Configuring Basic Gatekeeper Call Admission Control

Contents

Introduction

This document provides a sample configuration for basic gatekeeper call admission control.

Prerequisites

Requirements

There are several conditions to be met before the gateway is able to obtain the correct address resolution from the gatekeeper. There are several important points to be verified for every VoIP solution when low-speed links

are involved.

Before attempting this configuration, ensure that you meet these requirements:

- All gateways should be registered to corresponding gatekeepers

- All gatekeepers should have correct dial-plan so they can decide on the route for the calls.

- Admission control can be configured to restrict call number between certain zones.

As the first two points are considered in the Configure section, we will focus on the admission control in the Background Information section.

Components Used

The information in this document is based on these software and hardware versions:

- Three Cisco 2600 routers.

- Cisco IOS® Software Release 12.2.8.5 ENTERPRISE PLUS/H323 MCM.

The information presented in this document was created from devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If you are working in a live network, ensure that you understand the potential impact of any command before using it.

Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

Background Information

This sample configuration studies a VoIP network with a two-zone topology, which is managed by one gatekeeper with three gateways in both zones. The aim of this document is to provide a simple example of an admission control configuration that applies a policy to the number of calls between zones and inside them. This document includes technical background information on the configured features, design guidelines, and basic verification and troubleshooting strategies.

Note: In this configuration, the four routers are located on the same LAN. However, in your real topology, all devices can be in different parts of your network.

Very often, there are several sources of high priority traffic in real networks. It is a complex task to distinguish all these conditions because they are numerous, and easy to overlook. However, there are several common situations that happen very often in real life that are worth considering. Admission control becomes an issue

when the routers that provide prioritization of the traffic are themselves not the sources of such traffic. The typical topology involves several voice gateways at two sites connected through the link provided by a pair of routers. Another topology involves Cisco CallManagers with IP phones at two sites, along with the gateways to the PSTN or PBX. In both situations we have several sources of voice traffic from both sides of the link.
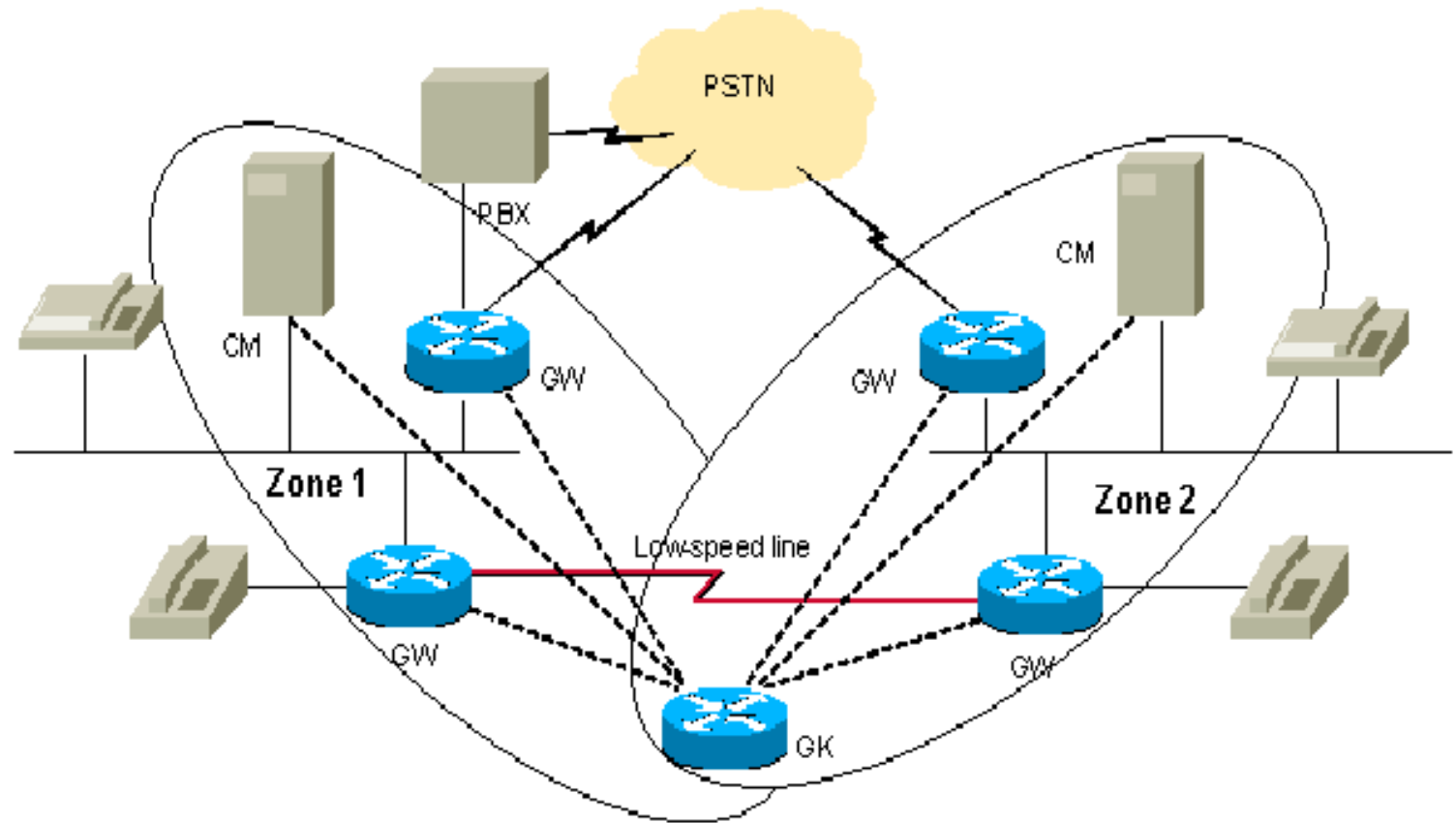
Sometimes, there could be a problem with the voice quality, if the amount of voice traffic exceeds the configured bandwidth for the priority queue. This is because routers and Cisco CallManager/ IP phones that originate the traffic do not have a centralized management for call admission in the design given above. In this case, the packets exceeding the bandwidth will be dropped.

There are several ways to avoid this scenario. The simplest solution is to configure the voice bandwidth in the Low Latency Queue (LLQ) to accept the maximum number of calls from all sources. In the absence of voice traffic, the unused bandwidth will be granted to the data flows. This can be done when the total bandwidth of the link is higher than the bandwidth required for the maximum number of calls.

A more sensible approach is to apply restrictions on each source of voice traffic from both ends of the link. When you do so, the summary bandwidth from all of them will not exceed the recommended 75% of real bandwidth of the link between sites. To apply those restrictions, use the **max-conn** command under VoIP dial-peer configuration. If we assume that there is a Cisco CallManager only at one central site, we can use its capabilities to restrict the number of calls to the branch site without a CallManager. This approach allows us to manage the situation where the sources of voice traffic are capable of oversubscribing the link. The drawback of this approach is the inflexible usage of bandwidth granted to the sources. This approach does not allow some of the gateways to place an extra call even if there is free bandwidth available at that moment.

The most flexible approach is to use a separate entity for the centralized call admission control: the gatekeeper. The gatekeeper helps to bind two sites with two Cisco CallManagers (or CallManager clusters).

Note: Usage of the gatekeeper does not always mean purchasing a new separate router. Based on the number of calls, and the load of the routers, you can configure a gatekeeper on one of the existing routers with the appropriate Cisco IOS feature set as Enterprise/PLUS/H323. This can help to manage small branches, and allow a dedicated gatekeeper in the central site only.

The gatekeeper approach should be considered with care, so as not to overwhelm the router with an additional load. In addition, you should check whether the topology will allow situating the gatekeeper in this way to avoid the additional traffic on the critical link.

The general recommendation is to use separate Cisco routers as dedicated gatekeepers in your network in a number appropriate for your topology.

Consider the topology above. Here, you can put all devices into the two local zones managed by a single gatekeeper. This allows you to have a high number of calls in each zone, but restricts the number of calls between them. In our test example, we will restrict the bandwidth between the two zones to one call, and allow up to two (higher number of) calls in one of them.

For more detailed information on this, see [VoIP Call Admission Control](#).

To complete the task, use the **bandwidth** (gatekeeper) command described in [Cisco High-Performance Gatekeeper](#)

bandwidth (gatekeeper) Command

To specify the maximum aggregate bandwidth for H.323 traffic, use the **bandwidth** gatekeeper configuration command. To disable the feature, use the **no** form of this command.

Note: This command allows you to restrict the bandwidth through a single link from the zone. If the topology allows you to place a call through several paths from one zone to another, the links could easily become oversubscribed. Consider this topology: two zones are connected through two paths, allowing only one call through each path. If the bandwidth is restricted by one call, the second path will be never used. But if the bandwidth is restricted by two calls, one of the links may be oversubscribed. So this command can be applied to the zones that have only one path to all other zones. The "hub and spoke" topology is an exception. Although the hub has multiple paths, it will not oversubscribe the links, as the number of calls will be restricted at the spokes for each link.

bandwidth {interzone | total | session} {default | zone *zone-name***}** *bandwidth-size*

no bandwidth {interzone | total | session} {default | zone *zone-name***}** *bandwidth-size*

Syntax Description

The following table describes the syntax:

Syntax	Description
interzone	Specifies the total amount of bandwidth for H.323 traffic from the zone to any other zone.
total	Specifies the total amount of bandwidth for H.323 traffic allowed in the zone.
session	Specifies the maximum bandwidth allowed for a session in the zone.
default	Specifies the default value for all zones.
zone	Specifies a particular zone.
zone-name	Names the particular zone.
bandwidth-size	Maximum bandwidth. For **interzone** and **total**, the range is from 1 to 10,000,000 kbps. For **session**, the range is from 1 to 5,000 kbps.

Defaults

None

Command Modes

Gatekeeper configuration

Command History

The following table describes the command history:

Release	Modification
12.1(3)XI	This command was introduced.
12.1(5)XM	The **bandwidth** command was made recognizable without using the **zone gatekeeper** command.
12.2(2)T	This command was integrated into Cisco IOS Software Release 12.2(2)T.

12.2(2) XB1	This command was implemented on the Cisco AS5850 universal gateway.

Usage Guidelines

In previous Cisco IOS Software releases, the functionality of the **bandwidth** command was obtained by using the **zone gatekeeper** command.

Examples

The following example configures the maximum bandwidth for the zone to 5,000 kbps:

```
Router(config)# gatekeeper
Router(config-gk)# bandwidth total default 5000
```

Related Commands

bandwidth remote —Specifies the total bandwidth for H.323 traffic between this gatekeeper, and any other gatekeeper.
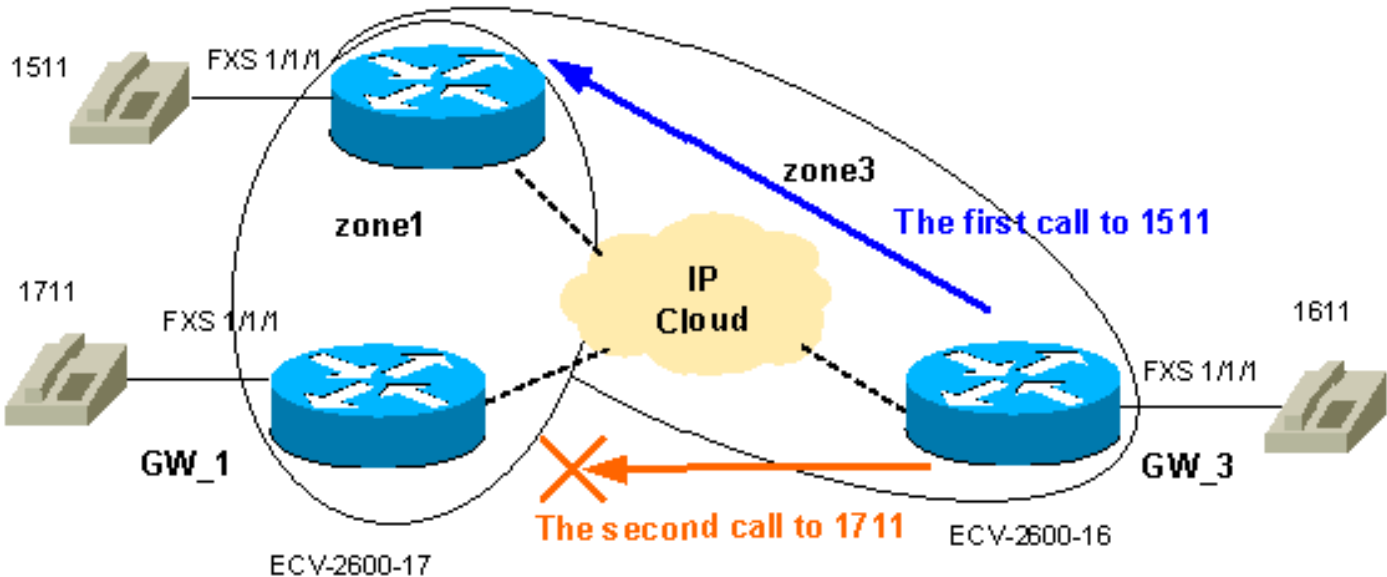
Configure

In this section, you are presented with the information to configure the features described in this document.

Note: To find additional information on the commands used in this document, use the Command Lookup Tool (registered customers only) .

Network Diagram

This document uses this network setup:

GK_1 and GW_1b
on the same router
ECV-2600-15

Configurations

The aim is to restrict the available bandwidth between zone1 and zone3 to one call, and allow a higher number of calls (up to two in this example) in zone1. So we will meet general requirements for the typical call admission task. The Registration, Admission, and Status Protocol (RAS) messages go before the H225 call setup messages. Then the H4245 negotiation follows, which actually defines the capabilities of the sides. So the real bandwidth of the call is defined after the call admission stage and exchange of the RAS messages. That is why the gatekeeper treats each call as a 64kb call. Therefore, increase in bandwidth limitations between zones for the voice calls should be done in increments of 64kb.

Note: The GW_3 is configured on the same router as the gatekeeper to illustrate such possibility for low-end branch offices.

Note: Verification of the gatekeeper and gateway configurations is the important part of troubleshooting GK-GW problems. Therefore, to simplify the understanding of the configurations, all unrelated configuration commands have been removed.

GW_1 ECV-2600-17

```
IOS (tm) C2600 Software (C2600-JSX-M), Version 12.2
(7a),
RELEASE SOFTWARE (fc1)
!
hostname ECV-2610-17
!
!
interface Ethernet0/0
 ip address 10.52.218.49 255.255.255.0
 h323-gateway voip interface
 h323-gateway voip id gk-zone1.test.com ipaddr
10.52.218.47 1718
 h323-gateway voip h323-id gw_1
 h323-gateway voip tech-prefix 1#
 h323-gateway voip bind srcaddr
10.52.218.49
!
voice-port 1/1/0
!
voice-port 1/1/1
!
!
dial-peer voice 1 voip
 destination-pattern ....
 session target ras
!
dial-peer voice 2 pots
 destination-pattern 1711
 port 1/1/1
 no register e164
!
gateway
!
end
```

GW_2 ECV-2600-16

```
!
hostname ECV-2610-16
!
!
interface Ethernet0/0
 ip address 10.52.218.48
255.255.255.0
 h323-gateway voip interface
 h323-gateway voip id gk-zone3.test.com
ipaddr
10.52.218.47 1718
 h323-gateway voip h323-id gw_3
 h323-gateway voip tech-prefix 1#
 h323-gateway voip bind srcaddr 10.52.218.48
!
!
voice-port 1/1/0
!
voice-port 1/1/1
!
dial-peer voice 1 voip
 destination-pattern ....
 session target ras
!
dial-peer voice 2 pots
 destination-pattern 1611
 port 1/1/1
 no register e164
!
gateway
!
!
 end
```

GK_1 ECV-2600-15

```
hostname ECV-2610-15
!
boot system tftp c2600-jsx-mz.122-7a.bin 10.52.218.2
!
interface Ethernet0/0
 ip address 10.52.218.47 255.255.255.0
 half-duplex
 h323-gateway voip interface
 h323-gateway voip id gk-zone1.test.com ipaddr 10.52.218.47 1718
 h323-gateway voip h323-id gw_1b
 h323-gateway voip tech-prefix 1#
 h323-gateway voip bind srcaddr 10.52.218.47
!
!
voice-port 1/1/0
!
voice-port 1/1/1
!
!
dial-peer voice 6 pots
 destination-pattern 1511
 port 1/1/1
 no register e164
!
!
dial-peer voice 5 voip
 destination-pattern ....
 session target ras
!
gateway
!
!
gatekeeper
 zone local gk-zone1.test.com test.com 10.52.218.47
 zone local gk-zone3.test.com test.com
 zone prefix gk-zone1.test.com 15.. gw-priority 10 gw_1b
 zone prefix gk-zone3.test.com 16.. gw-priority 10 gw_3
 zone prefix gk-zone1.test.com 17.. gw-priority 10 gw_1
 gw-type-prefix 1#* default-technology
bandwidth interzone zone gk-zone1.test.com 64

!--- Applies the restriction between gk-zone1, and all
!--- other zones to 64bk. That allows one call only.

 bandwidth total zone gk-zone1.test.com 128
```

```
!--- Applies the restriction to the total number of calls in
zone1,
!--- and allows two call in the gk-zone1.

no shutdown
 !
end

ECV-2610-15#
```

Verify

This section provides information you can use to confirm your configuration is working properly.

Certain **show** commands are supported by the [Output Interpreter Tool](#) ([registered](#) customers only) , which allows you to view an analysis of **show** command output.

- **show gateway**—displays the gateway registration status.

- **show gatekeeper endpoints**—lists all gateways registered to the gatekeeper.

- **show gatekeeper zone prefix**—displays all zone prefixes configured on the gatekeeper.

- **show gatekeeper call**—shows active calls processed by the gatekeeper.

Troubleshoot

This section provides information you can use to troubleshoot your configuration.

Troubleshooting Commands

Certain **show** commands are supported by the [Output Interpreter Tool](#) ([registered](#) customers only) , which allows you to view an analysis of **show** command output.

Note: Before issuing **debug** commands, please see [Important Information on Debug Commands](#).

- **debug h225 asn1**—displays H225 (RAS and Q931 call setup) messages.

- **debug cch323 h225**—displays H225 call setup messages.

Here are some useful links:

- [Troubleshoot & Debug VoIP Calls - the Basics](#)

- [VoIP Debug Commands](#)

- [Cisco IOS Voice, Video, and Fax Command Reference, Release 12.2](#)

Sample show and debug Output

```
!--- First step is to check the gateway registrations.
!--- On the first gateway:

ECV-2610-17#show gateway
Gateway gw_1 is registered to Gatekeeper gk-zone1.test.com

Alias list (CLI configured)
 H323-ID gw_1
Alias list (last RCF)
 H323-ID gw_1

 H323 resource thresholding is Disabled
ECV-2610-17#
--------------------------------------------------------------

!--- And on the second Gateway:

ECV-2610-16#show gateway
Gateway gw_3 is registered to Gatekeeper gk-zone3.test.com

Alias list (CLI configured)
 H323-ID gw_3
Alias list (last RCF)
 H323-ID gw_3

H323 resource thresholding is Disabled
ECV-2610-
16#-----------------------------------------------------------

!--- The same on the third Gateway:

ECV-2610-15#show gateway
Gateway gw_1b is registered to Gatekeeper gk-zone1.test.com

Alias list (CLI configured)
```

```
 H323-ID gw_1b
Alias list (last RCF)
 H323-ID gw_1b

H323 resource thresholding is Disabled
ECV-2610-
15#-------------------------------------------------------------------
```

!--- And on the corresponding Gatekeeper:

```
ECV-2610-15#show gatekeeper end
                GATEKEEPER ENDPOINT REGISTRATION
                ================================
CallSignalAddr   Port RASSignalAddr Port  Zone Name        Type
F
--------------- ----- ------------- ----- ---------        ----
--
10.52.218.47    1720 10.52.218.47    58841 gk-zone1.test.com  VOIP-
GW
H323-ID: gw_1b
10.52.218.48    1720 10.52.218.48    59067 gk-zone3.test.com  VOIP-
GW
H323-ID: gw_3
10.52.218.49    1720 10.52.218.49    52887 gk-zone1.test.com  VOIP-
GW
H323-ID: gw_1
Total number of active registrations = 3

ECV-2610-15#
-------------------------------------------------------------------
```

!--- To check the dial plan on the Gatekeeper:

```
ECV-2610-15#show gatekeeper zone pre
 ZONE PREFIX TABLE
 =================
GK-NAME E164-PREFIX
------- -----------
gk-zone1.test.com 15..
gk-zone3.test.com 16..
gk-zone1.test.com 17..
```

```
ECV-2610-15#
```

```
----------------------------------------------------------------------
```

```
ECV-2610-15#show gatekeeper zone st
 GATEKEEPER ZONES
 ================
GK name    Domain Name   RAS Address   PORT   FLAGS
-------    -----------   -----------   -----  -----
```

```
gk-zone1.tes test.com 10.52.218.47 1719 LS
BANDWIDTH INFORMATION (kbps) :
 Maximum total bandwidth : 128
 Current total bandwidth : 64
Maximum interzone bandwidth : 64
Current interzone bandwidth : 64
Maximum session bandwidth :
 Total number of concurrent calls : 1
SUBNET ATTRIBUTES :
 All Other Subnets : (Enabled)
 PROXY USAGE CONFIGURATION :
 Inbound Calls from all other zones :
to terminals in local zone gk-zone1.test.com : use proxy
 to gateways in local zone gk-zone1.test.com : do not use proxy
 to MCUs in local zone gk-zone1.test.com : do not use proxy
 Outbound Calls to all other zones :
 from terminals in local zone gk-zone1.test.com : use proxy
 from gateways in local zone gk-zone1.test.com : do not use proxy
 from MCUs in local zone gk-zone1.test.com : do not use proxy
```

```
gk-zone3.tes test.com 10.52.218.47 1719 LS
BANDWIDTH INFORMATION (kbps) :
 Maximum total bandwidth :
 Current total bandwidth : 64
```

```
Maximum interzone bandwidth :
 Current interzone bandwidth : 64
Maximum session bandwidth :
 Total number of concurrent calls : 1
SUBNET ATTRIBUTES :
 All Other Subnets : (Enabled)
 PROXY USAGE CONFIGURATION :
 Inbound Calls from all other zones :
to terminals in local zone gk-zone3.test.com : use proxy
 to gateways in local zone gk-zone3.test.com : do not use proxy
 to MCUs in local zone gk-zone3.test.com : do not use proxy
 Outbound Calls to all other zones :
 from terminals in local zone gk-zone3.test.com : use proxy
 from gateways in local zone gk-zone3.test.com : do not use proxy
 from MCUs in local zone gk-zone3.test.com : do not use proxy


ECV-2610-15#
----------------------------------------------------------------------

ECV-2610-15#show gatekeeper call
Total number of active calls = 1.
                    GATEKEEPER CALL INFO
                    ====================
LocalCallID                           Age(secs)                    BW
5-0                                       1                         64
(Kbps)
 Endpt(s): Alias     E.164Addr    CallSignalAddr     Port
RASSignalAddr     Port
 src EP: gw_3        1611         10.52.218.48       1720
10.52.218.48     59067
 dst EP: gw_1b       1511         10.52.218.47       1720
10.52.218.47     58841

ECV-2610-15#
----------------------------------------------------------------------
```

!--- The output shows that we reach maximum number of calls for
gk-zone1.

```
ECV-2610-15#
ECV-2610-15#show gatekeeper zone st
                         GATEKEEPER ZONES
                         ================
GK name        Domain Name      RAS Address         PORT      FLAGS
-------        -----------      -----------         -----     -----
gk-zone1.tes test.com           10.52.218.47        1719      LS
```

```
BANDWIDTH INFORMATION (kbps) :
 Maximum total bandwidth : 128
Current total bandwidth : 128
Maximum interzone bandwidth : 64
Current interzone bandwidth : 64
Maximum session bandwidth :
 Total number of concurrent calls : 2
SUBNET ATTRIBUTES :
 All Other Subnets : (Enabled)
 PROXY USAGE CONFIGURATION :
 Inbound Calls from all other zones :
to terminals in local zone gk-zone1.test.com : use proxy
 to gateways in local zone gk-zone1.test.com : do not use proxy
 to MCUs in local zone gk-zone1.test.com : do not use proxy
 Outbound Calls to all other zones :
 from terminals in local zone gk-zone1.test.com : use proxy
 from gateways in local zone gk-zone1.test.com : do not use proxy
  from MCUs in local zone gk-zone1.test.com : do not use proxy


gk-zone3.tes test.com            10.52.218.47     1719     LS
BANDWIDTH INFORMATION (kbps) :
 Maximum total bandwidth :
 Current total bandwidth : 64
Maximum interzone bandwidth :
 Current interzone bandwidth : 64
Maximum session bandwidth :
 Total number of concurrent calls : 1
SUBNET ATTRIBUTES :
 All Other Subnets : (Enabled)
 PROXY USAGE CONFIGURATION :
 Inbound Calls from all other zones :
to terminals in local zone gk-zone3.test.com : use proxy
 to gateways in local zone gk-zone3.test.com : do not use proxy
 to MCUs in local zone gk-zone3.test.com : do not use proxy
 Outbound Calls to all other zones :
 from terminals in local zone gk-zone3.test.com : use proxy
 from gateways in local zone gk-zone3.test.com : do not use proxy
 from MCUs in local zone gk-zone3.test.com : do not use proxy


gk-zone2.tes test.com            10.52.218.46     1719      RS



ECV-2610-15#
ECV-2610-15#show gatekeeper call
Total number of active calls = 2.
                          GATEKEEPER CALL INFO
                          ====================
```

```
LocalCallID                                    Age(secs)      BW
20-33504                                        49            64(kbps)
 Endpt(s): Alias        E.164Addr    CallSignalAddr   Port
RASSignalAddr    Port
 src EP: gw_3          1611          10.52.218.48      1720
10.52.218.48     49762
 dst EP: gw_1b         1510          10.52.218.47      1720
10.52.218.47     52344
LocalCallID                                    Age(secs)      BW
21-22720 36 64(Kbps)
 Endpt(s): Alias        E.164Addr    CallSignalAddr   Port
RASSignalAddr    Port
 src EP: gw_1          1711          10.52.218.49      1720
10.52.218.49     54114
 dst EP: gw_1b         1511          10.52.218.47      1720
10.52.218.47     52344

ECV-2610-15#
------------------------------------------------------------------
```

!--- The conversation between the gateway and gatekeeper consists of
!--- an exchange of RAS messages.
!--- We start call to 1511 from GW_3.

```
ECV-2610-16#deb h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-16#

*Mar 1 14:22:20.972: RAS OUTGOING PDU ::=

value RasMessage ::= admissionRequest :
{
 requestSeqNum 970
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"8262B76400000019"}
 destinationInfo
{
 e164 : "1511"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
```

```
 bandWidth 640
 callReferenceValue 23
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000000'H
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall FALSE
 canMapAlias TRUE
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 willSupplyUUIEs FALSE
 }




*Mar 1 14:22:20.992: RAS OUTGOING ENCODE BUFFER::= 27 8803C900
F0003800 32003600
32004200 37003600 34003000 30003000 30003000 30003100 39010180
48440140 03006700
77005F00 33400280 001740B5 00001203 00000000 00000000 00000000
00000000 00000004
E0200180 11000000 00000000 00000000 00000000 00000100
*Mar 1 14:22:21.008:
*Mar 1 14:22:21.073: RAS INCOMING ENCODE BUFFER::= 2B 0003C940
0280000A 34DA2F06
B800EF14 00C00100 020000
*Mar 1 14:22:21.077:
*Mar 1 14:22:21.081: RAS INCOMING PDU ::=
```

!--- The GW_3 gets permission to proceed with that call.

```
value RasMessage ::= admissionConfirm :
{
 requestSeqNum 970
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
```

```
 {
  ip '0A34DA2F'H
  port 1720
  }
  irrFrequency 240
  willRespondToIRR FALSE
  uuiesRequested
 {
  setup FALSE
  callProceeding FALSE
  connect FALSE
  alerting FALSE
  information FALSE
  releaseComplete FALSE
  facility FALSE
  progress FALSE
  empty FALSE
  }
  }
```

!--- The Call setup message from GW_3 follows.

```
*Mar 1 14:22:21.105: H225.0 OUTGOING PDU ::=
value H323_UserInformation ::=
 {
  h323-uu-pdu
 {
  h323-message-body setup :
 {
  protocolIdentifier { 0 0 8 2250 0 2 }
  sourceAddress
 {
  h323-ID : {"gw_3"}
  }
  sourceInfo
 {
  gateway
 {
  protocol
 {
  voice :
 {
  supportedPrefixes
 {
```

```
 {
 prefix e164 : "1#"
 }
 }
 }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 activeMC FALSE
 conferenceID '00000000000000000000000000000000'H
 conferenceGoal create : NULL
 callType pointToPoint : NULL
 sourceCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11018
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 fastStart
{
 '0000000D4001800A040001000A34DA3041C5'H,
 '400000060401004D40018011140001000A34DA30...'H
 }
 mediaWaitForConnect FALSE
 canOverlapSend FALSE
 }
 h245Tunneling FALSE
 }
 }


*Mar 1 14:22:21.141: H225.0 OUTGOING ENCODE BUFFER::= 20
 A0060008 914A0002 01400300
67007700 5F003308 80013C05 04010020 40000000 00000000 00000000
00000000 00000045
1C07000A 34DA302B 0A110000 00000000 00000000 00000000 00000032
02120000 000D4001
800A0400 01000A34 DA3041C5 1D400000 06040100 4D400180 11140001
000A34DA 3041C400
0A34DA30 41C50100 01000680 0100
*Mar 1 14:22:21.161:
*Mar 1 14:22:21.417: H225.0 INCOMING ENCODE BUFFER::= 21
```

```
     80060008 914A0002 00048811
00000000 00000000 00000000 00000000 00390219 0000000D 40018011
14000100 0A34DA2F
486E000A 34DA2F48 6F1D4000 00060401 004D4001 80111400 01000A34
DA3041C4 000A34DA
2F486F06 800100
*Mar 1 14:22:21.429:
*Mar 1 14:22:21.429: H225.0 INCOMING PDU ::=
```

!--- The GW_3 gets Call Proceeding from GW_1b.

```
value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body callProceeding :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
{
 mc FALSE
 undefinedNode FALSE
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 fastStart
{
  '0000000D40018011140001000A34DA2F486E000A...'H,
  '400000060401004D40018011140001000A34DA30...'H
 }
 }
 h245Tunneling FALSE
 }
 }
```


```
*Mar 1 14:22:21.617: H225.0 INCOMING ENCODE BUFFER::= 28
 001A0006 0008914A 00020000
00000000 00000000 00000000 00000000 06A00100 120140B5 0000120B
60011000 011E041E
028188
*Mar 1 14:22:21.626:
*Mar 1 14:22:21.626: H225.0 INCOMING PDU ::=
```

```
!--- The GW_3 geta Call Progress from GW_1b.

value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body progress :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
{
 mc FALSE
 undefinedNode FALSE
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 }
 h245Tunneling FALSE
 nonStandardControl
{
   {
 nonStandardIdentifier h221NonStandard :
{
t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '60011000011E041E028188'

 }
 }
 }
 }
```

```
*Mar 1 14:22:21.642: H225 NONSTD INCOMING ENCODE BUFFER::= 60
 01100001 1E041E02 8188
*Mar 1 14:22:21.646:
*Mar 1 14:22:21.646: H225 NONSTD INCOMING PDU ::=
```

```
!--- The GW_3 get some facility messagesfrom GW_1b.

value H323_UU_NonStdInfo ::=
{
```

```
 version 16
 protoParam qsigNonStdInfo :
{
 iei 30
 rawMesg '1E028188'H
 }
 }




*Mar 1 14:22:22.831: %SYS-3-MGDTIMER: Running timer, init, timer
= 81F1AC08.
-Process= "Virtual Exec", ipl= 0, pid= 61
-Traceback= 803250A4 80325214 80325318 80EB12C0
 80EB17DC 802A65F0 802B5080 8033D818
*Mar 1 14:22:22.835: H225 NONSTD OUTGOING PDU ::=

value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
 sourceExtAlias
{
 }
 }




*Mar 1 14:22:22.839: H225 NONSTD OUTGOING ENCODE
BUFFER::= 00 0000
*Mar 1 14:22:22.839:
*Mar 1 14:22:22.839: RAS OUTGOING PDU ::=
```

!--- The GW_3 starts the second Call to 1711 now we send RAS
message to GK.

```
value RasMessage ::= admissionRequest :
{
 requestSeqNum 971
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"8262B76400000019"}
 destinationInfo
{
 e164 : "1711"
```

```
    }
  srcInfo
  {
   h323-ID : {"gw_3"}
   }
   bandWidth 640
   callReferenceValue 24
   nonStandardData
  {
   nonStandardIdentifier h221NonStandard :
  {
   t35CountryCode 181
   t35Extension 0
   manufacturerCode 18
   }
   data '000000'H
   }
   conferenceID '00000000000000000000000000000000'H
   activeMC FALSE
   answerCall FALSE
   canMapAlias TRUE
   callIdentifier
  {
   guid '00000000000000000000000000000000'H
   }
   willSupplyUUIEs FALSE
   }
```

```
*Mar 1 14:22:22.860: RAS OUTGOING ENCODE BUFFER::= 27 8803CA00
F0003800 32003600
32004200 37003600 34003000 30003000 30003000 30003100 39010180
4A440140 03006700
77005F00 33400280 001840B5 00001203 00000000 00000000 00000000
00000000 00000004
E0200180 11000000 00000000 00000000 00000000 00000100
*Mar 1 14:22:22.876:
*Mar 1 14:22:22.940: RAS INCOMING ENCODE BUFFER::= 2B 0003CA40
0280000A 34DA3106
B800EF14 00C00100 020000
*Mar 1 14:22:22.944:
```
*Mar 1 14:22:22.944: **RAS INCOMING PDU** ::=

!--- The GW_3 gets permission to proceed as there are no
restrictions on zone3.

```
value RasMessage ::= admissionConfirm :
{
 requestSeqNum 971
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
{
 ip '0A34DA31'H
 port 1720
 }
 irrFrequency 240
 willRespondToIRR FALSE
 uuiesRequested
{
 setup FALSE
 callProceeding FALSE
 connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
 }
 }


*Mar 1 14:22:22.972: H225.0 OUTGOING PDU ::=

!--- The GW_3 sends setup message to GW_1.

value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body setup :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 sourceAddress
{
 h323-ID : {"gw_3"}
 }
 sourceInfo
{
 gateway
```

```
{
 protocol
{
 voice :
{
 supportedPrefixes
{
  {
 prefix e164 : "1#"
 }
 }
 }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 activeMC FALSE
 conferenceID '00000000000000000000000000000000'H
 conferenceGoal create : NULL
 callType pointToPoint : NULL
 sourceCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11019
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 fastStart
{
 '0000000D4001800A040001000A34DA30402F'H,
 '400000060401004D40018011140001000A34DA30...'H
 }
 mediaWaitForConnect FALSE
 canOverlapSend FALSE
 }
 h245Tunneling FALSE
 }
 }




*Mar 1 14:22:23.008: H225.0 OUTGOING ENCODE BUFFER::= 20
A0060008 914A0002 01400300
67007700 5F003308 80013C05 04010020 40000000 00000000 00000000
```

```
00000000 00000045
1C07000A 34DA302B 0B110000 00000000 00000000 00000000 00000032
02120000 000D4001
800A0400 01000A34 DA30402F 1D400000 06040100 4D400180 11140001
000A34DA 30402E00
0A34DA30 402F0100 01000680 0100
*Mar 1 14:22:23.028:
*Mar 1 14:22:23.220: H225.0 INCOMING ENCODE BUFFER::= 25
80060008 914A0002 01110000
00000000 00000000 00000000 00000006 800100
*Mar 1 14:22:23.224:
*Mar 1 14:22:23.224: H225.0 INCOMING PDU ::=

!--- The GW_1 replies with Release Complete message after asking
GK
!--- for permission to accept that call.
!--- When the permission is denied, we set bandwidth limit.

value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body releaseComplete :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 }
 h245Tunneling FALSE
 }
 }


*Mar 1 14:22:23.236: RAS OUTGOING PDU ::=

!--- The GW_3 notifies GK that the call does not exist anymore.

value RasMessage ::= disengageRequest :
{
 requestSeqNum 972
 endpointIdentifier {"8262B76400000019"}
 conferenceID '00000000000000000000000000000000'H
 callReferenceValue 24
```

```
 disengageReason normalDrop : NULL
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 answeredCall FALSE
 }




*Mar 1 14:22:23.248: RAS OUTGOING ENCODE BUFFER::= 3E 03CB1E00
38003200 36003200
42003700 36003400 30003000 30003000 30003000 31003900 00000000
00000000 00000000
00000000 18216111 00000000 00000000 00000000 00000000 000100
*Mar 1 14:22:23.256:
*Mar 1 14:22:23.288: RAS INCOMING ENCODE BUFFER::= 40
03CB
*Mar 1 14:22:23.288:
*Mar 1 14:22:23.288: RAS INCOMING PDU ::=
```

!--- The GK confirms that message.

```
value RasMessage ::= disengageConfirm :
{
 requestSeqNum 972
 }




ECV-2610-16#u all
All possible debugging has been turned off
ECV-2610-16#


----------------------------------------------------------------------
```

!--- The incoming RAS message to the GK from GW_3.

```
ECV-2610-15#debug h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-15#
*Mar 11 21:54:28.313: RAS INCOMING PDU ::=

value RasMessage ::= admissionRequest :
{
 requestSeqNum 970
```

```
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"8262B76400000019"}
 destinationInfo
{
 e164 : "1511"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
 bandWidth 640
 callReferenceValue 23
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000000'H
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall FALSE
 canMapAlias TRUE
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 willSupplyUUIEs FALSE
 }


*Mar 11 21:54:28.334: H225 NONSTD INCOMING ENCODE BUFFER::= 00
0000
*Mar 11 21:54:28.334:
*Mar 11 21:54:28.334: H225 NONSTD INCOMING PDU ::=

value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
```

```
  sourceExtAlias
  {
  }
  }
```

!--- The outgoing RAS message fro GK to GW_3 with permission to start call.

```
*Mar 11 21:54:28.338: RAS OUTGOING PDU ::=

value RasMessage ::= admissionConfirm :
{
 requestSeqNum 970
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
{
 ip '0A34DA2F'H
 port 1720
 }
 irrFrequency 240
 willRespondToIRR FALSE
 uuiesRequested
{
 setup FALSE
 callProceeding FALSE
 connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
 }
 }
```

```
*Mar 11 21:54:28.350: RAS OUTGOING ENCODE BUFFER::= 2B 0003C940
0280000A 34DA2F06
B800EF14 00C00100 020000
*Mar 11 21:54:28.354:
*Mar 11 21:54:28.446: H225.0 INCOMING ENCODE BUFFER::= 20
A0060008 914A0002 01400300
67007700 5F003308 80013C05 04010020 40000000 00000000 00000000
00000000 00000045
```

```
1C07000A 34DA302B 0A110000 00000000 00000000 00000000 00000032
02120000 000D4001
800A0400 01000A34 DA3041C5 1D400000 06040100 4D400180 11140001
000A34DA 3041C400
0A34DA30 41C50100 01000680 0100
```
*Mar 11 21:54:28.466:
*Mar 11 21:54:28.470: **H225.0 INCOMING PDU** ::=

!--- The incoming H323(Q931) message from GW_3 to GW_1b on the
same router as GK.

```
value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body setup :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 sourceAddress
{
 h323-ID : {"gw_3"}
 }
 sourceInfo
{
 gateway
{
 protocol
{
 voice :
{
 supportedPrefixes
{
  {
 prefix e164 : "1#"
 }
 }
 }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 activeMC FALSE
 conferenceID '00000000000000000000000000000000'H
 conferenceGoal create : NULL
 callType pointToPoint : NULL
```

```
 sourceCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11018
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 fastStart
{
 '0000000D4001800A040001000A34DA3041C5'H,
 '400000060401004D40018011140001000A34DA30...'H
 }
 mediaWaitForConnect FALSE
 canOverlapSend FALSE
 }
 h245Tunneling FALSE
 }
 }


*Mar 11 21:54:28.514: H225 NONSTD OUTGOING PDU ::=
value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
 sourceExtAlias
{
 }
 }



*Mar 11 21:54:28.518: H225 NONSTD OUTGOING ENCODE BUFFER::= 00
0000
*Mar 11 21:54:28.518:
*Mar 11 21:54:28.518: RAS OUTGOING PDU ::=
```

!--- The GW_1b asks GK if it can accept call from GW_3.

```
value RasMessage ::= admissionRequest :
{
 requestSeqNum 1347
 callType pointToPoint : NULL
 callModel direct : NULL
```

```
endpointIdentifier {"82717F5C0000001B"}
destinationInfo
{
 e164 : "1511"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
 srcCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11018
 }
 bandWidth 640
 callReferenceValue 29
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000000'H
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall TRUE
 canMapAlias TRUE
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 willSupplyUUIEs FALSE
 }
```

```
*Mar 11 21:54:28.542: RAS OUTGOING ENCODE BUFFER::= 27 98054200
F0003800 32003700
31003700 46003500 43003000 30003000 30003000 30003100 42010180
48440140 03006700
77005F00 33000A34 DA302B0A 40028000 1D40B500 00120300 00000000
00000000 00000000
00000000 000044E0 20018011 00000000 00000000 00000000 00000000
```

```
000100
*Mar 11 21:54:28.558:
*Mar 11 21:54:28.562: RAS INCOMING ENCODE BUFFER::= 27
98054200 F0003800 32003700 31003700 46003500 43003000 30003000
30003000 30003100
42010180 48440140 03006700 77005F00 33000A34 DA302B0A 40028000
1D40B500 00120300
00000000 00000000 00000000 00000000 000044E0 20018011 00000000
00000000 00000000
00000000 000100
*Mar 11 21:54:28.578:
*Mar 11 21:54:28.582: RAS INCOMING PDU ::=
```

*!--- That is the same RAS message. The GK gets it, and sees the
sequence number.*
*!--- The GK is on the same router as GW_1b, so all messages can
be seen twice.*

```
value RasMessage ::= admissionRequest :
{
 requestSeqNum 1347
 callType pointToPoint : NULL
 callModel direct : NULL
endpointIdentifier {"82717F5C0000001B"}
 destinationInfo
{
 e164 : "1511"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
 srcCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11018
 }
 bandWidth 640
 callReferenceValue 29
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
```

```
 data '000000'
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall TRUE
 canMapAlias TRUE
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 willSupplyUUIEs FALSE
 }
```

```
*Mar 11 21:54:28.606: H225 NONSTD INCOMING ENCODE BUFFER::= 00
0000
*Mar 11 21:54:28.606:
*Mar 11 21:54:28.606: H225 NONSTD INCOMING PDU ::=
```

```
value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
 sourceExtAlias
{
 }
 }
```

*Mar 11 21:54:28.610: **RAS OUTGOING PDU** ::=

!--- The GK grants the permission to GW_1b.
!--- This is a message in the GK debug outgoing

value RasMessage ::= **admissionConfirm** :
```
{
 requestSeqNum 1347
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
{
 ip '0A34DA2F'H
 port 1720
 }
```

```
 irrFrequency 240
 willRespondToIRR FALSE
 uuiesRequested
{
 setup FALSE
 callProceeding FALSE
 connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
 }
 }
```

*Mar 11 21:54:28.622: RAS OUTGOING ENCODE BUFFER::= 2B 00054240
0280000A 34DA2F06
B800EF14 00C00100 020000
*Mar 11 21:54:28.626:
*Mar 11 21:54:28.630: RAS INCOMING ENCODE BUFFER::= 2B 00054240
0280000A 34DA2F06
B800EF14 00C00100 020000
*Mar 11 21:54:28.634:
*Mar 11 21:54:28.634: **RAS INCOMING PDU** ::=

!--- The GK grants the permission to GW_1b.
!--- This is a message in the GW_1b debug incoming.

value RasMessage ::= **admissionConfirm** :
{
 requestSeqNum 1347
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
{
 ip '0A34DA2F'H
 port 1720
 }
 irrFrequency 240
 willRespondToIRR FALSE
 uuiesRequested
{
 setup FALSE
 callProceeding FALSE

```
 connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
 }
 }


*Mar 11 21:54:28.654: %SYS-3-MGDTIMER: Timer has parent, timer
link, timer =
820AE990.
-Process= "CC-API_VCM", ipl= 6, pid= 93
-Traceback= 80325850 8032A720 80E74850 8033D818
*Mar 11 21:54:28.666: H225.0 OUTGOING PDU ::=
```

!--- The GW_1b replies to GW_3 setup message.

```
value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body callProceeding :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
{
 mc FALSE
 undefinedNode FALSE
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 fastStart
{
 '0000000D40018011140001000A34DA2F486E000A...'H,
 '400000060401004D40018011140001000A34DA30...'H
 }
 }
 h245Tunneling FALSE
 }
 }
```

```
*Mar 11 21:54:28.682: H225.0 OUTGOING ENCODE BUFFER::= 21
80060008 914A0002 00048811
00000000 00000000 00000000 00000000 00390219 0000000D 40018011
14000100 0A34DA2F
486E000A 34DA2F48 6F1D4000 00060401 004D4001 80111400 01000A34
DA3041C4 000A34DA
2F486F06 800100
*Mar 11 21:54:28.694:
*Mar 11 21:54:28.710: H225 NONSTD OUTGOING PDU ::=

value H323_UU_NonStdInfo ::=
{
version 16
 protoParam qsigNonStdInfo :
{
 iei 30
 rawMesg '1E028188'H
 }
 }




*Mar 11 21:54:28.714: H225 NONSTD OUTGOING ENCODE BUFFER::= 60
01100001 1E041E02 8188
*Mar 11 21:54:28.714:
*Mar 11 21:54:28.714: **H225.0 OUTGOING PDU** ::=

*!--- The GW_1b replies to GW_3 setup message and sends second
message.*

value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body **progress** :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 destinationInfo
{
 mc FALSE
 undefinedNode FALSE
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
```

```
 }
 }
 h245Tunneling FALSE
 nonStandardControl
{
  {
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '60011000011E041E028188'H
}
 }
 }
}
```

```
*Mar 11 21:54:28.734: H225.0 OUTGOING ENCODE BUFFER::= 28
001A0006 0008914A 00020000
00000000 00000000 00000000 00000000 06A00100 120140B5 0000120B
60011000 011E041E
028188
*Mar 11 21:54:28.742:
*Mar 11 21:54:30.161: RAS INCOMING ENCODE BUFFER::= 27 8803CA00
F0003800 32003600
32004200 37003600 34003000 30003000 30003000 30003100 39010180
4A440140 03006700
77005F00 33400280 001840B5 00001203 00000000 00000000 00000000
00000000 00000004
E0200180 11000000 00000000 00000000 00000000 00000100
```
*Mar 11 21:54:30.177:
*Mar 11 21:54:30.181: **RAS INCOMING PDU** ::=

!--- The GK gets ARQ from GW_3 for the second call.

```
value RasMessage ::= admissionRequest:
{
 requestSeqNum 971
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"8262B76400000019"}
 destinationInfo
{
```

```
e164 : "1711"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
 bandWidth 640
 callReferenceValue 24
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000000'H
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall FALSE
 canMapAlias TRUE
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 willSupplyUUIEs FALSE
 }
```

*Mar 11 21:54:30.197: H225 NONSTD INCOMING ENCODE BUFFER::= 00
0000
*Mar 11 21:54:30.201:
*Mar 11 21:54:30.201: H225 NONSTD INCOMING PDU ::=

```
value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
 sourceExtAlias
{
 }
 }
```

```
*Mar 11 21:54:30.205: RAS OUTGOING PDU ::=
```

!--- The GK grants permission to GW_3, as there are no
restrictions for zone3.

```
value RasMessage ::= admissionConfirm :
{
 requestSeqNum 971
 bandWidth 640
 callModel direct : NULL
 destCallSignalAddress ipAddress :
{
 ip '0A34DA31'H
```

!--- The hexadecimal number is 10.52.218.49, IP of GW_1.

```
 port 1720
 }
 irrFrequency 240
 willRespondToIRR FALSE
 uuiesRequested
{
 setup FALSE
 callProceeding FALSE
 connect FALSE
 alerting FALSE
 information FALSE
 releaseComplete FALSE
 facility FALSE
 progress FALSE
 empty FALSE
 }
 }


*Mar 11 21:54:30.217: RAS OUTGOING ENCODE BUFFER::= 2B 0003CA40
0280000A 34DA3106
B800EF14 00C00100 020000
*Mar 11 21:54:30.221:
*Mar 11 21:54:30.429: RAS INCOMING ENCODE BUFFER::= 27 98045F00
F0003800 32003300
38003600 30004400 34003000 30003000 30003000 30003100 41010180
4A440140 03006700
77005F00 33000A34 DA302B0B 40028000 2840B500 00120300 00000000
```

```
00000000 00000000
00000000 000044E0 20018011 00000000 00000000 00000000 00000000
000100
```
*Mar 11 21:54:30.445:
*Mar 11 21:54:30.445: **RAS INCOMING PDU** ::=

!--- The incoming request from GW_1 asks for permission to accept
call from GW_3.

```
value RasMessage ::= admissionRequest :
{
 requestSeqNum 1120
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"823860D40000001A"}
 destinationInfo
{
 e164 : "1711"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
srcCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11019
 }
 bandWidth 640
 callReferenceValue 40
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000000'H
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall TRUE
 canMapAlias TRUE
 callIdentifier
{
guid '00000000000000000000000000000000'H
```

```
  }
 willSupplyUUIEs FALSE
  }


*Mar 11 21:54:30.469: H225 NONSTD INCOMING ENCODE BUFFER::= 00
0000
*Mar 11 21:54:30.469:
*Mar 11 21:54:30.469: H225 NONSTD INCOMING PDU ::=

value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
 sourceExtAlias
{
 }
 }
```

!--- The GK does not allow the call to come through, and replies
with ARJ.

```
*Mar 11 21:54:30.473: RAS OUTGOING PDU ::=

value RasMessage ::= admissionReject :
{
 requestSeqNum 1120
 rejectReason requestDenied : NULL
 }



*Mar 11 21:54:30.477: RAS OUTGOING ENCODE BUFFER::= 2C 045F20
*Mar 11 21:54:30.477:
*Mar 11 21:54:30.541: RAS INCOMING ENCODE BUFFER::= 3E 03CB1E00
38003200 36003200
42003700 36003400 30003000 30003000 30003000 31003900 00000000
00000000 00000000
00000000 18216111 00000000 00000000 00000000 00000000 000100
*Mar 11 21:54:30.553:
*Mar 11 21:54:30.557: RAS INCOMING PDU ::=
```

!--- The GW_3 notifies GK that call does not exist anymore.

```
value RasMessage ::= disengageRequest :
{
 requestSeqNum 972
 endpointIdentifier {"8262B76400000019"}
 conferenceID '00000000000000000000000000000000'H
 callReferenceValue 24
 disengageReason normalDrop : NULL
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 answeredCall FALSE
 }




*Mar 11 21:54:30.565: RAS OUTGOING PDU ::=
!-- The GK confirms the message from GW_3
value RasMessage ::= disengageConfirm :
{
 requestSeqNum 972
 }
```

!--- The call setup from GW_1 perspective.

```
ECV-2610-17#deb h225 asn1
H.225 ASN1 Messages debugging is on
ECV-2610-17#
*Mar 2 22:55:40: H225.0 INCOMING ENCODE BUFFER::= 20 A0060008
914A0002 01400300
67007700 5F003308 80013C05 04010020 40000000 00000000 00000000
00000000 00000045
1C07000A 34DA302B 0B110000 00000000 00000000 00000000 00000032
02120000 000D4001
800A0400 01000A34 DA30402F 1D400000 06040100 4D400180 11140001
000A34DA 30402E00
0A34DA30 402F0100 01000680 0100
*Mar 2 22:55:40:
*Mar 2 22:55:40: H225.0 INCOMING PDU ::=
```

!--- The GW_1 gets the H323 (Q931) setup message from GW_3.

```
value H323_UserInformation ::=
{
```

```
 h323-uu-pdu
{
 h323-message-body setup :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 sourceAddress
{
 h323-ID : {"gw_3"}
 }
 sourceInfo
{
 gateway
{
 protocol
{
 voice :
{
 supportedPrefixes
{

 {
 prefix e164 : "1#"
 }
 }
 }
 }
 }
 mc FALSE
 undefinedNode FALSE
 }
 activeMC FALSE
 conferenceID '00000000000000000000000000000000'H
 conferenceGoal create : NULL
 callType pointToPoint : NULL
 sourceCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
 port 11019
 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 fastStart
{
 '0000000D4001800A040001000A34DA30402F'H,
```

```
'400000060401004D40018011140001000A34DA30...'H
 }
 mediaWaitForConnect FALSE
 canOverlapSend FALSE
 }
 h245Tunneling FALSE
 }
 }


*Mar 2 22:55:40: H225 NONSTD OUTGOING PDU ::=

value ARQnonStandardInfo ::=
{
 sourceAlias
{
 }
 sourceExtAlias
{
 }
 }



*Mar 2 22:55:40: H225 NONSTD OUTGOING ENCODE BUFFER::= 00 0000
*Mar 2 22:55:40:
*Mar 2 22:55:40: RAS OUTGOING PDU ::=
```

!--- The GW_1 asks GK for permission to accept the call.

```
value RasMessage ::= admissionRequest :
{
 requestSeqNum 1120
 callType pointToPoint : NULL
 callModel direct : NULL
 endpointIdentifier {"823860D40000001A"}
 destinationInfo
{
 e164 : "1711"
 }
 srcInfo
{
 h323-ID : {"gw_3"}
 }
 srcCallSignalAddress ipAddress :
{
 ip '0A34DA30'H
```

```
 port 11019
 }
 bandWidth 640
 callReferenceValue 40
 nonStandardData
{
 nonStandardIdentifier h221NonStandard :
{
 t35CountryCode 181
 t35Extension 0
 manufacturerCode 18
 }
 data '000000'H
 }
 conferenceID '00000000000000000000000000000000'H
 activeMC FALSE
 answerCall TRUE
 canMapAlias TRUE
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 willSupplyUUIEs FALSE
 }


*Mar 2 22:55:40: RAS OUTGOING ENCODE BUFFER::= 27 98045F00
F0003800 32003300
38003600 30004400 34003000 30003000 30003000 30003100 41010180
4A440140 03006700
77005F00 33000A34 DA302B0B 40028000 2840B500 00120300 00000000
00000000 00000000
00000000 000044E0 20018011 00000000 00000000 00000000 00000000
000100
*Mar 2 22:55:41:
*Mar 2 22:55:41: RAS INCOMING ENCODE BUFFER::= 2C 045F20
*Mar 2 22:55:41:
*Mar 2 22:55:41: RAS INCOMING PDU ::=
```

!--- The GK denies permission to accept the call from GW_3 due to bandwidth limit.

```
value RasMessage ::= admissionReject :
{
 requestSeqNum 1120
```

```
  rejectReason requestDenied : NULL
  }




*Mar 2 22:55:41: H225.0 OUTGOING PDU ::=
```
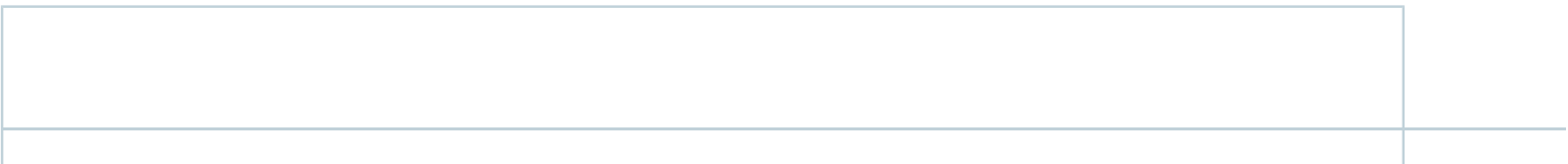
```
value H323_UserInformation ::=
{
 h323-uu-pdu
{
 h323-message-body releaseComplete :
{
 protocolIdentifier { 0 0 8 2250 0 2 }
 callIdentifier
{
 guid '00000000000000000000000000000000'H
 }
 }
 h245Tunneling FALSE
 }
 }




*Mar 2 22:55:41: H225.0 OUTGOING ENCODE BUFFER::= 25 80060008
914A0002 01110000
00000000 00000000 00000000 00000006 800100
*Mar 2 22:55:41:
ECV-2610-17#
ECV-2610-17#
ECV-2610-17#u all
All possible debugging has been turned off
-----------------------------------------------------------------
```

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- Call Admission Control**hugoeic1 Reply**4 years, 2 months ago

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- **[Configuring H.323 Support for Virtual Interfaces](#)**
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- **Recommended Reading: [Troubleshooting Cisco IP Telephony](#)** [EXIT], Cisco Press, ISBN 1587050757
- **[Technical Support - Cisco Systems](#)**