

MGCP Gateway Fallback Transition to Default H.323 Session Application

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Introduction

This document shows how to enable a Media Gateway Control Protocol (MGCP) gateway to fallback to an H323 session application when the WAN Transmission Control Protocol (TCP) connection to the primary Cisco CallManager server is lost, and no backup Cisco CallManager server is available.

Prerequisites

Requirements

There are no specific prerequisites for this document.

Components Used

The information in this document is based on the software and hardware versions below.

- Cisco IOS® Software Release 12.3(4)T1
- Cisco 3700 series router
- Cisco CallManager 3.3 and later

Note: Cisco IOS version 12.2(11)T is the minimum required Cisco IOS version required to run MGCP fallback and Survivable Remote Site Telephony (SRST) on the same box.

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

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Configure

All active MGCP analog and T1 Channel-Associated Signaling (CAS) calls are maintained during the fallback transition. Callers are unaware of the fallback transition, and these active MGCP calls are cleared only when the communicating callers hang up. Active MGCP PRI backhaul calls are released during fallback .

Any transient MGCP calls (that is, calls that are not in the connected state) are cleared at the onset of the fallback transition and must be attempted again later.

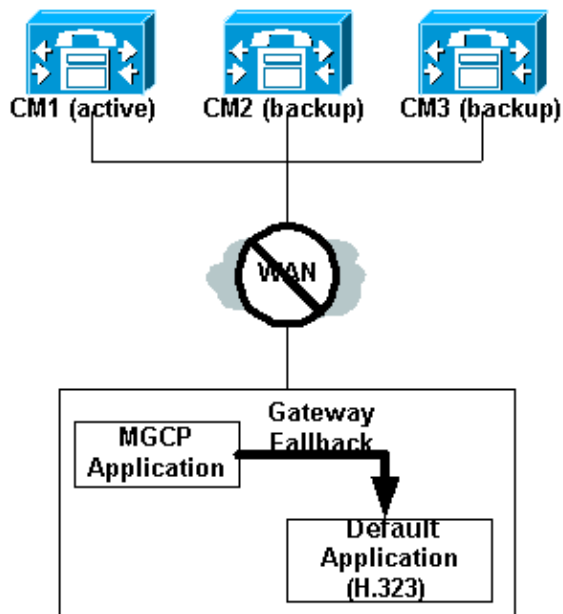
This configuration provides basic connection services for IP telephony traffic that passes through the gateway. When the local MGCP gateway transitions into fallback mode, the default H.323 session application assumes responsibility for handling new calls. Only basic two-party voice calls are supported during the fallback period.

Except for ISDN T1 and E1 PRI calls, all the MGCP calls that are active at the time of fallback are preserved, while transient calls are released. When a user completes (hangs up) an active MGCP call, the MGCP application handles the on-hook event and clears all call resources.

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 the network setup shown in the diagram below.



Configurations

This document uses the configurations shown below. The three configurations enable the user to:

1. Enable fallback in the Cisco IOS gateway.
2. Configure MGCP-controlled POTS dial peers with "destination-patterns" to handle outgoing calls via H.323 in case of fallback.
3. Configure Voice over IP (VoIP) dial peers to route incoming calls (to IP phones) to a local router (Fallback Cisco CallManager server) which provides backup for IP phones.

IOS Gateway

For Cisco IOS Software Release 12.3(13)T or earlier:

```
interface FastEthernet0/0
 ip address 192.168.1.12 255.255.255.0
```

```
ccm-manager fallback-mgcp
```

```
call application alternate DEFAULT
```

!----H.323 is the default signalling protocol.

*!--- An FXS-connected phone gets a dial-tone from the router
!--- instead of being instructed to do so via MGCP by
!--- Cisco CallManager.*

For Cisco IOS Software Release 12.3(14)T or later:

```
R(config)#application
R(config-app)#global
R(config-app-global)#service alternate Default
```

POTS Dial Peers

```
dial-peer voice X pots
 application mgcpapp
 destination-pattern 0T
```

*!----Note that the **destination-pattern** command is needed for
H.323 when the MGCP fallback happens.*

```
port 2/0:15
 forward-digits all
```

```
dial-peer voice X pots
 application mgcpapp
 destination-pattern 2000
```

*!----Note that the **destination-pattern** command is needed for
H.323 when the MGCP fallback happens.*

```
!--
 port 1/0/0
```

Note: For Cisco IOS Software Release 12.3(7)T or later, the **application mgcpapp** command must **not** be applied to the POTS dial peer that supports PRI Backhaul.

The SRST configuration shown here is required for Cisco IP Phone support.

SRST Configuration

```
call-manager-fallback
```

```

!--- Enables SRST support and enters Cisco CallManager fallback mode.

max-conferences 8
ip source-address 192.168.1.12 port 2000

!--- 192.168.1.12 is the IP address of the Cisco IOS gateway through which it
!--- communicates with the Cisco IP Phones.

!--- Here, the Cisco IOS gateway is also configured as a Cisco CallManager fallback server.

max-ephones 10
max-dn 10

```

The VoIP dial peer configuration shown here is required if you have another local router connected to the Cisco IOS gateway and acting as a fallback Cisco CallManager server. If this gateway itself acts as a fallback Cisco Callmanager server by running SRST, then the following VoIP dial peer need not be configured. Cisco IOS Software version 12.2(11)T is the minimum required version to run MGCP fallback and SRST on the same box.

VoIP Dial Peers
<pre> dial-peer voice 5000 voip destination-pattern 5... !--- These are IP phone directory numbers. session target ipv4: x.x.x.x !--- x.x.x.x. represents the IP address !--- of the fallback Cisco CallManager server. </pre>

Integrating Cisco Unified SRST with Cisco Unified CallManager

If You Have Cisco CallManager V3.3, 4.x or later

1. Create an SRST reference

- a. From Cisco CallManager, click **System** and **SRST**.
- b. On the Find and List SRST References page, click **Add a New SRST Reference**.
- c. On the SRST Reference Configuration page, enter a name in the **SRST Reference Name field** and the IP address of the Cisco SRST router in the **IP Address field**.
- d. Click **Insert**.

2. Apply the SRST reference or the default gateway to one or more device pools.

- a. From Cisco CallManager, click **System** and **Device Pool**.
- b. On the **Device Pool** Configuration page, click on the desired device pool icon.
- c. On the **Device Pool** Configuration page, choose an **SRST reference** or **Use Default Gateway** from the SRST Reference field s menu.

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.

These commands can be used to verify the MGCP fallback configuration:

- **show call-manager-fallback all** Displays the detailed configuration of all CiscoIP Phones, voice ports, and dial peers in your network during Cisco CallManager fallback.
- **show call-manager-fallback dial-peer** Displays output for the dial peers during CiscoCallManager fallback.
- **show ccm-manager fallback-mgcp** Displays a list of Cisco CallManager servers and their current status and availability.

Note: The **show ccm-manager fallback-mgcp** command output shown here is taken before MGCP fallback happens.

```
mgcp-gateway# show ccm-manager fallback-mgcp
Current active Call Manager:      192.168.1.2
MGCP Fallback mode:              Enabled/OFF
Last MGCP Fallback start time:   None
Last MGCP Fallback end time:    None
```

When the connection to the Cisco CallManager is lost, and MGCP Fallback kicks in, the output is as follows:

```
mgcp-gateway# show ccm-manager fallback-mgcp
Current active Call Manager:      None
MGCP Fallback mode:              Enabled/ON
Last MGCP Fallback start time:   05:58:48 UTC Oct 6 2004
Last MGCP Fallback end time:    05:56:30 UTC Oct 6 2004
```

This console message helps in verifying the MGCP fallback operation.

```
Sep 23 16:35:34.707: %CALL_CONTROL-6-APP_NOT_FOUND: Application mgcpapp in dial-peer 1 not
Handing callid 98 to the alternate app default
```

Troubleshoot

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, refer to Important Information on Debug Commands.

- **debug ccm-manager events** Displays debugging information about the Cisco CallManager.

Related Information

- **Configuring SRS Telephony and MGCP Fallback**
- **Configuring MGCP–Controlled Backhaul of BRI Signaling in Conjunction with Cisco CallManager**

- **Cisco Unified SRST 4.0 System Administrator Guide**
 - **Cisco Unified SRST 4.0 Supported Firmware, Platforms, Memory, and Voice Products**
 - **Recommended Reading: Troubleshooting Cisco IP Telephony**
 - **Technical Support & Documentation – Cisco Systems**
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