ASA and Cisco Unified Presence

This chapter describes how to configure the ASA for Cisco Unified Presence.

This chapter includes the following sections:

Information About Cisco Unified Presence

This section includes the following topics:

Architecture for Cisco Unified Presence for SIP Federation Deployments

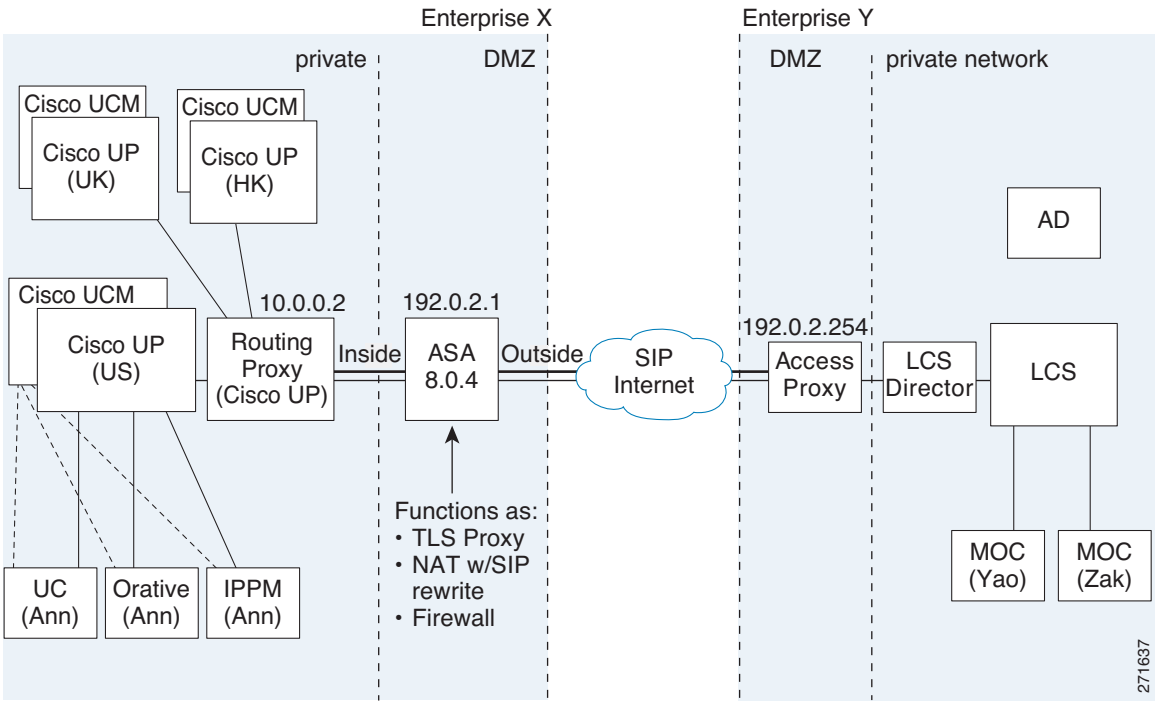
Figure 18-1 depicts a Cisco Unified Presence/LCS Federation scenario with the ASA as the presence federation proxy (implemented as a TLS proxy). The two entities with a TLS connection are the "Routing Proxy" (a dedicated Cisco UP) in Enterprise X and the Microsoft Access Proxy in Enterprise Y. However, the deployment is not limited to this scenario. Any Cisco UP or Cisco UP cluster could be deployed on the left side of the ASA; the remote entity could be any server (an LCS, an OCS, or another Cisco UP).

The following architecture is generic for two servers using SIP (or other ASA inspected protocols) with a TLS connection.

Entity X: Cisco UP/Routing Proxy in Enterprise X

Entity Y: Microsoft Access Proxy/Edge server for LCS/OCS in Enterprise Y

Figure 18-1 Typical Cisco Unified Presence/LCS Federation Scenario



In the above architecture, the ASA functions as a firewall, NAT, and TLS proxy, which is the recommended architecture. However, the ASA can also function as NAT and the TLS proxy alone, working with an existing firewall.

Either server can initiate the TLS handshake (unlike IP Telephony or Cisco Unified Mobility, where only the clients initiate the TLS handshake). There are by-directional TLS proxy rules and configuration. Each enterprise can have an ASA as the TLS proxy.

In Figure 18-1, NAT or PAT can be used to hide the private address of Entity X. In this situation, static NAT or PAT must be configured for foreign server (Entity Y) initiated connections or the TLS handshake (inbound). Typically, the public port should be 5061. The following static PAT command is required for the Cisco UP that accepts inbound connections:

```
hostname(config)# object network obj-10.0.0.2-01
hostname(config-network-object)# host 10.0.0.2
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5061
5061
```

The following static PAT must be configured for each Cisco UP that could initiate a connection (by sending SIP SUBSCRIBE) to the foreign server.

For Cisco UP with the address 10.0.0.2, enter the following command:

```
hostname(config)# object network obj-10.0.0.2-02
hostname(config-network-object)# host 10.0.0.2
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5062
5062
hostname(config)# object network obj-10.0.0.2-03
hostname(config-network-object)# host 10.0.0.2
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service udp 5070
5070
hostname(config)# object network obj-10.0.0.2-04
hostname(config-network-object)# host 10.0.0.2
```

```
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5060
5060
```

For another Cisco UP with the address 10.0.0.3, you must use a different set of PAT ports, such as 45062 or 45070:

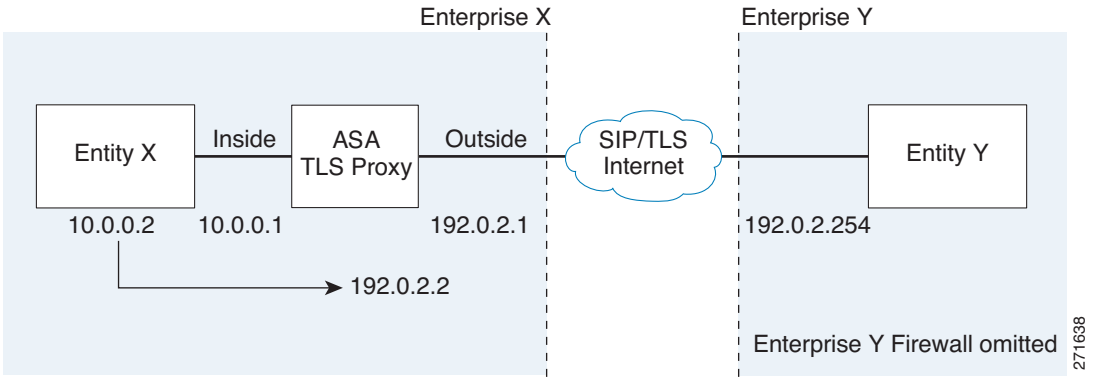
```
hostname(config)# object network obj-10.0.0.3-01
hostname(config-network-object)# host 10.0.0.3
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5061
45061
hostname(config)# object network obj-10.0.0.3-02
hostname(config-network-object)# host 10.0.0.3
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5062
45062
hostname(config)# object network obj-10.0.0.3-03
hostname(config-network-object)# host 10.0.0.3
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service udp 5070
5070
hostname(config)# object network obj-10.0.0.2-03
hostname(config-network-object)# host 10.0.0.2
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5070
45070
hostname(config)# object network obj-10.0.0.3-04
hostname(config-network-object)# host 10.0.0.3
hostname(config-network-object)# nat (inside,outside) static 192.0.2.1 service tcp 5060
45060
```

Dynamic NAT or PAT can be used for the rest of the outbound connections or the TLS handshake. The ASA SIP inspection engine takes care of the necessary translation (fixup).

```
hostname(config)# object network obj-0.0.0.0-01
hostname(config-network-object)# subnet 0.0.0.0 0.0.0.0
hostname(config-network-object)# nat (inside,outside) dynamic 192.0.2.1
```

Figure 18-2 illustrates an abstracted scenario with Entity X connected to Entity Y through the presence federation proxy on the ASA. The proxy is in the same administrative domain as Entity X. Entity Y could have another ASA as the proxy but this is omitted for simplicity.

Figure 18-2 Abstracted Presence Federation Proxy Scenario between Two Server Entities



For the Entity X domain name to be resolved correctly when the ASA holds its credential, the ASA could be configured to perform NAT for Entity X, and the domain name is resolved as the Entity X public address for which the ASA provides proxy service.

For further information about configuring Cisco Unified Presence Federation for SIP Federation, see the Integration Guide for Configuring Cisco Unified Presence for Interdomain Federation.:

http://www.cisco.com/en/US/products/ps6837/products_installation_and_configuration_guides_list.html

Trust Relationship in the Presence Federation

Within an enterprise, setting up a trust relationship is achievable by using self-signed certificates or you can set it up on an internal CA.

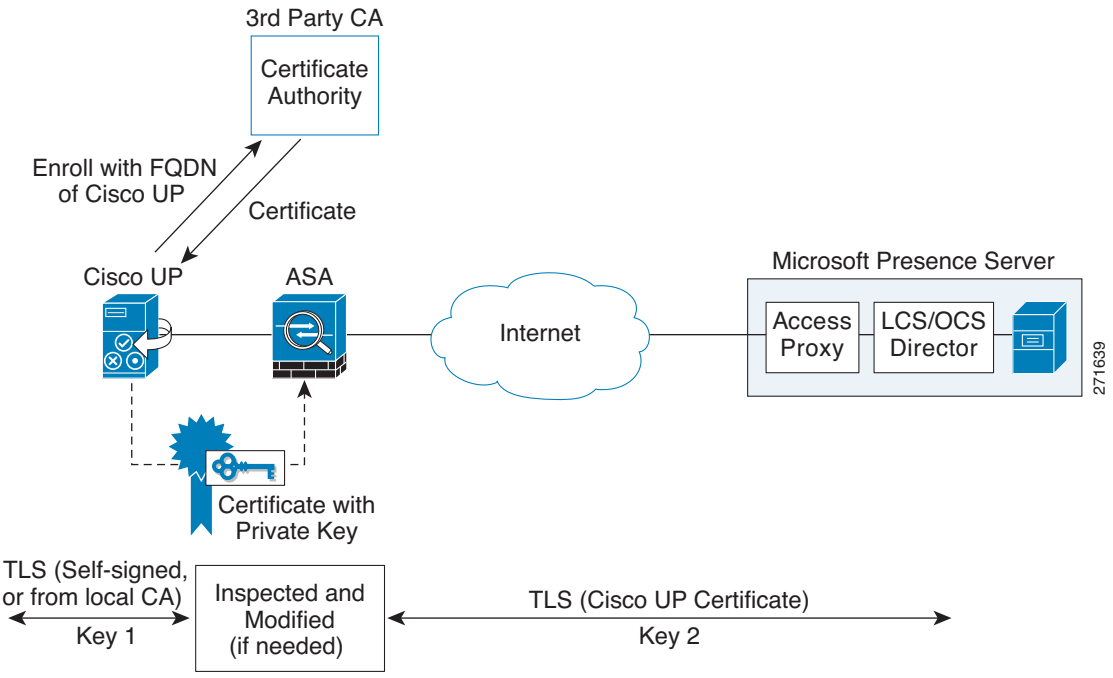
Establishing a trust relationship cross enterprises or across administrative domains is key for federation. Cross enterprises you must use a trusted third-party CA (such as, VeriSign). The ASA obtains a certificate with the FQDN of the Cisco UP (certificate impersonation).

For the TLS handshake, the two entities could validate the peer certificate via a certificate chain to trusted third-party certificate authorities. Both entities enroll with the CAs. The ASA as the TLS proxy must be trusted by both entities. The ASA is always associated with one of the enterprises. Within that enterprise (Enterprise X in Figure 18-1), the entity and the ASA could authenticate each other via a local CA, or by using self-signed certificates.

To establish a trusted relationship between the ASA and the remote entity (Entity Y), the ASA can enroll with the CA on behalf of Entity X (Cisco UP). In the enrollment request, the Entity X identity (domain name) is used.

Figure 18-3 shows the way to establish the trust relationship. The ASA enrolls with the third party CA by using the Cisco UP FQDN as if the ASA is the Cisco UP.

Figure 18-3 How the Security Appliance Represents Cisco Unified Presence – Certificate Impersonate



Security Certificate Exchange Between Cisco UP and the Security Appliance

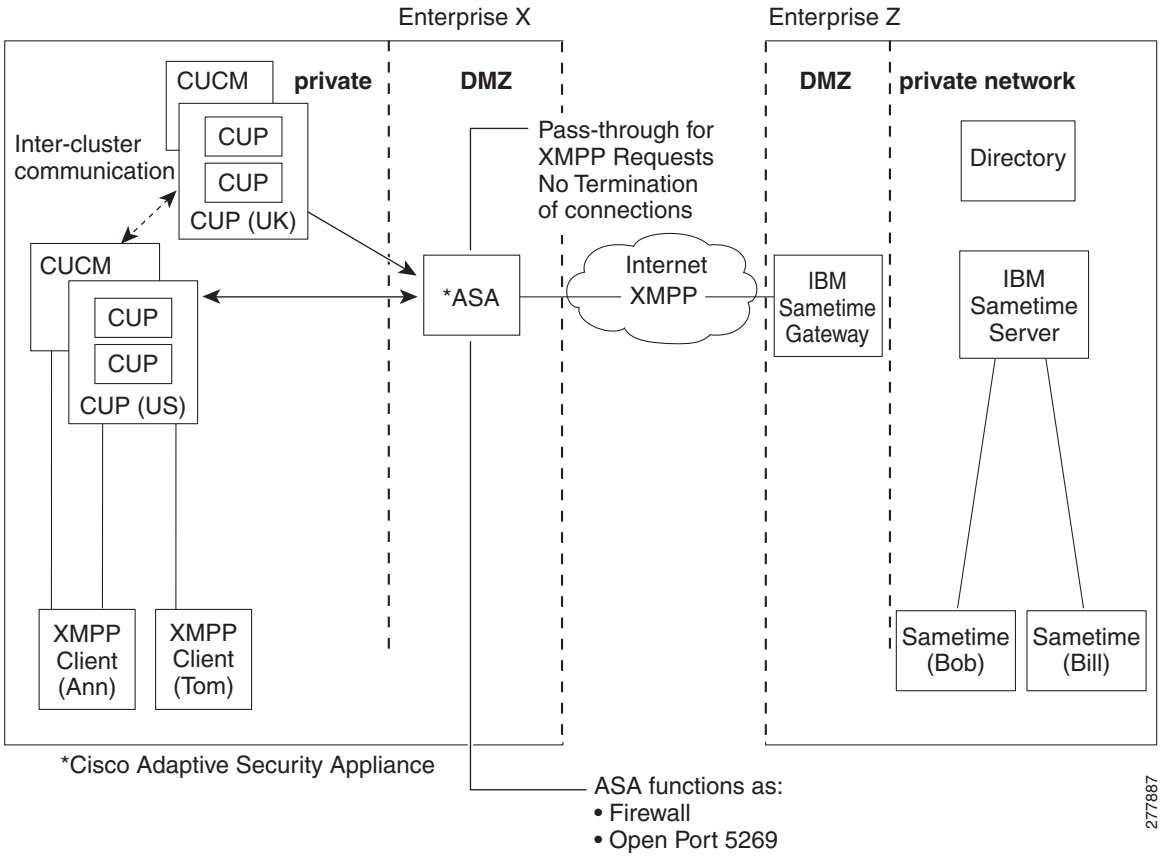
You need to generate the keypair for the certificate (such as `cup_proxy_key`) used by the ASA, and configure a trustpoint to identify the self-signed certificate sent by the ASA to Cisco UP (such as `cup_proxy`) in the TLS handshake.

For the ASA to trust the Cisco UP certificate, you need to create a trustpoint to identify the certificate from the Cisco UP (such as `cert_from_cup`), and specify the enrollment type as terminal to indicate that you will paste the certificate received from the Cisco UP into the terminal.

XMPP Federation Deployments

Figure 18-4 provides an example of an XMPP federated network between Cisco Unified Presence enterprise deployment and an IBM Sametime enterprise deployment. TLS is optional for XMPP federation. ASA acts only as a firewall for XMPP federation; it does not provide TLS proxy functionality or PAT for XMPP federation.

Figure 18-4 Basic XMPP Federated Network between Cisco Unified Presence and IBM Sametime



There are two DNS servers within the internal Cisco Unified Presence enterprise deployment. One DNS server hosts the Cisco Unified Presence private address. The other DNS server hosts the Cisco Unified Presence public address and a DNS SRV records for SIP federation (_sipfederationtle), and XMPP federation (_xmpp-server) with Cisco Unified Presence. The DNS server that hosts the Cisco Unified Presence public address is located in the local DMZ.

For further information about configuring Cisco Unified Presence Federation for XMPP Federation, see the *Integration Guide for Configuring Cisco Unified Presence Release 8.0 for Interdomain Federation*:

http://www.cisco.com/en/US/products/ps6837/products_installation_and_configuration_guides_list.html

Configuration Requirements for XMPP Federation

For XMPP Federation, ASA acts as a firewall only. You must open port 5269 for both incoming and outgoing XMPP federated traffic on ASA.

These are sample ACLs to open port 5269 on ASA.

Allow traffic from any address to any address on port 5269:

```
access-list ALLOW-ALL extended permit tcp any any eq 5269
```

Allow traffic from any address to any single node on port 5269:

```
access-list ALLOW-ALL extended permit tcp any host <private cup IP address> eq 5269
```

If you do not configure the ACL above, and you publish additional XMPP federation nodes in DNS, you must configure access to each of these nodes, for example:

```
object network obj_host_<private cup ip address>
#host <private cup ip address>
object network obj_host_<private cup2 ip address>
#host <private cup2 ip address>
object network obj_host_<public cup ip address>
#host <public cup ip address>
....
```

Configure the following NAT commands:

```
nat (inside,outside) source static obj_host_<private cup1 IP> obj_host_<public cup IP>
service
obj_udp_source_eq_5269 obj_udp_source_eq_5269
nat (inside,outside) source static obj_host_<private cup1 IP> obj_host_<public cup IP>
service
obj_tcp_source_eq_5269 obj_tcp_source_eq_5269
```

If you publish a single public IP address in DNS, and use arbitrary ports, configure the following:

(This example is for two additional XMPP federation nodes)

```
nat (inside,outside) source static obj_host_<private cup2 ip> obj_host_<public cup IP>
service
obj_udp_source_eq_5269 obj_udp_source_eq_25269
nat (inside,outside) source static obj_host_<private cup2 ip> obj_host_<public cup IP>
service
obj_tcp_source_eq_5269 obj_tcp_source_eq_25269

nat (inside,outside) source static obj_host_<private cup3 ip> obj_host_<public cup IP>
service
obj_udp_source_eq_5269 obj_udp_source_eq_35269
nat (inside,outside) source static obj_host_<private cup3 ip> obj_host_<public cup IP>
service
obj_tcp_source_eq_5269 obj_tcp_source_eq_35269
```

If you publish multiple public IP addresses in DNS all using port 5269, configure the following:

(This example is for two additional XMPP federation nodes)

```
nat (inside,outside) source static obj_host_<private cup2 ip> obj_host_<public cup2 IP>
service
obj_udp_source_eq_5269 obj_udp_source_eq_5269
nat (inside,outside) source static obj_host_<private cup2 ip> obj_host_<public cup2 IP>
service
obj_tcp_source_eq_5269 obj_tcp_source_eq_5269

nat (inside,outside) source static obj_host_<private cup3 ip> obj_host_<public cup3 IP>
service
obj_udp_source_eq_5269 obj_udp_source_eq_5269
nat (inside,outside) source static obj_host_<private cup3 ip> obj_host_<public cup IP>
service
obj_tcp_source_eq_5269 obj_tcp_source_eq_5269
```

Licensing for Cisco Unified Presence

The Cisco Unified Presence feature supported by the ASA require a Unified Communications Proxy license.

The following table shows the Unified Communications Proxy license details by platform:

Note This feature is not available on No Payload Encryption models.

Model	License Requirement[1]
ASA 5505	Base License and Security Plus License: 2 sessions. *Optional license: 24 sessions.*
ASA 5512-X	Base License or Security Plus License: 2 sessions. *Optional licenses: 24, 50, 100, 250, or 500 sessions.*
ASA 5515-X	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, or 500 sessions.*
ASA 5525-X	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, 500, 750, or 1000 sessions.*
ASA 5545-X	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, 500, 750, 1000, or 2000 sessions.*
ASA 5555-X	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, 500, 750, 1000, 2000, or 3000 sessions.*
ASA 5585-X with SSP-10	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, 500, 750, 1000, 2000, or 3000 sessions.*
ASA 5585-X with SSP-20, -40, or -60	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, 500, 750, 1000, 2000, 3000, 5000, or 10,000 sessions.*
ASASM	Base License: 2 sessions. *Optional licenses: 24, 50, 100, 250, 500, 750, 1000, 2000, 3000, 5000, or 10,000 sessions.*

Model	License Requirement[1]
ASAv with 1 Virtual CPU	Standard and Premium Licenses: 250 sessions.
ASAv with 4 Virtual CPUs	Standard and Premium Licenses: 1000 sessions.

1. The following applications use TLS proxy sessions for their connections. Each TLS proxy session used by these applications (and only these applications) is counted against the UC license limit:
   - Phone Proxy
   - Presence Federation Proxy
   - Encrypted Voice Inspection

   Other applications that use TLS proxy sessions do not count towards the UC limit, for example, Mobility Advantage Proxy (which does not require a license) and IME (which requires a separate IME license).

   Some UC applications might use multiple sessions for a connection. For example, if you configure a phone with a primary and backup Cisco Unified Communications Manager, there are 2 TLS proxy connections, so 2 UC Proxy sessions are used.

   You independently set the TLS proxy limit using the **Configuration > Firewall > Unified Communications > TLS Proxy** pane. When you apply a UC license that is higher than the default TLS proxy limit, the ASA automatically sets the TLS proxy limit to match the UC limit. The TLS proxy limit takes precedence over the UC license limit; if you set the TLS proxy limit to be less than the UC license, then you cannot use all of the sessions in your UC license.

   Note: For license part numbers ending in "K8" (for example, licenses under 250 users), TLS proxy sessions are limited to 1000. For license part numbers ending in "K9" (for example, licenses 250 users or larger), the TLS proxy limit depends on the configuration, up to the model limit. K8 and K9 refer to whether the license is restricted for export: K8 is unrestricted, and K9 is restricted.

   Note: If you clear the configuration, then the TLS proxy limit is set to the default for your model; if this default is lower than the UC license limit, then you see an error message to use the to raise the limit again (in ASDM, use the **TLS Proxy** pane). If you use failover and use **File > Save Running Configuration to Standby Unit** on the primary unit to force a configuration synchronization, the **clear configure all** command is generated on the secondary unit automatically, so you may see the warning message on the secondary unit. Because the configuration synchronization restores the TLS proxy limit set on the primary unit, you can ignore the warning.

   You might also use SRTP encryption sessions for your connections:
   - For K8 licenses, SRTP sessions are limited to 250.
   - For K9 licenses, there is not limit.

   Note: Only calls that require encryption/decryption for media are counted towards the SRTP limit; if passthrough is set for the call, even if both legs are SRTP, they do not count towards the limit.

Configuring Cisco Unified Presence Proxy for SIP Federation

This section contains the following topic:

Task Flow for Configuring Cisco Unified Presence Federation Proxy for SIP Federation

To configure a Cisco Unified Presence/LCS Federation scenario with the ASA as the TLS proxy where there is a single Cisco UP that is in the local domain and self-signed certificates are used between the Cisco UP and the ASA (like the scenario shown in Figure 18-1), perform the following tasks.

To configure the Cisco Unified Presence proxy by using ASDM, choose Wizards > Unified Communications Wizard from the menu. The Unified Communications Wizard opens. From the first page, select the Cisco Unified Presence Proxy option under the Business-to-Business section.

The wizard automatically creates the necessary TLS proxy, then guides you through creating the Unified Presence Proxy instance, importing and installing the required certificates, and finally enables the SIP and SCCP inspection for the Presence Federation traffic automatically.

The wizard guides you through four steps to create the Presence Federation Proxy:

Step 1 Select the Presence Federation Proxy option.

Step 2 Specify setting to define the proxy topology, such the IP address of the Presence Federation server.

Step 3 Configure the local-side certificate management, namely the certificates that are exchanged between the local Unified Presence Federation server and the ASA.

Step 4 Configure the remote-side certificate management, namely the certificates that are exchanged between the remote server and the ASA

The wizard completes by displaying a summary of the configuration created for Presence Federation. See the Unified Communications Wizard section in this documentation for more information.

Feature History for Cisco Unified Presence

Table 18-1 lists the release history for this feature.

Table 18-1 Feature History for Cisco Unified Presence

Feature Name	Releases	Feature Information
Cisco Presence Federation Proxy	8.0(4)	The Cisco Unified Presence proxy feature was introduced.
Cisco Presence Federation Proxy	8.3(1)	The Unified Communications Wizard was added to ASDM. By using the wizard, you can configure the Cisco Presence Federation Proxy. Support for XMPP Federation was introduced.