LOCAL-CA-SERVER). Where **ldc issuer** *ca_tp_name* specifies the local CA trustpoint to issue client dynamic certificates.
Step 4	hostname(config-tlsp)# **client ldc key-pair** *key_label* **Example:** hostname(config-tlsp)# client ldc key-pair phone_common	Sets the keypair. The keypair value must have been generated with the crypto key generate command.
Step 5	hostname(config-tlsp)# **client cipher-suite** *cipher_suite* **Example:** hostname(config-tlsp)# client cipher-suite aes128-sha1 aes256-sha1	Sets the user-defined cipher suite. For client proxy (the proxy acts as a TLS client to the server), the user-defined cipher suite replaces the default cipher suite, or the one defined by the ssl encryption command. You can use this command to achieve difference ciphers between the two TLS sessions. You should use AES ciphers with the CallManager server.

What to Do Next

Once you have created TLS proxy instance, enable the TLS proxy instance for Skinny and SIP inspection. See Enabling the TLS Proxy Instance for Skinny or SIP Inspection, page 47-13.

Enabling the TLS Proxy Instance for Skinny or SIP Inspection

Enable TLS proxy for the Cisco IP Phones and Cisco UCMs in Skinny or SIP inspection. The following procedure shows how to enable the TLS proxy instance for Skinny inspection.

	Command	Purpose
Step 1	hostname(config)# **class-map** *class_map_name* **Example:** hostname(config)# **class-map sec_skinny**	Configures the secure Skinny class of traffic to inspect. Where *class_map_name* is the name of the Skinny class map.
Step 2	hostname(config-cmap)# **match port tcp eq 2443**	Matches the TCP port 2443 to which you want to apply actions for secure Skinny inspection
Step 3	hostname(config-cmap)# **exit**	
Step 4	hostname(config)# **policy-map type inspect skinny** *policy_map_name* **Example:** hostname(config)# **policy-map type inspect skinny skinny_inspect**	Defines special actions for Skinny inspection application traffic.
Step 5	hostname(config-pmap)# **parameters** hostname(config-pmap-p)# **!** Skinny inspection parameters	Specifies the parameters for Skinny inspection. Parameters affect the behavior of the inspection engine. The commands available in parameters configuration mode depend on the application.
Step 6	hostname(config-pmap-p)# **exit**	Exits from Policy Map configuration mode.
Step 7	hostname(config)# **policy-map** *name* **Example:** hostname(config)# **policy-map global_policy**	Configure the policy map and attach the action to the class of traffic.
Step 8	hostname(config-pmap)# **class inspection_default**	Specifies the default class map. The configuration includes a default Layer 3/4 class map that the ASA uses in the default global policy. It is called **inspection_default** and matches the default inspection traffic,
Step 9	hostname(config-pmap-c)# **inspect skinny** *skinny_map* **Example:** hostname(config-pmap-c)# **inspect skinny skinny_inspect**	Enables SCCP (Skinny) application inspection.
Step 10	hostname(config-pmap)# **class** *classmap_name* **Example:** hostname(config-pmap)# **class sec_skinny**	Assigns a class map to the policy map where you can assign actions to the class map traffic.
Step 11	hostname(config-pmap-c)# **inspect skinny** *skinny_map* **tls-proxy** *proxy_name* **Example:** hostname(config-pmap-c)# **inspect skinny skinny_inspect tls-proxy my_proxy**	Enables TLS proxy for the specified inspection session.
Step 12	hostname(config-pmap-c)# **exit**	Exits from the Policy Map configuration mode.
Step 13	hostname(config)# **service-policy** *policymap_name* **global** **Example:** hostname(config)# **service-policy global_policy global**	Enables the service policy on all interfaces.

Monitoring the TLS Proxy

You can enable TLS proxy debug flags along with SSL syslogs to debug TLS proxy connection problems. For example, using the following commands to enable TLS proxy-related debug and syslog output only:

```
hostname(config)# debug inspect tls-proxy events
hostname(config)# debug inspect tls-proxy errors
hostname(config)# logging enable
hostname(config)# logging timestamp
hostname(config)# logging list loglist message 711001
hostname(config)# logging list loglist message 725001-725014
hostname(config)# logging list loglist message 717001-717038
hostname(config)# logging buffer-size 1000000
hostname(config)# logging buffered loglist
hostname(config)# logging debug-trace
```

The following is sample output reflecting a successful TLS proxy session setup for a SIP phone:

```
hostname(config)# show log

Apr 17 2007 23:13:47: %ASA-6-725001: Starting SSL handshake with client
outside:133.9.0.218/49159 for TLSv1 session.
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Set up proxy for Client
outside:133.9.0.218/49159 <-> Server inside:195.168.2.201/5061
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Using trust point 'local_ccm' with the
Client, RT proxy cbae1538
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Waiting for SSL handshake from Client
outside:133.9.0.218/49159.
Apr 17 2007 23:13:47: %ASA-7-725010: Device supports the following 4 cipher(s).
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[1] : RC4-SHA
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[2] : AES128-SHA
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[3] : AES256-SHA
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[4] : DES-CBC3-SHA
Apr 17 2007 23:13:47: %ASA-7-725008: SSL client outside:133.9.0.218/49159 proposes the
following 2 cipher(s).
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[1] : AES256-SHA
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[2] : AES128-SHA
Apr 17 2007 23:13:47: %ASA-7-725012: Device chooses cipher : AES128-SHA for the SSL
session with client outside:133.9.0.218/49159
Apr 17 2007 23:13:47: %ASA-7-725014: SSL lib error. Function: SSL23_READ Reason: ssl
handshake failure
Apr 17 2007 23:13:47: %ASA-7-717025: Validating certificate chain containing 1
certificate(s).
Apr 17 2007 23:13:47: %ASA-7-717029: Identified client certificate within certificate
chain. serial number: 01, subject name: cn=SEP0017593F50A8.
Apr 17 2007 23:13:47: %ASA-7-717030: Found a suitable trustpoint
_internal_ejw-sv-2_cn=CAPF-08a91c01 to validate certificate.
Apr 17 2007 23:13:47: %ASA-6-717022: Certificate was successfully validated. serial
number: 01, subject name:  cn=SEP0017593F50A8.
Apr 17 2007 23:13:47: %ASA-6-717028: Certificate chain was successfully validated with
warning, revocation status was not checked.
Apr 17 2007 23:13:47: %ASA-6-725002: Device completed SSL handshake with client
outside:133.9.0.218/49159
Apr 17 2007 23:13:47: %ASA-6-725001: Starting SSL handshake with server
inside:195.168.2.201/5061 for TLSv1 session.
Apr 17 2007 23:13:47: %ASA-7-725009: Device proposes the following 2 cipher(s) to server
inside:195.168.2.201/5061
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[1] : AES128-SHA
Apr 17 2007 23:13:47: %ASA-7-725011: Cipher[2] : AES256-SHA
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Generating LDC for client
'cn=SEP0017593F50A8', key-pair 'phone_common', issuer 'LOCAL-CA-SERVER', RT proxy cbae1538
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Started SSL handshake with Server
```

```
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Data channel ready for the Client
Apr 17 2007 23:13:47: %ASA-7-725013: SSL Server inside:195.168.2.201/5061 choose cipher :
AES128-SHA
Apr 17 2007 23:13:47: %ASA-7-717025: Validating certificate chain containing 1
certificate(s).
Apr 17 2007 23:13:47: %ASA-7-717029: Identified client certificate within certificate
chain. serial number: 76022D3D9314743A, subject name: cn=EJW-SV-2.inside.com.
Apr 17 2007 23:13:47: %ASA-6-717022: Certificate was successfully validated. Certificate
is resident and trusted, serial number: 76022D3D9314743A, subject name:
cn=EJW-SV-2.inside.com.
Apr 17 2007 23:13:47: %ASA-6-717028: Certificate chain was successfully validated with
revocation status check.
Apr 17 2007 23:13:47: %ASA-6-725002: Device completed SSL handshake with server
inside:195.168.2.201/5061
Apr 17 2007 23:13:47: %ASA-7-711001: TLSP cbad5120: Data channel ready for the Server
```

Use the **show tls-proxy** commands with different options to check the active TLS proxy sessions. The following are some sample outputs:

```
hostname(config-tlsp)# show tls-proxy
Maximum number of sessions: 1200

TLS-Proxy 'sip_proxy': ref_cnt 1, seq# 3
    Server proxy:
        Trust-point: local_ccm
    Client proxy:
        Local dynamic certificate issuer: LOCAL-CA-SERVER
        Local dynamic certificate key-pair: phone_common
        Cipher suite:  aes128-sha1 aes256-sha1
    Run-time proxies:
         Proxy 0xcbae1538: Class-map: sip_ssl, Inspect: sip
             Active sess 1, most sess 3, byte 3456043

TLS-Proxy 'proxy': ref_cnt 1, seq# 1
    Server proxy:
        Trust-point: local_ccm
    Client proxy:
        Local dynamic certificate issuer: ldc_signer
        Local dynamic certificate key-pair: phone_common
        Cipher-suite: <unconfigured>
    Run-time proxies:
        Proxy 0xcbadf720: Class-map: skinny_ssl, Inspect: skinny
            Active sess 1, most sess 1, byte 42916

hostname(config-tlsp)# show tls-proxy session count
2 in use, 4 most used

hostname(config-tlsp)# show tls-proxy session
2 in use, 4 most used
outside 133.9.0.211:50437 inside 195.168.2.200:2443 P:0xcbadf720(proxy) S:0xcbc48a08 byte
42940
outside 133.9.0.218:49159 inside 195.168.2.201:5061 P:0xcbae1538(sip_proxy) S:0xcbad5120
byte 8786

hostname(config-tlsp)# show tls-proxy session detail
2 in use, 4 most used
outside 133.9.0.211:50437 inside 195.168.2.200:2443 P:0xcbadf720(proxy) S:0xcbc48a08 byte
42940
    Client: State SSLOK  Cipher AES128-SHA Ch 0xca55e498 TxQSize 0 LastTxLeft 0 Flags 0x1
    Server: State SSLOK  Cipher AES128-SHA Ch 0xca55e478 TxQSize 0 LastTxLeft 0 Flags 0x9
Local Dynamic Certificate
    Status: Available
    Certificate Serial Number: 29
    Certificate Usage: General Purpose
```

```
    Public Key Type: RSA (1024 bits)
    Issuer Name:
        cn=TLS-Proxy-Signer
    Subject Name:
        cn=SEP0002B9EB0AAD
        o=Cisco Systems Inc
        c=US
    Validity Date:
        start date: 09:25:41 PDT Apr 16 2007
        end   date: 09:25:41 PDT Apr 15 2008
    Associated Trustpoints:

outside 133.9.0.218:49159 inside 195.168.2.201:5061 P:0xcbae1538(sip_proxy) S:0xcbad5120
byte 8786
    Client: State SSLOK  Cipher AES128-SHA Ch 0xca55e398 TxQSize 0 LastTxLeft 0 Flags 0x1
    Server: State SSLOK  Cipher AES128-SHA Ch 0xca55e378 TxQSize 0 LastTxLeft 0 Flags 0x9
Local Dynamic Certificate
    Status: Available
    Certificate Serial Number: 2b
    Certificate Usage: General Purpose
    Public Key Type: RSA (1024 bits)
    Issuer Name:
        cn=F1-ASA.default.domain.invalid
    Subject Name:
        cn=SEP0017593F50A8
    Validity Date:
        start date: 23:13:47 PDT Apr 16 2007
        end   date: 23:13:47 PDT Apr 15 2008
    Associated Trustpoints:
```

Feature History for the TLS Proxy for Encrypted Voice Inspection

Table 47-3 lists the release history for this feature.

Table 47-3 Feature History for Cisco Phone Proxy

Feature Name	Releases	Feature Information
TLS Proxy for Encrypted Voice Inspection	8.0(2)	The TLS Proxy feature was introduced, which included the following new command: **tls-proxy**