

Perform Initial Setup

- Configure Cisco Expressway-E and Cisco Expressway-C, page 1
- Change MTU Size, page 6
- Configure Signaling and Media, page 6
- Configure Static NAT Mode on Cisco Expressway-E, page 9
- Configure TURN Credential Provisioning, page 10
- Set Up TURN Server Information, page 10
- Set FQDN of Cisco Jabber Guest Server, page 11
- Set Domain Used for Links, page 11
- Customize Cisco Jabber Guest Clients, page 12

Configure Cisco Expressway-E and Cisco Expressway-C

Do one of the following:

- Configure Cisco Expressway-E and Cisco Expressway-C: Cisco Expressway-E with Single NIC Deployment, on page 1
- Configure Cisco Expressway-E and Cisco Expressway-C: Cisco Expressway-E with Dual NIC Deployment, on page 4

Configure Cisco Expressway-E and Cisco Expressway-C: Cisco Expressway-E with Single NIC Deployment

Cisco Expressway-E and Cisco Expressway-C provide the following functionality:

- Both provide reverse proxy for HTTPS traffic.
- Cisco Expressway-E provides TURN relays.
- Cisco Expressway-C routes calls to Cisco Unified Communications Manager through a SIP trunk.

Before You Begin

Follow the instructions in the Cisco Expressway documentation to set up Cisco Expressway security certificates and a Unified Communications traversal zone. Configure the traversal zone type between the Cisco Expressway-C and Cisco Expressway-E as *Unified Communications traversal*.

Procedure

- **Step 1** On the Cisco Expressway-E, enable Cisco Jabber Guest support:
 - a) Choose Configuration > Unified Communications > Configuration.
 - b) From the Unified Communications mode drop-down list, select Jabber Guest services.
 - c) Click Save.
- **Step 2** On the Cisco Expressway-E, enable TURN service:
 - a) Choose Configuration > Traversal > TURN.
 - b) From the TURN services drop-down list, select On.
 - c) Click Save.
- **Step 3** On the Cisco Expressway-C, enable Cisco Jabber Guest support:
 - a) Choose Configuration > Unified Communications > Configuration.
 - b) From the Unified Communications mode drop-down list, select Jabber Guest services.
 - c) Click Save.
- **Step 4** On the Cisco Expressway-C, configure the domain for which HTTP traffic will be routed to the Cisco Jabber Guest server:

This domain is the outward-facing domain that is used to route the call on the Internet when users click a link.

- a) Choose Configuration > Domains.
- b) Create a new domain if none exist or, in the row of the target domain, click View/Edit.
- c) From the **Jabber Guest** drop-down list, select **On**.
- d) Click Save.
- e) Repeat Step 5.a. through Step 5.d. for each domain.
- **Step 5** Make sure that the domain has an associated DNS record that resolves to the Cisco Expressway-E. The domain information is propagated from the Cisco Expressway-C to the Cisco Expressway-E through the SSH tunnel (port 2222). It is used by the Cisco Expressway-E to validate incoming HTTP requests for the Cisco Jabber Guest service.
- **Step 6** On the Cisco Expressway-C, associate the Cisco Jabber Guest servers with the domain:

This allows the Cisco Expressway-C to route HTTP requests with this domain to the appropriate Cisco Jabber Guest server.

- a) Choose Configuration > Unified Communications > Configuration.
- b) In the Advanced section, click Configure Jabber Guest servers.
- c) Click New.
- d) For **Server hostname**, enter the FQDN of the Cisco Jabber Guest server.
- e) For **Priority**, enter the priority of the Cisco Jabber Guest server. Lower numbers have higher priority. Make sure that all Cisco Jabber Guest servers have a different priority so that calls are only sent to one Cisco Jabber Guest server in the deployment at a time.
- f) From the **Domain** drop-down list, select the Cisco Jabber Guest HTTP domain.
- g) Click Create entry.

- h) Repeat Step 6.c. through Step 6.g. for each Cisco Jabber Guest server in the cluster.
- **Step 7** Verify that the SSH tunnel is active:
 - a) On either the Cisco Expressway-C or the Cisco Expressway-E, choose **Status** > **Unified Communications**.
 - b) Click View ssh tunnel status.
 - c) Make sure that the Cisco Jabber Guest domain is listed and that the SSH tunnel is active.
- **Step 8** On the Cisco Expressway-C, create a neighbor zone for each Cisco Jabber Guest server:
 - a) Choose Configuration > Zones > Zones.
 - b) Click New.
 - c) Enter the details. From the **Type** drop-down list, select **Neighbor**.
 - d) In the H.323 section, from the Mode drop-down list, select Off
 - e) In the SIP section, from the Mode drop-down list, select On.
 - f) For **Port**, enter 5061.
 - g) From the **Transport** drop-down list, select TLS.
 - Note To enable TLS, you must also upload the Cisco Expressway-C certificate to Cisco Jabber Guest Administration. For more information, see Configure Signaling and Media: Cisco Expressway-E with Single NIC Deployment, on page 7.
 - h) From the Media encryption mode drop-down list, select Best effort.
 - **Important** Selecting *Best effort* forces media from the Cisco Expressway-E to terminate on the Cisco Expressway-C.
 - i) From the ICE support drop-down list, select Off.
 - j) In the **Location** section, for **Peer 1 address**, enter the IP address or FQDN of the Cisco Jabber Guest server.
 - k) In the Advanced section, from the Zone profile drop-down list, select Default.
 - 1) Click Create zone.
 - m) Repeat Step 7.b. through 7.l. for each Cisco Jabber Guest server in a Cisco Jabber Guest cluster. Do not configure any search rules for these neighbor zones. These zones are used to receive traffic only.
- **Step 9** Set up a connection between the Cisco Expressway-C and Cisco Unified Communications Manager:
 - a) On Cisco Unified Communications Manager, set up a non-secure or secure SIP trunk and point it to the Cisco Expressway-C.
 - b) On Cisco Expressway-C, set up a neighbor zone and point it to Cisco Unified Communications Manager. Follow the steps in the *Cisco Unified Communications Manager with Cisco Expressway (SIP Trunk) Deployment Guide*.
- **Step 10** Create a search rule on Cisco Expressway-C to route calls to Cisco Unified Communications Manager.
- **Step 11** Force the protocol between the Cisco Jabber Guest server and the Cisco Expressway-C to be http:
 - a) Sign in to the Cisco Expressway-C command-line interface as an administrator. In a clustered Cisco Expressway-C deployment, sign in to the master Cisco Expressway-C.
 - b) Enter the following command:

xconf CollaborationEdge JabbercProxyProtocol: http

HTTP request goes from the Cisco Expressway-E to the Cisco Expressway-C to the Cisco Jabber Guest server.

Related Topics

Cisco Expressway Series on www.cisco.com

Cisco Unified Communications Manager with Cisco Expressway (SIP Trunk) Deployment Guide

Configure Cisco Expressway-E and Cisco Expressway-C: Cisco Expressway-E with Dual NIC Deployment

Cisco Expressway-E and Cisco Expressway-C provide the following functionality:

- Both provide reverse proxy for HTTPS traffic.
- Cisco Expressway-E provides TURN relays.
- Cisco Expressway-C routes calls to Cisco Unified Communications Manager through a SIP trunk.

Before You Begin

Follow the instructions in the Cisco Expressway documentation to set up Cisco Expressway security certificates and a Unified Communications traversal zone. Configure the traversal zone type between the Cisco Expressway-C and Cisco Expressway-E as *Unified Communications traversal*.

Procedure

- **Step 1** On the Cisco Expressway-E, enable Cisco Jabber Guest support:
 - a) Choose Configuration > Unified Communications > Configuration.
 - b) From the Unified Communications mode drop-down list, select Jabber Guest services.
 - c) Click Save.
- **Step 2** On the Cisco Expressway-E, enable TURN service:
 - a) Choose Configuration > Traversal > TURN.
 - b) From the TURN services drop-down list, select On.
 - c) Click Save.
- **Step 3** On the Cisco Expressway-C, enable Cisco Jabber Guest support:
 - a) Choose Configuration > Unified Communications > Configuration.
 - b) From the Unified Communications mode drop-down list, select Jabber Guest services.
 - c) Click Save.
- **Step 4** On the Cisco Expressway-C, configure the domain for which HTTP traffic routes to the Cisco Jabber Guest server:

This domain is the outward-facing domain that is used to route the call on the Internet when users click a link.

- a) Choose Configuration > Domains.
- b) Create a new domain if none exist or, in the row of the target domain, click View/Edit.
- c) From the **Jabber Guest** drop-down list, select **On**.
- d) Click Save.
- e) Repeat Step 5.a. through Step 5.d. for each domain.
- **Step 5** Make sure that the domain has an associated DNS record that resolves to the Cisco Expressway-E. The domain information is propagated from the Cisco Expressway-C to the Cisco Expressway-E through the SSH tunnel (port 2222). The information is used by the Cisco Expressway-E to validate incoming HTTP requests for the Cisco Jabber Guest service.
- **Step 6** On the Cisco Expressway-C, associate the Cisco Jabber Guest servers with the domain:

This allows the Cisco Expressway-C to route HTTP requests with this domain to the appropriate Cisco Jabber Guest server.

- a) Choose Configuration > Unified Communications > Configuration.
- b) In the Advanced section, click Configure Jabber Guest servers.
- c) Click New.
- d) For **Server hostname**, enter the FQDN of the Cisco Jabber Guest server.
- e) For **Priority**, enter the priority of the Cisco Jabber Guest server. Lower numbers have higher priority. Give each Cisco Jabber Guest server a different priority so that calls are only sent to one Cisco Jabber Guest server in the deployment at a time.
- f) From the **Domain** drop-down list, select the Cisco Jabber Guest HTTP domain.
- g) Click Create entry.
- h) Repeat Step 6.c. through Step 6.g. for each Cisco Jabber Guest server in the cluster.
- **Step 7** Verify that the SSH tunnel is active:
 - a) On either the Cisco Expressway-C or the Cisco Expressway-E, choose **Status** > **Unified Communications**.
 - b) Click View ssh tunnel status.
 - c) Make sure that the Cisco Jabber Guest domain is listed and that the SSH tunnel is active.
- **Step 8** On the Cisco Expressway-E, create a neighbor zone for each Cisco Jabber Guest server so that you can verify that the zone between the Cisco Expressway-E and the Cisco Jabber Guest server is active:
 - a) Choose Configuration > Zones > Zones.
 - b) Click New.
 - c) Enter the details. From the **Type** drop-down list, select **Neighbor**.
 - d) In the H.323 section, from the Mode drop-down list, select Off
 - e) In the SIP section, from the Mode drop-down list, select On.
 - f) For **Port**, enter 5061.
 - g) From the **Transport** drop-down list, select TLS.
 - Note To enable TLS, you must also upload the Cisco Expressway-C certificate to Cisco Jabber Guest Administration. For more information, see Configure Signaling and Media: Cisco Expressway-E with Dual NIC Deployment, on page 8.
 - h) From the Media encryption mode drop-down list, select Best effort.
 - i) From the ICE support drop-down list, select Off.
 - In the Location section, for Peer 1 address, enter the IP address or FQDN of the Cisco Jabber Guest server.
 - k) In the Advanced section, from the Zone profile drop-down list, select Default.
 - 1) Click Create zone.
 - m) Repeat Step 7.b. through 7.l. for each Cisco Jabber Guest server in a Cisco Jabber Guest cluster. Do not configure any search rules for these neighbor zones. These zones are used to receive traffic only.
- **Step 9** Create a search rule for the traversal zone between the Cisco Expressway-E and the Cisco Expressway-C servers.
 - Important For proper call routing, the SIP domain that you specify (click Settings, click Call Control and Media) and the domain that you optionally specify for Destination when you create a link (click Links, click New) must be configured on the Cisco Expressway-E search rule to point to the traversal zone.
- **Step 10** Set up a connection between the Cisco Expressway-C and Cisco Unified Communications Manager:
 - a) On Cisco Unified Communications Manager, set up a non-secure or secure SIP trunk and point it to the Cisco Expressway-C.

- b) On Cisco Expressway-C, set up a neighbor zone and point it to Cisco Unified Communications Manager. Follow the steps in the *Cisco Unified Communications Manager with Cisco Expressway (SIP Trunk) Deployment Guide*.
- **Step 11** Create a search rule on Cisco Expressway-C to route calls to Cisco Unified Communications Manager.
- **Step 12** Force the protocol between the Cisco Jabber Guest server and the Cisco Expressway-C to be http:
 - a) Sign in to the Cisco Expressway-C command-line interface as an administrator. In a clustered Cisco Expressway-C deployment, you must sign in to the master Cisco Expressway-C.
 - b) Enter the following command: xconf CollaborationEdge JabbercProxyProtocol: http

HTTP request goes from the Cisco Expressway-E to the Cisco Expressway-C to the Cisco Jabber Guest server.

Related Topics

Cisco Expressway Series on www.cisco.com Cisco Unified Communications Manager with Cisco Expressway (SIP Trunk) Deployment Guide

Change MTU Size

In some call scenarios, such as when using VPN, the default Maximum Transmission Unit (MTU) on Cisco Expressway-E is too high and can cause packet loss. The default MTU is 1500 bytes. We recommend that you lower the MTU to 1400 bytes. If you do not, callers may experience problems, such as one-way video.

Procedure

- **Step 1** On Cisco Expressway-E, do one of the following:
 - If you have Cisco Expressway-E 8.2, choose **System** > **IP**.
 - If you have Cisco Expressway-E 8.5 or later, choose **System** > **Network Interfaces** > **IP**.
- **Step 2** In the LAN 1 section, for Maximum transmission unit (MTU), enter 1400.
- Step 3 Click Save.

Configure Signaling and Media

Do one of the following:

- Configure Signaling and Media: Cisco Expressway-E with Single NIC Deployment, on page 7
- Configure Signaling and Media: Cisco Expressway-E with Dual NIC Deployment, on page 8

BFCP Screen Share

Existing Cisco Expressway and Cisco Unified Communications Manager deployments that use Binary Floor Control Protocol (BFCP) should not need any configuration changes to enable Cisco Jabber Guest for BFCP screen share. If you're not sure if your deployment has BFCP enabled, see *Check BFCP Settings for Screen Sharing*.

Related Topics

Check BFCP Settings for Screen Sharing

Configure Signaling and Media: Cisco Expressway-E with Single NIC Deployment

We recommend enabling Session Initiation Protocol (SIP) over Transport Layer Security (TLS) for call control signaling and enabling Secure Real-Time Transfer Protocol (SRTP) for secure media. Secure media requires secure signaling.

Before You Begin

On Cisco Expressway-C, make sure that you have created a neighbor zone for each Cisco Jabber Guest server. For more information, see Configure Cisco Expressway-E and Cisco Expressway-C: Cisco Expressway-E with Single NIC Deployment, on page 1.

Procedure

- **Step 1** To enable SIP over TLS, obtain the Cisco Expressway-C server certificate or the Cisco Expressway-C certificate authority certificate:
 - If you have a single Cisco Expressway-C, obtain the Cisco Expressway-C server certificate.
 - If Cisco Expressway-C is a cluster of servers, obtain the Cisco Expressway-C certificate authority certificate. This certificate must be uploaded to the Cisco Jabber Guest server so that Cisco Jabber Guest can communicate with all nodes in the Cisco Expressway-C cluster.
- **Step 2** Upload the certificate to Cisco Jabber Guest Administration:
 - a) Sign in to Cisco Jabber Guest Administration as an administrator.
 - b) Click Settings, and then click Secure SIP Trust Certificate.
 - c) Under Secure SIP Trust Certificate, click Choose File.
 - d) Select the certificate that you obtained, and then click Upload.
- **Step 3** Configure the Call Control and Media settings in Cisco Jabber Guest Administration:
 - a) Click Call Control and Media.
 - b) Select Route calls using Cisco Expressway.
 - c) Check Enable SIP over TLS.
 - d) Check Enable SRTP.
 - e) For **SIP port**, enter 5061.
 - f) For SIP domain, enter the SIP domain. This setting is used if the Cisco Jabber Guest link does not contain a SIP domain. In most cases, this is the enterprise SIP domain as configured in Cisco Unified Communications Manager.

- g) For **SIP server**, enter the IP address or FQDN of the Cisco Expressway-C.
- h) Specify whether SIP is sent to the Cisco Expressway-C that originated the HTTP call control or to the server entered above.
- Step 4 Click Update.

The message Update successful appears.

Step 5 Restart Tomcat:

service tomcat-as-standalone.sh restart

- **Step 6** On the Cisco Expressway-C, verify that the neighbor zones for each Cisco Jabber Guest server are active:
 - a) Choose Configuration > Zones > Zones.
 - b) View the SIP status column.

Configure Signaling and Media: Cisco Expressway-Ewith Dual NIC Deployment

We recommend enabling Session Initiation Protocol (SIP) over Transport Layer Security (TLS) for call control signaling and enabling Secure Real-Time Transfer Protocol (SRTP) for secure media. Secure media requires secure signaling.

Before You Begin

On Cisco Expressway-C, make sure that you have created a neighbor zone for each Cisco Jabber Guest server. For more information, see Configure Cisco Expressway-E and Cisco Expressway-C: Cisco Expressway-E with Dual NIC Deployment, on page 4.

Procedure

- **Step 1** To enable SIP over TLS, obtain the Cisco Expressway-E server certificate or the Cisco Expressway-E certificate authority certificate:
 - If you have a single Cisco Expressway-E, obtain the Cisco Expressway-E server certificate.
 - If Cisco Expressway-E is a cluster of servers, obtain the Cisco Expressway-E certificate authority certificate. This certificate must be uploaded to the Cisco Jabber Guest server so that Cisco Jabber Guest can communicate with all nodes in the Cisco Expressway-E cluster.
- **Step 2** Upload the certificate to Cisco Jabber Guest Administration:
 - a) Sign in to Cisco Jabber Guest Administration as an administrator.
 - b) Click Settings, and then click Secure SIP Trust Certificate.
 - c) Under Secure SIP Trust Certificate, click Choose File.
 - d) Select the certificate that you obtained, and then click **Upload**.
- **Step 3** Configure the **Call Control and Media** settings in Cisco Jabber Guest Administration:
 - a) Click Call Control and Media.
 - b) Select Route calls using Cisco Expressway.
 - c) Check Enable SIP over TLS.
 - d) Check Enable SRTP.
 - e) For **SIP port**, enter 5061.

- f) For SIP domain, enter the SIP domain. This setting is used if the Cisco Jabber Guest link does not contain a SIP domain. In most cases, this is the enterprise SIP domain as configured in Cisco Unified Communications Manager.
 - **Important** For proper call routing, the SIP domain must be configured on the Cisco Expressway-E search rule to point to the traversal zone.
- g) For a single Cisco Expressway-E server, for **SIP server**, enter the IP address or FQDN of the Cisco Expressway-E.
- h) Select where to send SIP traffic:
 - For a single Cisco Expressway-E server, select **SIP server specified above**.
 - For cluster of Cisco Expressway-E servers:
 - 1 Select Expressway-E server that provided TURN service.

Important The TURN relay and SIP signaling must reside on the same server.

2 Under Cisco Expressway-E Network Address Map, enter the external IP addresses and internal IP addresses of each of the Cisco Expressway-E servers in the cluster. Mapping allows the Cisco Jabber Guest server to send the SIP to the same Cisco Expressway-E servers as the TURN relay.

If static NAT mode is enabled on Cisco Expressway-E with either single NIC deployment or dual NIC deployment, the Cisco Jabber Guest server must be configured for static NAT mode as well.

Step 4 Click Update.

The message Update successful appears.

Step 5 Restart Tomcat:

service tomcat-as-standalone.sh restart

- **Step 6** On the Cisco Expressway-E, verify that the neighbor zones for each Cisco Jabber Guest server are active:
 - a) Choose Configuration > Zones > Zones.
 - b) View the SIP status column.

Configure Static NAT Mode on Cisco Expressway-E

If static NAT mode is enabled on Cisco Expressway-E with either single NIC deployment or dual NIC deployment, the Cisco Jabber Guest server must be configured for static NAT mode as well. This allows the media to flow within the DMZ, avoiding NAT reflection (sending media to the NATed address).

Procedure

- **Step 1** Sign in to Cisco Jabber Guest Administration.
- Step 2 Click Settings, and then click Call Control and Media.
- Step 3 Under Cisco Expressway-E Network Address Map, check Static NAT mode.

This check box appears only when the option, Route calls using Cisco Expressway, is selected.

- Step 4 Under Public IP (Static NAT), enter the static NAT IP address of the Cisco Expressway-E server.
- **Step 5** Under External IP (DMZ), enter the external IP address of the Cisco Expressway-E server.
- **Step 6** Repeat Steps 4 and 5 for each of the Cisco Expressway-E servers in the cluster.
- Step 7 Click Update.

Configure TURN Credential Provisioning

The Cisco Jabber Guest client needs TURN credentials to allocate TURN relays on the Cisco Expressway-E. The Cisco Jabber Guest server provisions these credentials on the Cisco Expressway-C when the Cisco Jabber Guest client connects.

The Cisco Jabber Guest server uses an HTTP-based XML API to communicate with Cisco Expressway-C.

Procedure

- **Step 1** Sign in to Cisco Jabber Guest Administration as an administrator.
- Step 2 Click Settings, and then click Call Control and Media.
- **Step 3** Under Cisco Expressway-C, for Expressway-C (IP address or DNS name), enter the Cisco Expressway-C IP address or DNS name.
- **Step 4** Specify whether short-term TURN credentials are requested from the Cisco Expressway-C that proxied the HTTP request from the Cisco Jabber Guest client or from the server entered in Step 3.
- **Step 5** For **HTTPS port**, specify the port.
- **Step 6** For **Domain**, enter the domain on Cisco Expressway-C that has Jabber Guest services enabled.
- **Step 7** For **Username** and **Password**, enter the username and password of the administrator account on Cisco Expressway-C that has read, write, and API access.
- Step 8 Click Update.

Set Up TURN Server Information

The Cisco Jabber Guest client needs to know which Cisco Expressway-E to use for TURN relays.

Procedure

- **Step 1** Sign in to Cisco Jabber Guest Administration as an administrator.
- Step 2 Click Settings, and then click Call Control and Media.

Traversal > TURN).

- **Step 3** Under Cisco Expressway-E, for Expressway-E TURN server (IP address or DNS name), enter the Cisco Expressway-E TURN server outside IP address or DNS name.
- Step 4 For TURN port, enter the UDP port. The port is typically 3478 but you can enter a range of ports, such as 3478-3483. The range is necessary if the Cisco Expressway-E supports multiple TURN ports.
 Important The port must match the port specified on the Cisco Expressway-E (under Configuration >
- Step 5 Click Update.

Set FQDN of Cisco Jabber Guest Server

Procedure

- **Step 1** Sign in to Cisco Jabber Guest Administration as an administrator.
- Step 2 Click Settings, and then click Call Control and Media (Local).
- **Step 3** Enter the FQDN of the Cisco Jabber Guest server.
 - Important The FQDN must match the value specified in the Cisco Jabber Guest Server hostname field on the Cisco Expressway-C. Cisco Expressway-C uses the FQDN to forward the per-session HTTP traffic to the appropriate Cisco Jabber Guest server in the cluster.
- Step 4 Click Update.

What to Do Next

Make sure that you populate the Cisco Jabber Guest local FQDN field for each node in the Cisco Jabber Guest cluster.

Set Domain Used for Links

To create links on the Cisco Jabber Guest server, you must enter the domain that is configured on the Cisco Expressway.

Procedure

- **Step 1** Sign in to Cisco Jabber Guest Administration as an administrator.
- Step 2 Click Settings, and then click Links.
- **Step 3** For **Domain used for links**, enter the public DNS name of the Cisco Expressway-E. You can add a subdomain for Cisco Jabber Guest service.

Example:

If yourcompany.com is configured as the domain on the Cisco Expressway and jg.yourcompany.com is configured on the Cisco Jabber Guest server, the format of the link is https://jg.yourcompany.com/call/<directory number>.

Step 4 Click Update.

Customize Cisco Jabber Guest Clients



Important

Do not to modify any files on the Cisco Jabber Guest server. For example, on the web client, editing the appearance of the Cisco Jabber Guest video window, such as the **Call** button, is not supported.

To change the appearance of the web page that contains the Cisco Jabber Guest video window, host the page on a server other than the Cisco Jabber Guest server.

The mobile client can be fully customized.

For more information about customizing Cisco Jabber Guest clients, go to the Cisco Jabber Guest SDK DevNet website.

Related Topics

Cisco Jabber Guest SDK DevNet