



QSIG Tunneling over SIP Feature Module

Document Release History

Publication Date	Comments
July 20, 2011	Initial release of the document.

Feature History

Release	Modification
9.8(1)	The QSIG Tunneling over SIP feature is introduced in the Cisco PGW 2200 Softswitch software.

This document describes the QSIG Tunneling over SIP feature. This feature is described in the following sections:

- [Feature Description, page 2](#)
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Feature Description

The Cisco Unified Communications Manager (CUCM) clusters are used to interwork directly by tunneling QSIG for callback scenarios. With this feature, interworking among CUCMs can be enhanced by tunneling QSIG over the Session Initiation Protocol (SIP) through PGW, which acts as a transit switch.

The QSIG Tunneling over SIP feature provides a new interface for QSIG Tunneling over SIP protocol in PGW for callback scenarios. This feature enables transparent interworking between Call Managers by tunneling the QSIG information in the SIP messages.

Applying this feature, PGW will interwork with the Call Managers (single-cluster or multiple-cluster configurations) on SIP interfaces as a transit switch.

Benefits

This feature provides the following benefit:

Enables transparent interworking between Call Managers by tunneling the QSIG information in the SIP messages in callback scenarios.

Prerequisites

The Cisco PGW 2200 Softswitch must be running software Release 9.8(1). The prerequisites for Release 9.8(1) can be found in *Release Notes for the Cisco PGW 2200 Softswitch Release 9.8(1)* at:

http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9/release/note/rn981.html

Restrictions or Limitations

The QSIG Tunneling over SIP feature has the following limitations:

- PGW supports only the ECMA(ETS_300_172) QSIG standard in the QSIG Tunneling over SIP feature. PGW does not support late tunneling. For example, a SIP INVITE must contain a QSIG body to enable this feature to work.
- The QSIG Tunneling over SIP feature can interwork only with CUCM, Release 8.5 and later releases.
- Because this feature is meant specifically for interworking between CUCM clusters, call flows supported by CUCMs are supported only in scenarios where PGW is used as a transit switch. Interworking with other protocols is not implemented in this feature, and the call is always a QSIG Tunneling over SIP-to-QSIG Tunneling over SIP call.
- This feature is specific only to callback scenarios.

Related Features and Technology

The following features are related to the QSIG Tunneling over SIP feature:

- DPNSS Service Interworking with Cisco CallManager Over QSIG Tunneling
- QSIG Feature Transparency

Related Documents

This document contains information that is related to the QSIG Tunneling over SIP feature. The documents that contain additional information related to this feature are available at:

http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9/feature/module/9.7.3_/FMqtun.html

http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9/feature/module/9.4.1_/FM_qsig.html

Supported Standards, MIBs, and RFCs

This section identifies the new or modified standards, MIBs, and RFCs that are supported by the QSIG Tunneling over SIP feature.

Standards

- ECMA355-Tunnelling of QSIG over SIP
- ECMA339-Signalling Interworking between QSIG and SIP Basic Service

MIBs

No new or modified MIBs are supported by this feature.

For more information on the MIBs used in the Cisco PGW 2200 Softswitch, see the list of Cisco PGW 2200 Softswitch MIBs at:

http://www.cisco.com/iam/PGW_MIBS/index.html

RFCs

- RFC3204: MIME media types for ISUP and QSIG Objects
- RFC4497: Interworking between SIP and QSIG

Provisioning Tasks

Two properties are introduced in the QSIG Tunneling over SIP feature:

- SIPQSupport
- SIPQnumberpreference

SIPQSupport enables or disables the support of the QSIG Tunneling over SIP feature, while SIPQnumberpreference enables the QSIG Tunneling over SIP feature to select call routing based on the called numbers present in the SIP or the QISG message. Perform the following tasks to add new properties:

- Use Prov-add to add the SIPQsupport property to SIP Profile: prov-add:
profile:name="sip- prof",type="SIPPROFILE",custgrp="xyz",mgcdomain="x.x.x.x",
SIPQSupport = "1"
- Use Prov-add to add the SIPQnumberpreference property to the SIP profile:
prov-add:profile:name="sip-prof1",type="SIPPROFILE",custgrp="xyz",mgcdomain="x.x.x.x"
prov-ed:profile:name="SIPPROFILE",custgrp="xyz",MGCdomain="x.x.x.x",
SIPQnumberpreference = "1"

You can edit the new properties by performing the following steps:

- Use Prov-ed to edit the SIPQnumberpreference property in the SIP profile:
prov-ed:profile:name="SIPPROFILE",custgrpid="xyz",MGCdomain="x.x.x.x",
SIPQnumberpreference = "0"
- Use Prov-add to edit the SIPQsupport property in the SIP profile:
prov-ed:profile:name=" sip- prof ",custgrpid="xyz",MGCdomain="x.x.x.x", SIPQSupport = "1"

Provisioning Examples

This section provides a provisioning example pertaining to the QSIG Tunneling over SIP feature. You can find additional provisioning examples pertaining to the Cisco PGW 2200 Softswitch software in the *Cisco PGW 2200 Softswitch Software Release 9.8 Provisioning Guide*, which is available at:

http://www.cisco.com/en/US/docs/voice_ip_comm/pgw/9.8/Provisioning/Guide/prvgde98.html

Following is a provisioning example of the QSIG Tunneling over SIP feature:

```

-----
; Start a New Provisioning Session
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
prov-sta::srcver="new",dstver="SIPQ-prov-sip"
-----

; Add a new dialplan named "1111"
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
numan-add:dialplan:custgrpid="1111", OVERDEC="NO"
-----

; Add a SIP Signaling Path
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
prov-add:SIPPATH:NAME="sip-path",DESC="SIPsigpath",MDO="IETF_SIP",ORIGLABEL="",
TERMLABEL=""
prov-add:SIPLNK:NAME="sip-link1",DESC="SIPlink",SVC="sip-path",IPADDR="IP_Addr1",
PORT=5060,PRI=1
prov-add:trnkgrp:name="100",clli="sipin-path",svc="sip-path",type="SIP_IN",selseq="LIDL",
qable="N",default=1
prov-add:PROFILE:NAME="sip-prof1",TYPE="sipprofile",custgrpid="1111",mgcdomain="10.0.3.7",
,sipqnumpref="1",sipqsupport="1"
prov-add:trnkgrp:prof:name="100",profile="sip-prof1"
-----

; Add SIP Trunk Groups
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
prov-add:trnkgrp:name="235",clli="sip-path",svc="sip-path",type="IP_SIP",selseq="LIDL",
qable="N"
prov-add:trnkgrp:prof:name="235",profile="sip-prof1"
prov-add:siprttrnkgrp:name="235",url="10.0.2.182",srvr=0,sipproxyport=5060,version="2.0",
cutthrough=1,extsupport=1
prov-add:rttrnk:weightedTG="OFF",name="rg235",trnkgrpnum=235
prov-add:rtlist:name="rlst235",rtname="rg235",distrib="OFF"
-----

; Dial plan routing to SIP side
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
numan-add:resultset:custgrpid="1111",name="rset235"
numan-add:resulttable:custgrpid="1111",name="rtab235",resulttype="ROUTE",dw1="rlst235",
setname="rset235"
numan-add:bdigtree:custgrpid="1111",callside="originating",digitstring="235",
setname="rset235"
-----

; Save the Provisioning Session
;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;

```

prov-dply

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

Glossary

Table 1 provides a list of acronyms used in this document, and their expansions.

Table 1 **Expansions**

Acronym	Expansion
CUCM	Cisco Unified Communications Manager.
SIP	Session Initiation Protocol.
QSIG	Q Signaling. D-channel signaling protocol at Q reference point for PBX networking.
ECMA	European Computer Manufacturers Association.
PGW	PSTN Gateway.

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