Lab 7: Gateway Configuration

In this lab we will configure the HQ router as an MGCP gateway and test off net calls from CUCM phones to a PSTN phone registered to R5.

Task 1: Add HQ Router as MGCP Gateway in CUCM

First add the HQ router as an MGCP gateway (device -> gateway) to CUCM. Domain name should match host name on HQ router. ISDN switch type should be 4ess. You will need to determine correct hardware in HQ router with following commands:

- Show version
- Show diag
- Show inventory

Add the endpoint connecting to PSTN (R5) and activate the port as a digital access PRI with PRI protocol type NI2.

Task 2: Configure HQ Router as MGCP Gateway

First ensure you have connectivity from your HQ router to CUCM – do basic ping tests and resolve any issues.

Configure the HQ router to get it’s configuration via MGCP from CUCM:

```
Network-clock-participate wic 0 *** may have to adjust for your pod
ccm-manager config server 128.213.21.X *** publisher
ccm-manager config
isdn switch-type primary-5ess
```

Next, because of DSP resources, we want to reduce the number of channels on the T1 from 24 to 4 on HQ:

```
controller T1 0/3/1 *** may have to adjust for your pod
pri-group timeslots 1-4,24 service mgcp
description to R5
no shut
Voice-port 0/3/1:23 *** may have to adjust for your pod
No shut
Interface serial 0/3/1:23 *** may have to adjust for your pod
isdn bind-l3 ccm-manager
no shut
```
You will have to manually reset the MGCP process on the HQ router by entering the command “no mgcp” followed by “mgcp”.

Verify your gateway has registered to CUCM (device->gateway), click appropriate endpoint and verify registered.

On the HQ router look at output of following commands:
   Show mgcp   (admin state and operational state should be active)
   Show ccm-manager hosts
   Show mgcp endpoint

**Task 3: Configure R5 as PSTN**

We want R5 to act as PSTN and then will register IP Communicator on student PC to it.

Load configuration for R5 from www.cs.rpi.edu/~kotfid/voicefall12/R5-PSTN. Be sure to change IP addresses to reflect your POD and MAC address to reflect MAC address of student VM PC. Be sure full configuration loads in correctly w/out errors.

Change IP Communicator on student PC to point to R5 – be sure it registers there.

**Task 4: Configure Route Pattern to use MGCP Gateway**

In CUCM we will route calls to 911 to PSTN via MGCP gateway.

Go to call routing -> route/hunt -> route pattern and add a pattern for 911 which points to gateway/route list of your MGCP gateway.

You should be able to place a call from a CUCM registered phone (IP phone 1/ IP Phone 2/ SIP phone) to 911 and verify it rings at IP communicator phone. Make sure the call can be connected, by answering call.

You should also be able to call from the PSTN phone to your CIPC on laptop by dialing from PSTN phone 5553334 – be sure that can be connected as well.

**Challenge**

When you place call to PSTN there is no ring back. Why? How can this be fixed?

(I do not have answer to this, waiting for enterprising student to solve 😊)