H.248 Protocol

Document Release History

<table>
<thead>
<tr>
<th>Publication Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 1, 2011</td>
<td>Updated the provisioning example for H.248 Sigpath Based on SCTP Transport.</td>
</tr>
<tr>
<td>December 1, 2009</td>
<td>Added a note to indicate that the property H248GatewayReserveValue is deleted in Release 9.7P23 and later.</td>
</tr>
<tr>
<td>August 31, 2007</td>
<td>Initial version of the document.</td>
</tr>
</tbody>
</table>

Feature History

<table>
<thead>
<tr>
<th>Release</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.7(3)</td>
<td>The H.248 feature was introduced on the Cisco MGC software.</td>
</tr>
</tbody>
</table>

This document describes the H.248 feature in the following sections:

- Understanding the H.248 Feature, page 1
- Installation, Upgrade, and Fallback Procedures, page 4
- XECfgParm.dat Configuration Examples, page 4
- Provisioning Examples, page 5
- Software Changes for This Feature, page 10
- Obtaining Documentation, Obtaining Support, and Security Guidelines, page 19
- Glossary, page 19

Understanding the H.248 Feature

The H.248 feature provides a gateway control interface between the PGW 2200 and the VXSM gateways. It supplements the MGCP protocol. This new interface is based on the ITU-SG16/IETF specification of H.248 which defines a decomposed gateway architecture.

This architecture is composed of...
- A media gateway controller (MGC) and the media gateways (MGs)
- Distributed call control functionality between an MGC (an intelligent entity that manages the establishment and tearing down of calls) and an MG (a simple entity that responds to the MGC requests and independently processes media streams)

### System Overview

An H.248 trunking gateway is a PSTN-IP telephony gateway. It interfaces with both the IP telephony network and the PSTN network by passing voice traffic from one network to the other. For the SS7 configuration, signaling bypasses the trunking gateway and directly terminates at the MGC.

Although H.248 is designed to be generic in its support for many different kinds of media, the PGW is mainly designed to act as an MGC and only interwork with trunking gateways. This feature addresses only the functionality of the interworking of the PGW with trunking gateways. Figure 1 shows an overview of this system.

**Figure 1  H.248 Protocol in the SS7 Network**

![Diagram of H.248 Protocol in the SS7 Network]

### Benefits

The following are benefits of this feature:
- PGW supports H.248 communicating with media gateways.
- PGW supports interworking between the H.248 trunk and the MGCP trunk, SIP trunking, H.323 trunking, ISDN, QSIG, and DPNSS.
- PGW supports the use of H.248 and MGCP at the same time, that is, one gateway uses H.248 while another gateway uses MGCP. sigPath property GWProtocolVersion decides whether H.248 protocol or MGCP protocol is used.

**Restrictions**

The following are restrictions for this feature:
- The number of media gateways (MGs) that can be provisioned on one PGW depends on the platform capability.
- Up to two terminations can be included in one context, and at least one termination is a physical termination.
- PGW supports encoding and decoding of messages only in text format.
- PGW supports sending a message using only a short token.
- Each message can include only one transaction.
- PGW does not support a seamless upgrade from MGCP mode to H.248 mode on the same VXSM card.

**Supported Standards, MIBs, and RFCs**

**Standards**

This feature supports the following standards:
- ITU-T H.248.1 Gateway control protocol: Version 2
- ITU-T H.248.2 Facsimile, Text Conversation, and Call Discrimination packages
- TU-T H.248.4 Transport over Stream Control Transmission Protocol (SCTP)
- ITU-T H.248.8 Error codes and service change reason description
- TU-T H.248.10 Media gateway resource congestion handling package
- ITU-T H.248.14 Inactivity timer package

**MIBs**

No new or modified MIBs are supported by this feature.

For more information on the MIBs used in the Cisco MGC software, see the *Cisco Media Gateway Controller Software Release 9 Management Information Base Guide* at http://www.cisco.com/iam/PGW_MIBS/index.html

**RFCs**

This feature supports RFC 2327 SDP: Session Description Protocol, April 1998.
Supported Platforms

The hardware platforms supported for the Cisco MGC software are described in the *Cisco Media Gateway Controller Hardware Installation Guide* at


Prerequisites for Using this Feature

The Cisco PGW 2200 must be running Cisco MGC software Release 9.7(3). Prerequisites for this release can be found in the *Release Notes for the Cisco Media Gateway Controller Software Release 9.7(3)* at


Installation, Upgrade, and Fallback Procedures

Because the VXSM card does not support a seamless gateway upgrade from MGCP mode to H.248 mode on the same card, changing the operation mode on the same gateway can affect service. Follow these steps to change the mode.

PGW side:
1. Delete the current mgcppath and switchtrnk provisioned for this gateway.
2. Provision h248path and switchtrnk for this gateway.

VXSM side:
1. Clear the VXSM card’s current configuration.
2. Configure it into H.248 mode, and various other configurations on the card.

After this, the gateway is ready to work under H.248 mode.

Related Documents

This document contains information that is related to this feature. The documents that contain additional information related to the Cisco Media Gateway Controller (MGC) are at


XECfgParm.dat Configuration Examples

Here is an example for H.248 related parameters configuration in XECfgParm.dat.

H248.maxNumH248Links = 500
H248.maximumActionsInTransaction=64
H248.localMID = cisco.com
H248.MgcHeaderAddrType = 2
**Provisioning Examples**

Here are some provisioning examples for this H.248 feature.

### H.248 Sigpath Based on UDP Transport

```plaintext
prov-add:EXTNODE:NAME="h248-VXSM-01", DESC="VXSM-01", TYPE="VXSM"
prov-add:IPLNK:NAME="h248-udp-link-1", DESC="UDP link to h248-sigpath-UDP", SVC="h248-sigpath-UDP", IPAddr1="IP_Addr1", PORT=2944, PEERADDR="10.74.57.205", PEERPORT=2944, PRI=1
```

**Note**

Unlike MGCP, only one UDP link is allowed between PGW and media gateway for H.248 sigPath.

### H.248 Sigpath Based on SCTP Transport

```plaintext
prov-add:EXTNODE:NAME="h248-VXSM-02", DESC="VXSM-02", TYPE="VXSM"
```

### Add SS7 Sigpath

```plaintext
prov-add:OPC:NAME="opc", DESC="Own Point Code", NETADDR="1.0.1", NETIND=2, TYPE="TRUEOPC"
prov-add:DPC:NAME="sp1", DESC="SP1 Point Code", NETADDR="4.0.1", NETIND=2
prov-add:DPC:NAME="sp2", DESC="SP2 Point Code", NETADDR="4.0.2", NETIND=2
prov-add:SS7PATH:NAME="ss7svc1", DESC="SS7SigPathtoSP1", MDO="Q761_BASE", CUSTGRPID="1111", SIDE="network", DPC="sp1", OPC="opc", M3UAKEY=""
prov-add:SS7PATH:NAME="ss7svc2", DESC="SS7SigPathtoSP2", MDO="Q761_BASE", CUSTGRPID="1111", SIDE="network", DPC="sp2", OPC="opc", M3UAKEY=""
```

### Add Switchtrunk

```plaintext
prov-add:trnkgrp:name="1111", clli="NULL", svc="ss7svc1", type="TDM_ISUP"
prov-ed:trnkgrpprop:name="1111", custgrpdid="1111"
```
For OC3 with Descriptive Text

prov-add:switchtrnk:name="1", trnkgrpnum="1111", span="ffff", cic=1, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/OC3_1/T1_7/1"

For OC3 without Descriptive Text

prov-add:switchtrnk:name="1", trnkgrpnum="1111", span="ffff", cic=1, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/1/7/1"

For STM with Descriptive Text

prov-add:switchtrnk:name="16", trnkgrpnum="1111", span="ffff", cic=16, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/STM_1/T1_7/1"

For STM without Descriptive Text

prov-add:switchtrnk:name="16", trnkgrpnum="1111", span="ffff", cic=16, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/1/7/1"

For T1 with Descriptive Text

prov-add:switchtrnk:name="62", trnkgrpnum="1111", span="ffff", cic=62, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/T1_2/7"

For T1 without Descriptive Text

prov-add:switchtrnk:name="62", trnkgrpnum="1111", span="ffff", cic=62, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/2/7"

For T3 with Descriptive Text

prov-add:switchtrnk:name="62", trnkgrpnum="1111", span="ffff", cic=62, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/T3_1/T1_2/7"

For T3 without Descriptive Text

prov-add:switchtrnk:name="62", trnkgrpnum="1111", span="ffff", cic=62, cu="h248-vxsm-01-1",spansize=15, endpoint="DS/1/2/7"
Edit Properties

prov-ed:trnkgrpprop:name="1111", H248GatewayReserveValue="0"

Note
The property H248GatewayReserveValue is deleted in Release 9.7P23 and later.

prov-ed:sigsvcprop:name="h248-vxsm-01-1", GWProtocolVersion="H248 V2"
prov-ed:sigsvcprop:name="h248-vxsm-01-1", h248DomainNameRemote="<VXSM.CISCO.COM>"
prov-ed:sigsvcprop:name="h248-sigpath-01", h248inactivitytimer="1000"

MML Command Reference

This section documents new, modified, or deleted Man-Machine Language (MML) commands. All other MML commands are documented in the Cisco Media Gateway Controller Software Release 9 MML Command Reference at http://www.cisco.com/en/US/partner/docs/voice_ip_comm/pgw/9/command/reference/mmlref_1.html

New MML Commands

This section contains the MML commands that are new for this feature.

PROV-ADD:H248PATH:NAME—Provision H.248 Signaling Protocol Service (Release 9.7(3))

Purpose: Provisions the H.248 signaling protocol service. The parameters are stored in sigPath.dat, which contains the EXTNODE compID.

Syntax:
prov-add:H248PATH:NAME="path name", DESC="H248 path description", EXTNODE="external node"

Input Description:
- NAME—MML name of a H.248 path. This name can be up to 20 alphanumeric characters in length.
  - Special characters allowed are quotes (").
  - The name must start with an alphabetic character.
- DESC—H.248 path description. This description can be up to 128 characters in length.
- EXTNODE—MML name of a previously configured external node.

Example: The MML command shown in the following example provisions the sigpath h249-sigpath-01 for the EXTNODE h248-VXSM-01:


Comments: Performance Impact Category: A
**RTRV-H248:CNTXS:SIGPATH—Retrieve H.248 Sigpath Information (Release 9.7(3))**

**Purpose:** Displays all of the H.248 context information in one sigpath or all the terminations in each context.

**Syntax:**
```
rtrv-h248:cntxs:sigpath="h248-sigpath-name",cntxid="all/context id"
```

**Input Description:**
- `sigpath-name`—Name of the H.248 signal path, the route of a signal channel that carries signaling data.
- `cntxid`—Context ID.

**Example:** The MML command shown in the following example displays all of the context information for the h248-sigpath-01 signal path:
```
mml> rtrv-h248:cntxs:sigpath="h248-sigpath-01",cntxid="11"
```

**Comments:** Performance Impact Category: A

**STA-AUD-H248—Start Audit of H.248 Gateway (Release 9.7(3))**

**Purpose:** Starts an audit of an H.248 gateway.

**Syntax:**
```
sta-aud-h248:terms:sigpath="h248_sigpath1",cntxId="Context_id",termId="termId"
sta-aud-h248:cntxs:sigpath="h248_sigpath1",cntxId="ContextId"
sta-aud-h248:gateway:sigpath="h248_sigpath1"
```

**Input Description:**
- `cntxId`—For sta-aud-h248:terms:sigpath can be ALL or a specified context ID. Use 0 to specify NULL context ID.
- `cntxId`—For sta-aud-h248:cntxs:sigpath can be specified context ID. ALL context ID or 0 context ID is not allowed.
- `termId`—Can be a specified termination ID or a wildcard. If you use a wildcard, termId have, at most, one “*”, for example, termId="DS/OC3_1/T1_1/*" is allowed, but termId="DS/OC3_1/*/*" is not allowed.

**Example:** The MML command shown in the following example starts an audit on an H.248 gateway on sigpath H248-sigpath-01:
```
mml> sta-aud-h248:gateway:sigpath="h248-sigpath-01"
```

**Comments:** Performance Impact Category: C.

**Modified MML Commands**

This section contains the MML commands that are modified for this feature.
PROV-ADD: IPLNK—Provision H.248 Transport Protocol as UDP (Release 9.7(3))

**Purpose:** Configures the H.248 transport protocol as UDP. There is a new parameter SVC that refers to H248PATH. This property uses sigChanDevIp.dat and sigChanDev.dat. The sessionset type in sigChanDevIp.dat could be used to indicate H248_UDP.

**Syntax:**
prov-add:iplnk:name="iplnk name", desc=description, port=number, 
   pri=priority, peeraddr=remote IP address, peerport=remote port, 
   ipaddr=local address, iproute=IP route, SVC="h248-sigpath-01"

**Input Description:**
- **SVC—Sigpath of H248PATH**

**Example:** The MML command shown in the following example configures the H.248 transport protocol as UDP:

```
mml> prov-add:IPLNK:NAME="h248-udp1",DESC="link 1 to VXSM-01",SVC="h248-sigpath-01",IPADDR="IP_Addr1",PORT=2944,PEERADDR="10.82.81.194",PEERPORT=2944,PRI=1
```

**Comments:** Performance Impact Category: A

PROV-ADD:ASSOCIATION—Provision H.248 Transport Protocol as SCTP (Release 9.7(3))

**Purpose:** Configures the H.248 transport protocol as SCTP. The type in “association.dat” can be used to indicate H.248.

**Syntax:**
prov-add:association:name="association name", desc="description", 
type="signaling type", sgp="process",ipaddr1="ip address", <ipaddr2="ip 
   address">, <port=value>, peeraddr1="ip address", <peeraddr2="ip address">,
   <peerport=value>, extnode="external node", <iproute1="ip route">,
   <iproute2="ip route">, <rcvwin=value>, <maxinitretrans=value>,
   <maxinitrto=value>, <maxretrans=value>, <cumsackto=timeout value>,
   <bundleto=timeout value>, <minrto=timeout value>, <maxrto=timeout 
   value>, <hbto=value>, ipprecedence=precedence, dscp=codepoint,
   <maxretransdest=value>

**Input Description:**
- **type—**Identifies the type of signaling service associated with this link. New 
  option “H248” is introduced.
- **sgp—**MML name of a previously configured SGP. Input empty string or “N/A” for H.248 SCTP connection.

**Example:** The MML command shown in the following example configures the H.248 transport protocol as SCTP:

```
mml> prov-add:association: NAME="h248-sctp1",DESC="link 1 to VXSM-01", 
   type="H248",ipaddr1="IP_Addr1", port=2944, 
   peeraddr1="10.0.0.3",peerport=2944, extnode="h248-VXSM-01"
```

**Comments:** Performance Impact Category: A
Software Changes for This Feature

This section describes the software changes in the PGW 2200 to support the H.248 protocol.

- Alarms, page 10
- Properties, page 14
- XECfgParm.dat Parameters, page 17
- Billing Interface, page 17

Alarms

This section lists the alarms that are added and modified to support this feature. For information on the other alarms for the Cisco MGC software, see the Cisco Media Gateway Controller Software Release 9 Messages Reference Guide at http://www.cisco.com/en/US/partner/docs/voice_ip_comm/pgw/9/system/message/errmsg.html

OLC: Leg1SeizeChanPackError

**Description**
An error occurs when PGW constructs a Seize Channel Message from Originating Leg.

**Severity**
Informational (non-service affecting)

**Cause**
Some required call context data was not available.

**Type**
No error

**Action**
None.

OLC: Leg1ModifyChanPackError

**Description**
An error occurs when PGW constructs a Modify Channel Message from Originating Leg.

**Severity**
Informational (non-service affecting)

**Cause**
Some required call context data was not available.

**Type**
No error
H.248 Protocol

Software Changes for This Feature

Action
None

OLC: Leg1DeleteChanPackError

Description
An error occurs when PGW constructs a Delete Connection Message from Originating Leg.

Severity
Informational (non-service affecting)

Cause
Some required call context data was not available.

Type
No error

Action
None

OLC: Leg1RqntChanPackError

Description
An error occurs when PGW constructs a RequestNotify Message from Originating Leg.

Severity
Informational (non-service affecting)

Cause
Some required call context data was not available.

Type
No error

Action
None

TLC: Leg2SeizeChanPackError

Description
An error occurs when PGW constructs a Seize Channel Message from Terminating Leg.

Severity
Informational (non-service affecting)

Cause
Some required call context data was not available.
**H.248 Protocol**

**Software Changes for This Feature**

**Type**
No error

**Action**
None

---

**TLC: Leg2ModifyChanPackError**

**Description**
An error occurs when PGW constructs a Modify Channel Message from Terminating Leg.

**Severity**
Informational (non-service affecting)

**Cause**
Some required call context data was not available.

**Type**
No error

**Action**
None

---

**TLC: Leg2DeleteChanPackError**

**Description**
An error occurs when PGW constructs a Delete Connection Message from Terminating Leg.

**Severity**
Informational (non-service affecting)

**Cause**
Some required call context data was not available.

**Type**
No error

**Action**
None

---

**TLC: Leg2RqntChanPackError**

**Description**
An error occurs when PGW constructs a RequestNotify Message from Terminating Leg.

**Severity**
Informational (non-service affecting)
Cause
Some required call context data was not available.

Type
No error

Action
None

OLC: Leg1UnexpectedEventDetected

Description
Gateway reports events that are not PGW-requested for the originating leg.

Severity
Informational (non-service affecting)

Cause
Gateway reports events that are not PGW-requested for the originating leg.

Type
No error

Action
None

TLC: Leg1UnexpectedEventDetected

Description
Gateway reports events that are not PGW-requested for the terminating leg.

Severity
Informational (non-service affecting)

Cause
Gateway reports events that are not PGW-requested for the terminating leg.

Type
No error

Action
None
Properties

The properties in this section are for this feature. For information on other properties for the Cisco MGC software, see the Cisco Media Gateway Controller Software Release 9 Provisioning Guide at http://www.cisco.com/en/US/partner/docs/voice_ip_comm/pgw/9/provisioning/guide/prvgde.html

Table 1 describes the trunkgroup properties used for this feature.

Table 1  Sigpath/Trunkgroup Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>h248BulkAudit</td>
<td>This property indicates whether bulk audit is supported on the associated gateway.</td>
</tr>
<tr>
<td></td>
<td>Valid values: boolean (1 = supported, 0 = not supported).</td>
</tr>
<tr>
<td></td>
<td>Default value: 1</td>
</tr>
<tr>
<td></td>
<td>Dynamically reconfigurable: yes</td>
</tr>
<tr>
<td>h248CongestionEnable</td>
<td>This property specifies whether a congestion control procedure is enabled for that GW.</td>
</tr>
<tr>
<td></td>
<td>Valid values: boolean. (0 = not enabled, 1 = enabled)</td>
</tr>
<tr>
<td></td>
<td>Default value: 0</td>
</tr>
<tr>
<td></td>
<td>Dynamically reconfigurable: yes</td>
</tr>
<tr>
<td>h248DomainNameRemote</td>
<td>This property specifies the default H.248 remote domain name. Use it to append to the audit command and send it to the remote gateway.</td>
</tr>
<tr>
<td></td>
<td>Value range: any valid domain name or NULL.</td>
</tr>
<tr>
<td></td>
<td>Valid values: string (up to 127 characters)</td>
</tr>
<tr>
<td></td>
<td>Default value: NULL</td>
</tr>
<tr>
<td></td>
<td>Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>H248GatewayReserveValue</td>
<td><strong>Note</strong> This property is deleted in Release 9.7P23 and later.</td>
</tr>
<tr>
<td></td>
<td>This property allows H.248 to send ADD commands with the ReserveValue &quot;on&quot; or &quot;off&quot; to indicate whether the MG should reverse resource or not. This property is applied only to the originating MG; for the terminating side, the ReserveValue is always &quot;off&quot;.</td>
</tr>
<tr>
<td></td>
<td>Valid values: 0 or 1 (boolean)</td>
</tr>
<tr>
<td></td>
<td>where:</td>
</tr>
<tr>
<td></td>
<td>0 = do not reserve resource</td>
</tr>
<tr>
<td></td>
<td>1 = reserve resource</td>
</tr>
<tr>
<td></td>
<td>Default value: 0</td>
</tr>
<tr>
<td></td>
<td>Dynamically reconfigurable: yes</td>
</tr>
</tbody>
</table>
### Table 1  
**Sigpath/Trunkgroup Properties (continued)**

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
</table>
| h248GWStdbyHeartbeatInterval | This property specifies the interval time, in seconds, that enables the MGC to send the heartbeat to complete a health check on the remote gateway using the standby IP link.  
Valid values: integer (0 to 30 seconds)  
Default value: 30  
Dynamically reconfigurable: no |
| h248inactivitytimer         | This property specifies an allowable period of silence in milliseconds; the interval value must be no less than 1000.  
Valid values: integer  
Default value: 5000  
Dynamically reconfigurable: no |
| h248initialrtt              | This property indicates the H.248 initial RTT (Round-Trip Time) value in milliseconds.  
Valid values: integer (larger than 10)  
Default value: 1000  
Subsystem: MEGACO IOCC  
Dynamically reconfigurable: no |
| h248LocalIpPollCount        | This property specifies a poll count that defines the number of attempts to reach the remote GW for each configured local IP interface.  
Valid values: integer (0 to 30)  
Default value: 6  
Dynamically reconfigurable: no |
| h248longtimer               | This property indicates the H.248 long timer period.  
Valid values: integer  
Default value: 30  
Dynamically reconfigurable: no |
| h248maxretries              | This property indicates the maximum number of retransmissions to be done to the peer.  
Valid values: integer (from 7 to 11)  
Default value: 11  
Dynamically reconfigurable: no |
| h248mgceexecutimer          | This property is used in calculating the normal MGC execution time (measured in milliseconds). This property specifies the interval at which the MGC sends a Transaction Pending message back to the MG if a transaction request on the MGC is pending.  
Valid values: any integer  
Default value: 500  
Dynamically reconfigurable: no |
### H.248 Protocol

Software Changes for This Feature

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>h248mgexecutimer</td>
<td>This property specifies the interval at which the MGC receives a response to any transaction from the MG. The network delay is excluded. Valid values: any integer Default value: 500 Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248mgcpendlimit</td>
<td>This property indicates the number of transactions pending that can be received from the MGC. Valid values: integer Default value: 10 Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248mgpendlimit</td>
<td>This property indicates the number of transactions pending that can be received from the MG. Valid values: integer Default value: 10 Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248profilename</td>
<td>This property specifies the profile name that defines how the H.248.1 protocol is used and what functionality is supported by an MG. The profile itself specifies what options associated with H.248.1 have been used. Valid values: string (up to 64 characters) Default value: NULL Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248profileversion</td>
<td>This property specifies the H.248 profile version. Valid values: integer (1 to 99) Default value: 1 Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248RemoteIpPollCount</td>
<td>This property specifies a poll count that defines the number of retry audit messages to be sent to the remote gateway. Valid values: integer (0 to 30) Default value: 72 Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248TimerT1</td>
<td>This property specifies the interval at which the media gateway sends congestion notification to MGC if media gateway is still in congestion state. The unit is milliseconds. Valid values: integer (0 to 100) Default value: 0 Dynamically reconfigurable: yes</td>
</tr>
</tbody>
</table>

**Table 1** Sigpath/Trunkgroup Properties (continued)
Table 1  Sigpath/Trunkgroup Properties (continued)

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>h248txnpendrespcount</td>
<td>This property indicates the number of pending transactions that can be received from the MG/MGC. Valid values: integer Default value: 11 Dynamically reconfigurable: no</td>
</tr>
<tr>
<td>h248mgcprovresptimer</td>
<td>This property is used in calculating the provisional response timer value (measured in milliseconds). It is initially set to normalMGCExecutionTime plus network delay, but it can be lowered. Valid Values: any integer Default Value: 600 Dynamically Reconfigurable: no</td>
</tr>
</tbody>
</table>

XECfgParm.dat Parameters

The XECfgParm.dat file configuration parameters added for this feature are in Table 2. For information on the other XECfgParm.dat parameters, see the Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide at http://www.cisco.com/en/US/partner/docs/voice_ip_comm/pgw/9/installation/software/SW1/97.html

Table 2  XECfgParm.dat Configuration Parameter

<table>
<thead>
<tr>
<th>Configuration Parameter</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>H248.debug</td>
<td>Used to set the debug level of H.248 IOCC.</td>
</tr>
<tr>
<td>localMID</td>
<td>Included in the H.248 message from PGW to gateway. It can be an IP address in the format of X.X.X.X, or it can be a domain name.</td>
</tr>
<tr>
<td>maximumActionsInTransaction</td>
<td>Used to set the maximum number of actions in one H.248 Transaction.</td>
</tr>
<tr>
<td>maxNumH248Links</td>
<td>Maximum number of H.248 links for a PGW.</td>
</tr>
<tr>
<td>MgcHeaderAddrType</td>
<td>PGW H.248 local MID type, 1 for IP address and 2 for domain name.</td>
</tr>
</tbody>
</table>

Billing Interface

This section identifies the call detail record (CDR) data modified for this feature. For billing interface information for the rest of the Cisco MGC software, see the Cisco Media Gateway Controller Software Release 9 Billing Interface Guide at http://www.cisco.com/en/US/partner/docs/voice_ip_comm/pgw/9/billing/guide/billinf.html
Ingress Packet Information (Tag: 4046)

Tag 4046 contains the packets sent, packets received, packets lost, octets sent, octets received, jitter, and latency information (reserved 1 and 2) from the ingress gateway. For an H.248 call, the subfield definitions are unchanged and the data is filled with the statistics of Network Package (nt) and RTP Package (rtp) in H.248.

Egress Packet Information (Tag: 4047)

Tag 4047 contains the same information as Tag 4046 except that the data is taken from the egress gateway. The mapping is the same as with Tag 4046.

Ingress Protocol ID (Tag: 4069)

The ingress protocol ID is determined from MDL and is used in measurements and billing. New protocol type: “10 = H.248” is added to the definition.

Ingress MGCP DLCX Return Code (Tag: 4087)

Tag 4087 is an indication of MGCP DLCX (Delete Connection) return code value on the ingress gateway. If an H.248 gateway was engaged on the ingress side, this tag is not be logged in to CDR.

Egress MGCP DLCX Return Code (Tag: 4088)

Tag 4088 contains the same information as Tag 4087 except that the information comes from the egress gateway. For the H.248 gateway, this tag is not be logged in to CDR.

MGCP Script Response String (Tag: 4097)

For MGCP script hand-off calls, Tag 4097 records the Notification response string, if any, returned in the O parameter of the MGCP NTFY message. If this call did not receive an MGCP NTFY message, this tag is not logged. As MGCP scripting is not ported to H.248, H.248 calls never generate this CDB.

Originating Leg DSP Statistics (Tag: 4098)

Tag 4098 provides DSP statistics for the originating leg of the call. Because DSP statistics in CDR are not supported for H.248, this tag is not logged in to CDR for the H.248 leg.

Terminating Leg DSP Statistics (Tag: 4099)

Tag 4099 is the same as Tag 4098, except that it concerns the terminating leg.
Obtaining Documentation, Obtaining Support, and Security Guidelines

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


Glossary

Table 3 contains expansions of acronyms and technical terms used in this feature module.

Table 3  Acronyms and Expansions

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>EISUP</td>
<td>Enhanced ISUP</td>
</tr>
<tr>
<td>GTD</td>
<td>Generic Transparency Descriptor</td>
</tr>
<tr>
<td>HSI</td>
<td>H.323 Signaling Interface</td>
</tr>
<tr>
<td>ISUP</td>
<td>ISDN User Part</td>
</tr>
<tr>
<td>MG</td>
<td>Media gateway</td>
</tr>
<tr>
<td>MGC</td>
<td>Media gateway controller</td>
</tr>
<tr>
<td>MGCP</td>
<td>Media Gateway Control Protocol</td>
</tr>
<tr>
<td>MML</td>
<td>Man-Machine Language</td>
</tr>
<tr>
<td>PGW</td>
<td>PSTN gateway</td>
</tr>
<tr>
<td>PSTN</td>
<td>Public Switched Telephony Network</td>
</tr>
<tr>
<td>RTT</td>
<td>Round-Trip Time</td>
</tr>
<tr>
<td>SDP</td>
<td>Session Description Protocol</td>
</tr>
<tr>
<td>SIP</td>
<td>Session Initiation Protocol</td>
</tr>
<tr>
<td>TGW</td>
<td>Trunking Gateway</td>
</tr>
<tr>
<td>TP</td>
<td>Terminal Portability</td>
</tr>
</tbody>
</table>

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