Configure SIP Normalization and Transparency

SIP Normalization and Transparency Overview

SIP normalization and transparency is an optional feature that handles SIP interoperability issues between Unified Communications Manager and endpoints, service providers, PBXs, or gateways that implement SIP differently. To configure SIP normalization and transparency, apply a customized LUA script to a SIP trunk or SIP line. Unified Communications Manager applies the script to the SIP messaging that passes through the SIP trunks or SIP lines.

Upon installation, Unified Communications Manager contains default normalization and transparency scripts that you can assign to the SIP trunks and SIP profiles in your system. You can also create and import your own customized scripts.

SIP Normalization

SIP normalization scripts modify incoming and outgoing SIP messages. For example, if you are interoperating Unified Communications Manager with a Cisco TelePresence Video Communications Server, apply the *vcs-interop* script to the SIP trunk that connects the two. The script resolves the differences in the SIP messaging so that the two products can communicate.

You can apply a normalization script to any SIP trunk connection, regardless of which protocol is being used by the endpoint that connects to that SIP trunk.

SIP Transparency

SIP transparency scripts enable Unified Communications Manager to transparently pass SIP information, such as proprietary headers, from one call leg to the other. For transparency to work, both call legs must be SIP.

Another feature of SIP transparency is REFER transparency, which allows Unified Communications Manager to pass on REFER requests without acting on them. You can use REFER transparency in call center environments where a centralized agent may answer a call and then transfer the call to an agent who resides in the same geographical area as the caller. REFER transparency allows the centralized Unified Communications Manager to drop the call and shift call control to the new agent.

Default Scripts for SIP Normalization and Transparency

Upon installation, Cisco Unified Communications Manager contains the following default scripts for SIP Normalization and Transparency. You can apply these scripts to a SIP trunk or SIP profile, but you cannot edit these scripts. If none of these scripts meet your needs, you can create your own scripts:

- **cisco-meeting-server-interop**—Provides interoperability between Cisco Unified Communications Manager and Cisco Meeting Server (CMS).

- **cisco-telepresence-conductor-interop**—Provides interoperability for endpoints that are registered to TelePresence Conductor.

- **cisco-telepresence-mcu-ts-direct-interop**—Provides interoperability between Cisco Unified Communications Manager and either Cisco TelePresence MCU or Cisco TelePresence Server.

- **diversion-counter**—Provides capability to adjust the diversion counter.

- **HCS-PCV-PAI passthrough**—Provides Cisco HCS platform integration with Enterprise IMS.

- **redsky-alternate-id-interop**—Adds Redsky headers in outbound invite.

- **refer-passthrough**—Removes Cisco Unified Communications Manager from the call due to a blind transfer between SIP trunks.

- **vcs-interop**—Provides interoperability for endpoints that are registered to the Cisco TelePresence Video Communications Server.

SIP Normalization and Transparency Prerequisites

- Cisco Unified Communications Manager provides default scripts for SIP Normalization and Transparency. Make sure to review the existing scripts and system settings to verify whether they meet your needs. For information on the available default scripts, see Default Scripts for SIP Normalization and Transparency, on page 2.

- Make sure that you understand your deployment's SIP requirements in addition to the SIP requirements for any third-party products. For information on Cisco Unified Communications Manager's implementation of SIP, review the *SIP Line Messaging Guide for Cisco Unified Communications Manager (Standard Edition)* at http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-programming-reference-guides-list.html.

- If you plan to develop customized SIP Normalization scripts, review the *Developer Guide for SIP Normalization and Transparency* at http://www.cisco.com/c/en/us/support/unified-communications/unified-communications-manager-callmanager/products-programming-reference-guides-list.html.

SIP Normalization and Transparency Configuration Task Flow

Procedure

	Command or Action	Purpose
Step 1	Create New SIP Normalization and Transparency Scripts, on page 3	Optional. If none of the preinstalled scripts meet your needs, use this procedure to configure a customized script. You can create your new script in the **SIP Normalization Script Configuration** window or you can import a customized script.
Step 2	Apply Normalization or Transparency Script to SIP Trunk, on page 4	In the Trunk Configuration window, apply a script directly to a SIP trunk. Cisco Unified Communications Manager applies the script to all the SIP messaging that passes through the trunk
Step 3	Apply Normalization or Transparency to SIP Devices, on page 5	If you want to apply a normalization or transparency script to a SIP line, apply a script to the SIP profile that is associated to that SIP line. Cisco Unified Communications Manager applies the script to all SIP messaging that uses that SIP profile.

Create New SIP Normalization and Transparency Scripts

If the default normalization and transparency scripts do not meet your needs, use this procedure to create a new LUA script. You can either write the new script in Cisco Unified Communications Manager or import a file into the system.

Tip If the script that you want to create closely resembles a default script, open the default script in the **SIP Normalization Script Configuration** window and copy the **Contents** text box. Create a new script and paste the contents into the **Contents** text box. You can then edit the content in the new script.

Note The memory utilization of the SIP Normalization Script is based on each trunk and not on each script.

Procedure

Step 1 In Cisco Unified CM Administration, choose **Device** > **Device Settings** > **SIP Normalization Script**.

Step 2 Click **Add New**.
The SIP Normalization Script Configuration window appears.

Step 3   Enter a **Name** and **Description** for your script.

Step 4   If you are writing a new script, edit the script in the **Contents** text box.

Step 5   Optional. If you have an external file that you want to import, do the following

     a) Click **Import File**.

     b) **Browse** to locate the file and select the file.

     c) Click **Import File**.
       The **SIP Normalization Script Configuration** window displays the contents of the imported file in the **Contents** text box.

Step 6   Complete the fields in the **SIP Normalization Script Configuration** window. For help with the fields and their contents, refer to the online help.

Step 7   Click **Save**.

What to do next

Assign the script to a SIP profile or SIP trunk:

Apply Normalization or Transparency Script to SIP Trunk

Use this procedure to apply a SIP normalization or transparency script to a SIP trunk. Cisco Unified Communications Manager applies the script to all SIP messaging that passes through the trunk.

Procedure

Step 1   From Cisco Unified CM Administration, choose **Device** > **Trunk**.

Step 2   Click **Find** and select the trunk to which you want to apply a script.

Step 3   From the **Normalization Script** drop-down list, choose the script that you want to apply to the trunk.

Step 4   (Optional) If you want to normalize specific parameters within the SIP messaging, do the following:

     a) Enter the **Parameter Name** that you want to normalize, and the **Parameter Value** for the value that you want to apply to the parameter. For example, you could enter a `Location` parameter and `North Carolina` as the value.

     b) To add additional parameters, click the (+) to create additional lines where you can enter additional parameters and values.

Step 5   (Optional) If you want to produce SDI traces against the script, check the **Enable Trace** check box.

     Note   Cisco recommends that you enable tracing while debugging your scripts.

Step 6   Click **Save**.

Apply Normalization or Transparency to SIP Devices

You can apply a customized SIP Normalization and Transparency script, or a customized SDP Transparency Profile to a SIP phone by applying the script to the SIP Profile that is used by that device.

Procedure

Step 1   From Cisco Unified CM Administration, choose **Device** > **Device Settings** > **SIP Profile**.

Step 2   Click **Find** and select the SIP profile to which you want to apply a script.

Step 3   In the **SDP Information** area, from the **SDP Transparency Profile** drop-down list, choose a profile.

Step 4   From the **Normalization Script** drop-down list, choose the script that you want to apply to the trunk.

Step 5   (Optional) If you want to normalize specific parameters within the SIP messaging, do the following:

    a) Enter the **Parameter Name** that you want to normalize, and the **Parameter Value** for the value that you want to apply to the parameter. For example, you could enter a `Location` parameter and `North Carolina` as the value.

    b) To add additional parameters, click the (+) to create additional lines where you can enter additional parameters and values.

Step 6   (Optional) If you want to produce SDI traces against the script, check the **Enable Trace** check box.

    Note   Cisco recommends that you enable tracing while debugging your scripts.

Step 7   Click **Save**.