

Information About the ASA in Cisco Unified Communications

This chapter describes how to configure the adaptive security appliance for Cisco Unified Communications Proxy features.

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Information About the ASA in Cisco Unified Communications

This section describes the Cisco UC Proxy features. The purpose of a proxy is to terminate and reoriginate connections between a client and server. The proxy delivers a range of security functions such as traffic inspection, protocol conformance, and policy control to ensure security for the internal network. An increasingly popular function of a proxy is to terminate encrypted connections in order to apply security policies while maintaining confidentiality of connections. The ASA is a strategic platform to provide proxy functions for unified communications deployments.

The Cisco UC Proxy includes the following solutions:

Phone Proxy: Secure remote access for Cisco encrypted endpoints, and VLAN traversal for Cisco softphones

The phone proxy feature enables termination of Cisco SRTP/TLS-encrypted endpoints for secure remote access. The phone proxy allows large scale deployments of secure phones without a large scale VPN remote access hardware deployment. End-user infrastructure is limited to just the IP endpoint, without VPN tunnels or hardware.

The Cisco adaptive security appliance phone proxy is the replacement product for the Cisco Unified Phone Proxy. Additionally, the phone proxy can be deployed for voice/data VLAN traversal for softphone applications. Cisco IP Communicator (CIPC) traffic (both media and signaling) can be proxied through the ASA, thus traversing calls securely between voice and data VLANs.

For information about the differences between the TLS proxy and phone proxy, go to the following URL for Unified Communications content, including TLS Proxy vs. Phone Proxy white paper:

http://www.cisco.com/go/secureuc

TLS Proxy: Decryption and inspection of Cisco Unified Communications encrypted signaling

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.

Mobility Proxy: Secure connectivity between Cisco Unified Mobility Advantage server and Cisco Unified Mobile Communicator clients

Cisco Unified Mobility solutions include the Cisco Unified Mobile Communicator (Cisco UMC), an easy-to-use software application for mobile handsets that extends enterprise communications applications and services to mobile phones and the Cisco Unified Mobility Advantage (Cisco UMA) server. The Cisco Unified Mobility solution streamlines the communication experience, enabling single number reach and integration of mobile endpoints into the Unified Communications infrastructure.

The security appliance acts as a proxy, terminating and reoriginating the TLS signaling between the Cisco UMC and Cisco UMA. As part of the proxy security functionality, inspection is enabled for the Cisco UMA Mobile Multiplexing Protocol (MMP), the protocol between Cisco UMC and Cisco UMA.

Presence Federation Proxy: Secure connectivity between Cisco Unified Presence servers and Cisco/Microsoft Presence servers

Cisco Unified Presence solution collects information about the availability and status of users, such as whether they are using communication devices, such as IP phones at particular times. It also collects information regarding their communications capabilities, such as whether web collaboration or video conferencing is enabled. Using user information captured by Cisco Unified Presence, applications such as Cisco Unified Personal Communicator and Cisco UCM can improve productivity by helping users connect with colleagues more efficiently through determining the most effective way for collaborative communication.

Using the ASA as a secure presence federation proxy, businesses can securely connect their Cisco Unified Presence (Cisco UP) servers to other Cisco or Microsoft Presence servers, enabling intra-enterprise communications. The security appliance terminates the TLS connectivity between the servers, and can inspect and apply policies for the SIP communications between the servers.

Cisco Intercompany Media Engine Proxy: Secure connectivity between Cisco UCM servers in different enterprises for IP Phone traffic

As more unified communications are deployed within enterprises, cases where business-to-business calls utilize unified communications on both sides with the Public Switched Network (PSTN) in the middle become increasingly common. All outside calls go over circuits to telephone providers and from there are delivered to all external destinations.

The Cisco Intercompany Media Engine gradually creates dynamic, encrypted VoIP connections between businesses, so that a collection of enterprises that work together end up looking like one giant business with secure VoIP interconnections between them.

There are three components to a Cisco Intercompany Media Engine deployment within an enterprise: a Cisco Intercompany Media Engine server, a call agent (the Cisco Unified Communications Manager) and an ASA running the Cisco Intercompany Media Engine Proxy.

The ASA provides perimeter security by encrypting signaling connections between enterprises and preventing unathorized calls. An ASA running the Cisco Intercompany Media Engine Proxy can either be deployed as an Internet firewall or be designated as a Cisco Intercompany Media Engine Proxy and placed in the DMZ, off the path of the regular Internet traffic.

TLS Proxy Applications in Cisco Unified Communications

Table 12-1 shows the Cisco Unified Communications applications that utilize the TLS proxy on the ASA.

Table 12-1 TLS Proxy Applications and the Security Appliance

Application	TLS Client	TLS Server	Client Authentication	Security Appliance Server Role	Security Appliance Client Role
Phone Proxy and TLS Proxy	IP phone	Cisco UCM	Yes	Proxy certificate, self-signed or by internal CA	Local dynamic certificate signed by the ASA CA (might not need certificate for phone proxy application)
Mobility Proxy	Cisco UMC	Cisco UMA	No	Using the Cisco UMA private key or certificate impersonation	Any static configured certificate
Presence Federation Proxy	Cisco UP or MS LCS/OCS	Cisco UP or MS LCS/OCS	Yes	Proxy certificate, self-signed or by internal CA	Using the Cisco UP private key or certificate impersonation

The ASA supports TLS proxy for various voice applications. For the phone proxy, the TLS proxy running on the ASA has the following key features:

- The ASA forces remote IP phones connecting to the phone proxy through the Internet to be in secured mode even when the Cisco UCM cluster is in non-secure mode.
- The TLS proxy is implemented on the ASA to intercept the TLS signaling from IP phones.
- The TLS proxy decrypts the packets, sends packets to the inspection engine for NAT rewrite and protocol conformance, optionally encrypts packets, and sends them to Cisco UCM or sends them in clear text if the IP phone is configured to be in nonsecure mode on the Cisco UCM.
- The ASA acts as a media terminator as needed and translates between SRTP and RTP media streams.
- The TLS proxy is a transparent proxy that works based on establishing trusted relationship between the TLS client, the proxy (the ASA), and the TLS server.

For the Cisco Unified Mobility solution, the TLS client is a Cisco UMA client and the TLS server is a Cisco UMA server. The ASA is between a Cisco UMA client and a Cisco UMA server. The mobility proxy (implemented as a TLS proxy) for Cisco Unified Mobility allows the use of an imported PKCS-12 certificate for server proxy during the handshake with the client. Cisco UMA clients are not required to present a certificate (no client authentication) during the handshake.

For the Cisco Unified Presence solution, the ASA acts as a TLS proxy between the Cisco UP server and the foreign server. This allows the ASA to proxy TLS messages on behalf of the server that initiates the TLS connection, and route the proxied TLS messages to the client. The ASA stores certificate trustpoints for the server and the client, and presents these certificates on establishment of the TLS session.

Licensing for Cisco Unified Communications Proxy Features

The Cisco Unified Communications proxy features supported by the ASA require a Unified Communications Proxy license:

- Phone proxy
- TLS proxy for encrypted voice inspection
- Presence federation proxy
- Intercompany media engine proxy

Note In Version 8.2(2) and later, the Mobility Advantage proxy no longer requires a Unified Communications Proxy license.

The following table shows the Unified Communications Proxy license details by platform for the phone proxy, TLS proxy for encrypted voice inspection, and presence federation proxy:

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.*

Model	License Requirement[1]
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.*
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 **tls-proxy maximum-sessions** command. To view the limits of your model, enter the **tls-proxy maximum-sessions ?** command. 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 (using the **clear configure all** command, for example), 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 tls-proxy maximum-sessions command to raise the limit again . If you use failover and enter the **write standby** command 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.

Table 12-2 shows the default and maximum TLS session details by platform.

Table 12-2 Default and Maximum TLS Sessions on the Security Appliance

Security Appliance Platform	Default TLS Sessions	Maximum TLS Sessions
ASA 5505	10	80

The following table shows the Unified Communications Proxy license details by platform for intercompany media engine proxy:

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

Model	License Requirement
All models	Intercompany Media Engine license. When you enable the Intercompany Media Engine (IME) license, you can use TLS proxy sessions up to the configured TLS proxy limit. If you also have a Unified Communications (UC) license installed that is higher than the default TLS proxy limit, then the ASA sets the limit to be the UC license limit plus an additional number of sessions depending on your model. You can manually configure the TLS proxy limit using the **tls-proxy maximum-sessions** command. To view the limits of your model, enter the **tls-proxy maximum-sessions ?** command. If you also install the UC license, then the TLS proxy sessions available for UC are also available for IME sessions. For example, if the configured limit is 1000 TLS proxy sessions, and you purchase a 750-session UC license, then the first 250 IME sessions do not affect the sessions available for UC. If you need more than 250 sessions for IME, then the remaining 750 sessions of the platform limit are used on a first-come, first-served basis by UC and IME. • For a license part number ending in "K8", TLS proxy sessions are limited to 1000. • For a license part number ending in "K9", the TLS proxy limit depends on your configuration and the platform model. **Note** K8 and K9 refer to whether the license is restricted for export: K8 is unrestricted, and K9 is restricted. You might also use SRTP encryption sessions for your connections: • For a K8 license, SRTP sessions are limited to 250. • For a K9 license, there is no limit. **Note** Only calls that require encryption/decryption for media are counted toward the SRTP limit; if passthrough is set for the call, even if both legs are SRTP, they do not count toward the limit.

For more information about licensing, see the general operations configuration guide.