Media Gateway Control Protocol (MGCP)

MGCP/1

MGCP

• gateways between IP telephony and PSTN: audio (media) and signaling

• large: digital (T-1, DS3), PBX ⇒ lots of DSPs

• small: residential gateway (1–2 lines) ⇒ cheap

• separate media gateway (MG) from media gateway controller (MGC)

• one MGC can control ⇒ 1 MG

MGCP/2
Architecture

MGCP/3

Rationale

- service deployment: upgrade a few, not every household
- charging for services like call waiting or caller ID
- reliability: 911 …“general protection fault”
- simple end systems
- but: subscriber can only have one provider

MGCP/4
Connections, Endpoints, Events, Signals

end points: sources and sinks of data

connections: point-to-point, multipoint: ATM, IP, FR, PSTN, ...

events: off-hook, on-hook, flash hook, dialed digits, ...

signal: apply dialtone, ringing, busy, ...

packages: groups of signals and events

dialing plan: [xxxxxxxx|xxxxxxxxxx | 011x.T]

MGCP/5

Describing Connections

MGCP uses SDP to describe connections:

v=0
 c=IN IP4 128.16.59.1
 m=audio 3456 RTP/AVP 0 96
 a=rtpmap:96 G726/4

MGCP/6
MGCP Commands

**NotificationRequest**: call agent requests gw to send events

**Notify**: gw sends event: e.g., off-hook

```
RQNT 1201 endpoint-1@rgw-2567.mci.net MGCP 1.0
N: ca@cal.mci.net:5678
X: 31415
R: hd
```

```
NTFY 2001 endpoint-1@rgw-2567.mci.net MGCP 1.0
N: ca@cal.mci.net:5678
X: 31415
O: hd
```

**CreateConnection**: attach endpoint to IP address

**MGCP/7**

**ModifyConnection**: change IP address, port, ...

**DeleteConnection**: returns statistics (packets sent, ...)

**AuditEndpoint**: get status of endpoint (events, dialing plans, ...)

**AuditConnection**: get status of connection (id’s, parameters)

**MGCP/8**
Interoperation with PSTN

Off-hook

dial tone

dial digits

Terminal Connection

IP address, port

end-to-end conversation

Remote IP address, port

create connection

Remote IP address, port

create connection

End-to-end conversation

MGCP/9