MLPP Support for ISUP and SIP Interworking and SIP to SIP Transparency Feature Module

Document Release History

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>August 23, 2010</td>
<td>Initial release of document.</td>
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</tbody>
</table>

Feature History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
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<tbody>
<tr>
<td>9.8(1)S10P10</td>
<td>The MLPP Support for ISUPV2_GERMAN and SIP Interworking and SIP to SIP Transparency feature was introduced on the Cisco PGW 2200 Softswitch software.</td>
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This document describes the MLPP Support for ISUPV2_GERMAN and SIP Interworking and SIP to SIP Transparency feature.

This feature is described in the following sections:

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- Provisioning Tasks, page 4
- Provisioning Examples, page 4
- Software Changes for This Feature, page 5
- Obtaining Documentation, Obtaining Support, and Security Guidelines, page 6
- Glossary, page 7
Feature Description

This feature enables the Cisco PGW 2200 Softswitch to support Multilevel Precedence and Preemption (MLPP), which permits validated users to place priority calls. Precedence assigns a priority level to a call. Preemption refers to a process that terminates a call of lower priority, which is using a device that is targeted by a call of higher priority. Precedence assures that a higher-priority call can access the target device.

The implementation of MLPP defined by this feature only supports the relay of prioritized call signaling information in Back to Back User Agent (B2BUA) mode for SIP-to-SIP calls. This feature also enables the Cisco PGW 2200 Softswitch to map call signaling information for SIP-to-ISUP calls and for ISUP-to-SIP calls.

Note

The Cisco PGW 2200 Softswitch only supports the relaying of MLPP information in SIP-to-ISUP (ISUPV2_GERMAN) interworking scenarios and for SIP service transparency. No local handling is supported.

Prerequisites

The Cisco PGW 2200 Softswitch must be running Release 9.8(1) S10P10. Prerequisites for this release can be found in the Release Notes for the Cisco PGW 2200 Softswitch Release 9.8(1) at:

The MLPP Support for ISUP and SIP Interworking and SIP to SIP Transparency feature is designed to operate when the Cisco PGW 2200 Softswitch is in B2BUA mode and interoperating with Cisco Unity through Cisco Unified CallManager (CUCM) Release 8.

Restrictions or Limitations

The MLPP Interworking and SIP Service Transparency feature is limited or restricted in the following ways:

- Cisco PGW 2200 Softswitch only supports the relaying of MLPP information in SIP-to-ISUP interworking scenarios and for SIP service transparency. The Cisco PGW 2200 Softswitch software Release 9.8(1) patch S10P10 does not support local handling. Furthermore, in the context of this feature, the Cisco PGW 2200 Softswitch processes calls in the following ways:
  - For ISUP, the Cisco PGW 2200 Softswitch does not maintain any MLPP information (domain, priority) for circuits.
  - Cisco PGW 2200 Softswitch does not originate or support any preemption or look-ahead-for-busy end (LFB) procedure.
  - Cisco PGW 2200 Softswitch does not authenticate or authorize SIP prioritized call handling requests.
  - Cisco PGW 2200 Softswitch does not perform preemption or queuing for SIP and ISUP calls.
  - Cisco PGW 2200 Softswitch processes an MLPP call as a regular ISUP-to-SIP, SIP-to-ISUP or SIP-to-SIP call with no preferential treatment.
  - MLPP precedence call for which a circuit is reserved during preemption can be used by another call before the preemption call arrives at the Cisco PGW 2200 Softswitch.
Cisco PGW 2200 Softswitch cannot map an MLPP User Indicator that it receives in the Optional Backward Call Indicator (OBCI) Information Element (IE) of an Address Complete Message (ACM) for SIP-to-ISUP calls. The Cisco PGW 2200 Softswitch always sends the value as ‘MLPP user’ for MLPP calls for which the original INVITE message includes the Resource-Priority header.

For SIP-to-ISUP calls, when the Cisco PGW 2200 Softswitch receives an UPDATE message that contains MLPP information, it cannot relay the information to the ISUP side.

For SIP transparency features, the Cisco PGW 2200 Softswitch complies only with call flows described in CUCM Release 8.0 SIP Trunk Message Guides.

For SIP transparency, the Cisco PGW 2200 Softswitch does not generate call data records (CDRs) and does not change the billing interface.

No alarms or measurements are added to the Cisco PGW 2200 Softswitch software for this feature.

Introduction of this feature on the Cisco PGW 2200 Softswitch does not require any changes to the Cisco Voice Services Provisioning Tool (VSPT) or Cisco Media Gateway Controller Node Manager (CMNM).

Related Features and Technology

The following products are related to this feature:

- Cisco Unified CallManager, Release 8
- Cisco Unity, Release 8.
- Inter-CUCM SIP Trunk Service Transparency for MWI, KPML, and COLP Feature

Related Documents

This document contains information that is strictly related to this feature. The documents that contain additional information related to the Cisco PGW 2200 Softswitch at:


For information on a related feature, see Inter-CUCM SIP Trunk Service Transparency for MWI, KPML, and COLP Feature Module.
Provisioning Tasks

Information about provisioning is available in *Cisco PGW 2200 Softswitch Release 9.8 Provisioning Guide* in the following sections:

- Provisioning Overview:
  

- MML Basics:
  

Provisioning Examples

This section provides a provisioning example for this feature. You can find additional provisioning examples for the Cisco PGW 2200 Softswitch software in *Cisco PGW 2200 Softswitch Software Release 9.8 Provisioning Guide*.

Provisioning Properties to Support MLPP

The following sample MML command establishes MLPP support on an ISUP trunk:

```
prov-add:trnkgrp:name=“233”, svc=“ss7path1”, type=“TDM_ISUP”, SELSEQ=“LIDL"
prov-add:trnkgrpprop:name=“233”, mlppsupport=“1"
```

The following sample MML command associates MLPP support with a SIP profile:

```
prov-add:profile:name=“sip-prof1”, type=“SIPPROFILE”, custgrpid=“1111”,
mgcdomain = “10.78.170.30”
prov-ed:profile:name=“sip-prof1”, mlppsupport=“1”
```

The following sample MML command associates a list of MLPP namespaces (separated by commas) with a SIP profile:

```
prov-add:profile:name=“sip-prof1”, type=“SIPPROFILE”, custgrpid=“1111”,
mgcdomain = “10.78.170.30”
prov-ed:profile:name=“sip-prof1”, mlppnamespace=“q735”
```

The following sample MML command associates a Network Identity (NI) with an ISUP trunk:

```
prov-add:trnkgrp:name=“233”, svc=“ss7path1”, type=“TDM_ISUP”, SELSEQ=“LIDL”
prov-add:trnkgrpprop:name=“233”, mlppni=“049”
```
Software Changes for This Feature

The following section contains software changes related to this feature:

- Properties, page 5

Properties

The properties presented in this section are added to the Cisco PGW 2200 Softswitch software for this feature. For information on other properties for the Cisco MGC software, see the Cisco PGW 2200 Softswitch Release 9 MML Command Reference.

Table 1 describes the new properties introduced for this feature.

Table 1: Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Definition</th>
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<tbody>
<tr>
<td>MlppSupport (for SIP)</td>
<td>Instructs the system to relay or ignore MLPP information received in a SIP message over the ingress SIP trunk. Also instructs the system to relay MLPP information received from the ingress trunk to the egress SIP trunk. Alternatively, the system ignores the MLPP information and does not relay the information to the egress SIP trunk. Valid values: 0—Do not relay MLPP information 1—Relay MLPP information</td>
</tr>
<tr>
<td></td>
<td>Default value: 0</td>
</tr>
<tr>
<td>MlppSupport (for ISUP)</td>
<td>Instructs the system to relay or ignore MLPP information received in an IAM message over the ingress ISUP trunk. Also instructs the system to relay MLPP information received from the ingress trunk to the egress ISUP trunk. Alternatively, the system ignores the MLPP information and does not relay the information to the egress ISUP trunk. The ISUP-ISUP call flow remains the same when outgoing trunkgroup has mlpssupport equal to 0 or 1. For example, incoming MLPP information is still relayed on the outgoing trunkgroup regardless of the value of the MLPPsupport. Valid values: 0—Do not relay MLPP information 1—Relay MLPP information</td>
</tr>
<tr>
<td></td>
<td>Default value: 0</td>
</tr>
</tbody>
</table>
Table 1  Properties (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Definition</th>
</tr>
</thead>
</table>
| MlppNamespace | Presents namespaces that are supported on the SIP trunk. Individual namespaces are separated by commas.  
For SIP to ISUP interworking, the system attempts to match namespaces defined by this property with namespaces included in the Resource-Priority Header of an INVITE message. If the system detects a match, it relays the MLPP information to the ISUP trunk. If the system does not detect a match, but does receive a Require message that contains a Resource-Priority tag, the system generates message 417–Unknown Resource-Priority Response.  
**Note**  
This property does not apply to SIP to SIP interworking.  
Valid value: For this implementation of the feature, the valid value is “q735”.  
Default value: “ ” (null) |
| MlppNI | Specifies the NI. For SIP to ISUP interworking, the system attempts to match the value of this property with the NI value in the MLPP Precedence parameter, which is included in a received IAM message.  
If the system detects a match, it relays the information to the egress trunk. If the system does not detect a match, it ignores the MLPP information and does not relay it to the egress trunk.  
Valid values: a Telephony Country Code (for example, “049” for German ISUPv2, which is the recommended value for this feature.)  
Default value: “ ” (null) |

1. NI = network identity

**Obtaining Documentation, Obtaining Support, and Security Guidelines**

For information on obtaining documentation, obtaining support, security guidelines, see the monthly *What’s New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

Glossary

Table 2  Expansions

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Expansion</th>
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<tbody>
<tr>
<td>ACM</td>
<td>Address Complete Message</td>
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<tr>
<td>B2BUA</td>
<td>Back to Back User Agent</td>
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<tr>
<td>DTMF</td>
<td>Dual Tone Multi-Frequency</td>
</tr>
<tr>
<td>IAM</td>
<td>Initial Address Message</td>
</tr>
<tr>
<td>ISUP</td>
<td>ISDN (Integrated Services Digital Network) User Part</td>
</tr>
<tr>
<td>LFB</td>
<td>Look ahead for busy end</td>
</tr>
<tr>
<td>MLPP</td>
<td>Multilevel Precedence and Preemption</td>
</tr>
<tr>
<td>OBCI</td>
<td>Optional Backward Call Indicators</td>
</tr>
<tr>
<td>PGW</td>
<td>PSTN Gateway</td>
</tr>
<tr>
<td>SIP</td>
<td>Session Initiation Protocol</td>
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