



Support for software media termination point

The Software Media Termination Point (MTP) is a feature that enables Cisco Unified Communications Manager (CUCM) to facilitate media stream bridging and call relaying between diverse connection types.

- Bridges media streams between two connections.
- Allows CUCM to relay calls routed through SIP or H.323 endpoints, and
- Utilizes Skinny Client Control Protocol (SCCP) commands to establish an MTP for call signaling.

This feature is crucial for ensuring interoperability and proper media handling when different signaling protocols (like SIP, H.323, and SCCP) are involved in a call path within a Cisco Unified Communications environment.

- [Information about support for software media termination point, on page 1](#)
- [How to configure support for software media termination point, on page 2](#)
- [Prerequisites, on page 2](#)
- [Restrictions, on page 2](#)
- [Configure support for software media termination point, on page 2](#)

Information about support for software media termination point

The extension of software MTP support to Cisco Unified Border Element (Enterprise) is a feature that

- Extends software MTP support to the Cisco Unified Border Element (Enterprise).
- Is an essential component for large-scale deployments of Cisco Unified Communications Manager (UCM), and
- Enables new capabilities for Cisco UBE to function as an Enterprise Edge Cisco Session Border Controller for large-scale SIP trunking deployments.

This enhancement is particularly important for organizations migrating to SIP trunking, as it ensures robust media handling and signaling capabilities at the enterprise edge.

How to configure support for software media termination point

Prerequisites

For the software MTP to function properly, codec and packetization must be configured the same way on both incoming call legs and outgoing call legs

Restrictions

- RSVP Agent is not supported in software MTP.
- Hardware MTP for repacketization is not supported.
- Call Threshold is not supported for standalone software MTP.
- Per-call debugging is not supported.

Configure support for software media termination point

To enable and configure the Support for Software Media Termination Point feature, perform these task.

Procedure

Step 1

enable

Example:

```
Router > enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2

configure terminal

Example:

```
Router# configure terminal
```

Enters global configuration mode.

Step 3

sccp local *interface-type interface-number* [**port *port-number*]**

Example:

```
Router(config)# sccp local gigabitethernet0/0/0
```

Selects the local interface that SCCP applications (transcoding and conferencing) use to register with Cisco UCM.

- *interface type* --Can be an interface address or a virtual-interface address such as Ethernet.
- *interface number* --Interface number that the SCCP application uses to register with Cisco UCM.
- (Optional) **port** *port-number* --Port number used by the selected interface. Range is 1025 to 65535. Default is 2000.

Step 4 **sccp ccm** { *ipv4-address* | *ipv6-address* | *dns* } **identifier** *identifier-number* [**port** *port-number*] **version** *version-number*

Example:

```
Router(config)# sccp ccm 10.1.1.1 identifier 1 version 7.0+
```

Adds a Cisco UCM server to the list of available servers and sets these parameters:

- *ipv4-address* --IP version 4 address of the Cisco UCM server.
- *ipv6-address* --IP version 6 address of the Cisco UCM server.
- *dns* --DNS name.
- **identifier** --Specifies the number that identifies the Cisco UCM server. Range is 1 to 65535.
- **port** *port-number* (Optional)--Specifies the TCP port number. Range is 1025 to 65535. Default is 2000.
- **version** *version-number* --Cisco UCM version. Valid versions are 3.0, 3.1, 3.2, 3.3, 4.0, 4.1, 5.0.1, 6.0, and 7.0+. There is no default value.

Step 5 **sccp**

Example:

```
Router(config)# sccp
```

Enables the Skinny Client Control Protocol (SCCP) and its related applications (transcoding and conferencing).

Step 6 **sccp ccm group** *group-number*

Example:

```
Router(config)# sccp ccm group 10
```

Creates a Cisco UCM group and enters SCCP Cisco UCM configuration mode.

- *group-number* --Identifies the Cisco UCM group. Range is 1 to 50.

Step 7 **associate ccm** *identifier-number* **priority** *number*

Example:

```
Router(config-sccp-ccm)# associate ccm 10 priority 3
```

Associates a Cisco UCM with a Cisco UCM group and establishes its priority within the group:

- *identifier-number* --Identifies the Cisco UCM. Range is 1 to 65535. There is no default value.

- **priority** *number* --Priority of the Cisco UCM within the Cisco UCM group. Range is 1 to 4. There is no default value. The highest priority is 1.

Step 8 **associate profile** *profile-identifier* **register** *device-name*

Example:

```
Router(config-sccp-ccm)# associate profile 1 register MTP0011
```

Associates a DSP farm profile with a Cisco UCM group:

- **profile-identifier** --Identifies the DSP farm profile. Range is 1 to 65535. There is no default value.
- **register** *device-name* --Device name in Cisco UCM. A maximum of 15 characters can be entered for the device name.

Step 9 **dspfarm profile** *profile-identifier* { **conference** | **mtp** | **transcode** } [**security**]

Example:

```
Router(config-sccp-ccm)# dspfarm profile 1 mtp
```

Enters DSP farm profile configuration mode and defines a profile for DSP farm services:

- **profile-identifier** --Number that uniquely identifies a profile. Range is 1 to 65535. There is no default.
- **conference** --Enables a profile for conferencing.
- **mtp** --Enables a profile for MTP.
- **transcode** --Enables a profile for transcoding.
- **security** (Optional)-- Enables a profile for secure DSP farm services.

Step 10 **trustpoint** *trustpoint-label*

Example:

```
Router(config-dspfarm-profile)# trustpoint dspfarm
```

(Optional) Associates a trustpoint with a DSP farm profile.

Step 11 **codec** *codec*

Example:

```
Router(config-dspfarm-profile)# codec g711ulaw
```

Specifies the codecs supported by a DSP farm profile.

- **codec-type** : Specifies the preferred codec. Enter ? for a list of supported codecs

Repeat this step for each supported codec.

Step 12 **maximum sessions** { **hardware** | **software** } *number*

Example:

```
Router(config-dspfarm-profile)# maximum sessions software 10
```

Specifies the maximum number of sessions that are supported by the profile.

- **hardware** --Number of sessions that MTP hardware resources can support.
- **software** --Number of sessions that MTP software resources can support.
- **number** --Number of sessions that are supported by the profile. Range is 0 to x. Default is 0. The x value is determined at run time depending on the number of resources available with the resource provider.

Step 13 **associate application sccp**

Example:

```
Router(config-dspfarm-profile)# associate application sccp
```

Associates SCCP to the DSP farm profile.

Step 14 **no shutdown**

Example:

```
Router(config-dspfarm-profile)# no shutdown
```

Changes the status of the interface to the UP state.

Support for software media termination point is configured.

Configuration examples for software media termination point

Output examples for software media termination point.

This example shows a sample configuration for the Support for Software Media Termination Point feature.

```
sccp local GigabitEthernet0/0/1
sccp ccm 10.13.40.148 identifier 1 version 6.0
sccp
!
sccp ccm group 1
bind interface GigabitEthernet0/0/1
associate ccm 1 priority 1
associate profile 6 register RR_RLS6
!
dspfarm profile 6 mtp
codec g711ulaw
maximum sessions software 100
associate application SCCP
!
!
gateway
media-inactivity-criteria all
timer receive-rtp 400
```

Troubleshoot software termination point

To troubleshoot software termination point

To verify and troubleshoot this feature, use these **show** commands.

- To verify information about SCCP, use the **show sccp** command:

```
Router#
      show sccp
SCCP Admin State: UP
Gateway IP Address: 10.13.40.157, Port Number: 2000
IP Precedence: 5
User Masked Codec list: None
Call Manager: 10.13.40.148, Port Number: 2000
              Priority: N/A, Version: 6.0, Identifier: 1
              Trustpoint: N/A
```

- To verify information about the DSPfarm profile, use the **show dspfarm profile** command:

```
Router#
      show dspfarm profile 6
Dspfarm Profile Configuration
Profile ID = 6, Service = MTP, Resource ID = 1
Profile Description :
Profile Service Mode : Non Secure
Profile Admin State : UP
Profile Operation State : ACTIVE
Application : SCCP   Status : ASSOCIATED
Resource Provider : NONE   Status : NONE
Number of Resource Configured : 100
Number of Resource Available : 100
Hardware Configured Resources : 0
Hardware Available Resources : 0
Software Resources : 100
Codec Configuration
Codec : g711ulaw, Maximum Packetization Period : 30
```

- To display statistics for the SCCP connections, use the **show sccp connections** command:

```
Router#
      show sccp connections
sess_id   conn_id   stype mode   codec   ripaddr      rport sport
16808048  16789079   mtp   sendrecv g711u 10.13.40.20  17510 7242
16808048  16789078   mtp   sendrecv g711u 10.13.40.157  6900 18050
```

- To display information about RTP connections, use the **show rtpspi call** command:

```
Router#
      show rtpspi call
RTP Service Provider info:
No.  CallId  dstCallId  Mode      LocalRTP  RmtRTP  LocalIP      RemoteIP  SRTP
   22    19        Snd-Rcv   7242     17510   0x90D080F   0x90D0814  0
   19    22        Snd-Rcv   18050    6900    0x90D080F   0x90D080F  0
```

- To display information about VoIP RTP connections, use the **show voip rtp connections** command:

```
Router#
      show voip rtp connections
VoIP RTP Port Usage Information
```

```

Max Ports Available: 30000, Ports Reserved: 100, Ports in Use: 102
Port range not configured, Min: 5500, Max: 65499
VoIP RTP active connections :
No. CallId      dstCallId  LocalRTP  RmtRTP    LocalIP    RemoteIP
1      114          117      19822    24556    10.13.40.157  10.13.40.157
2      115          116      24556    19822    10.13.40.157  10.13.40.157
3      116          115      19176    52625    10.13.40.157  10.13.40.20
4      117          114      16526    52624    10.13.40.157  10.13.40.20

```

- Additional, more specific, **show** commands that can be used are
 - **show sccp connection callid**
 - **show sccp connection connid**
 - **show sccp connection sessionid**
 - **show rtpspi call callid**
 - **show rtpspi stat callid**
 - **show voip rtp connection callid**
 - **show voip rtp connection type**
- To isolate specific problems, use the **debug sccp** command:
 - **debug sccp [all | config | errors | events | keepalive | messages | packets | parser | tls]**

