COMVERSE UNIVERSITY

Signaling Interface – Monitoring

Lesson Objectives

By the end of this lesson you will be able to:

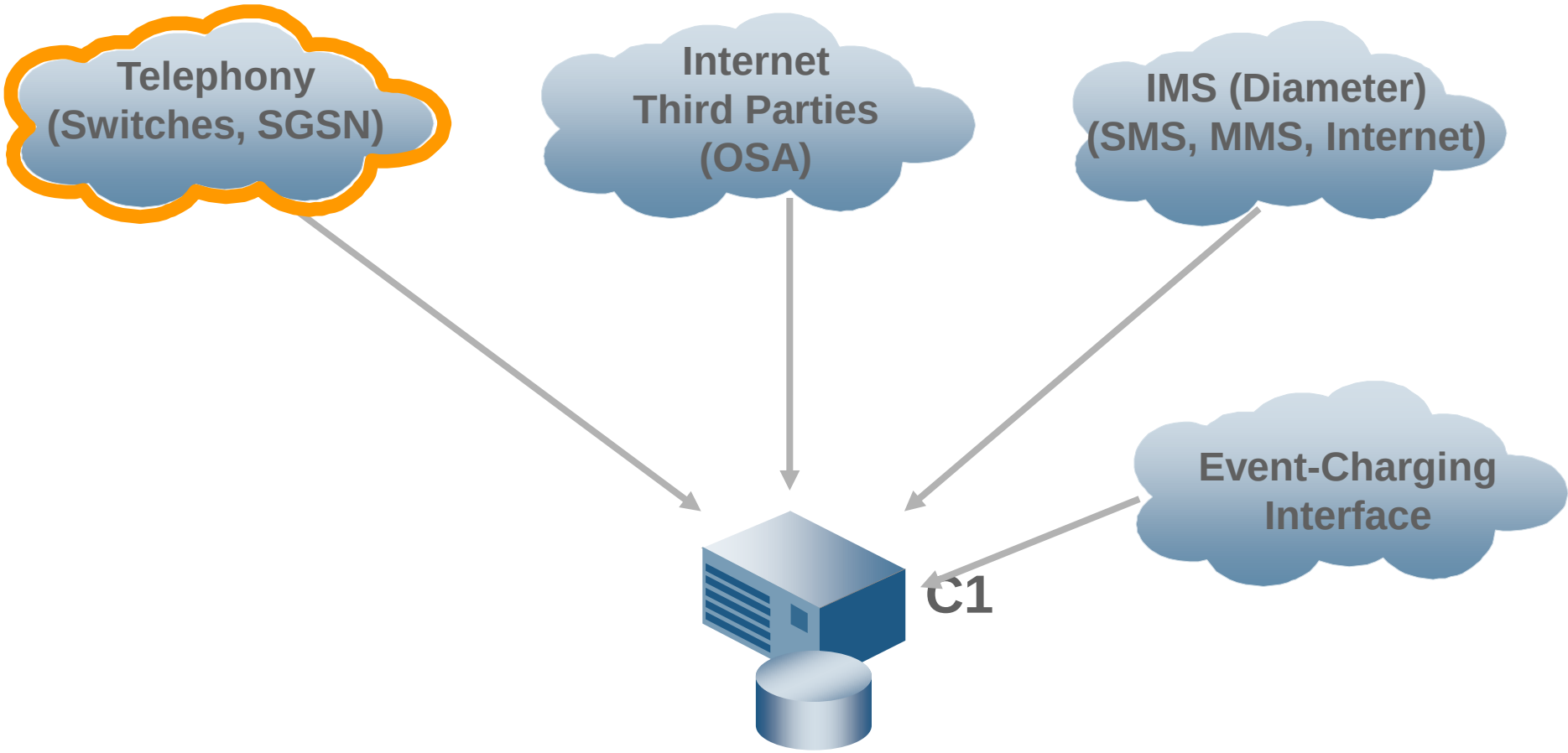
- Describe the main configuration files for the main processes
- Use the key commands for monitoring the system

Agenda

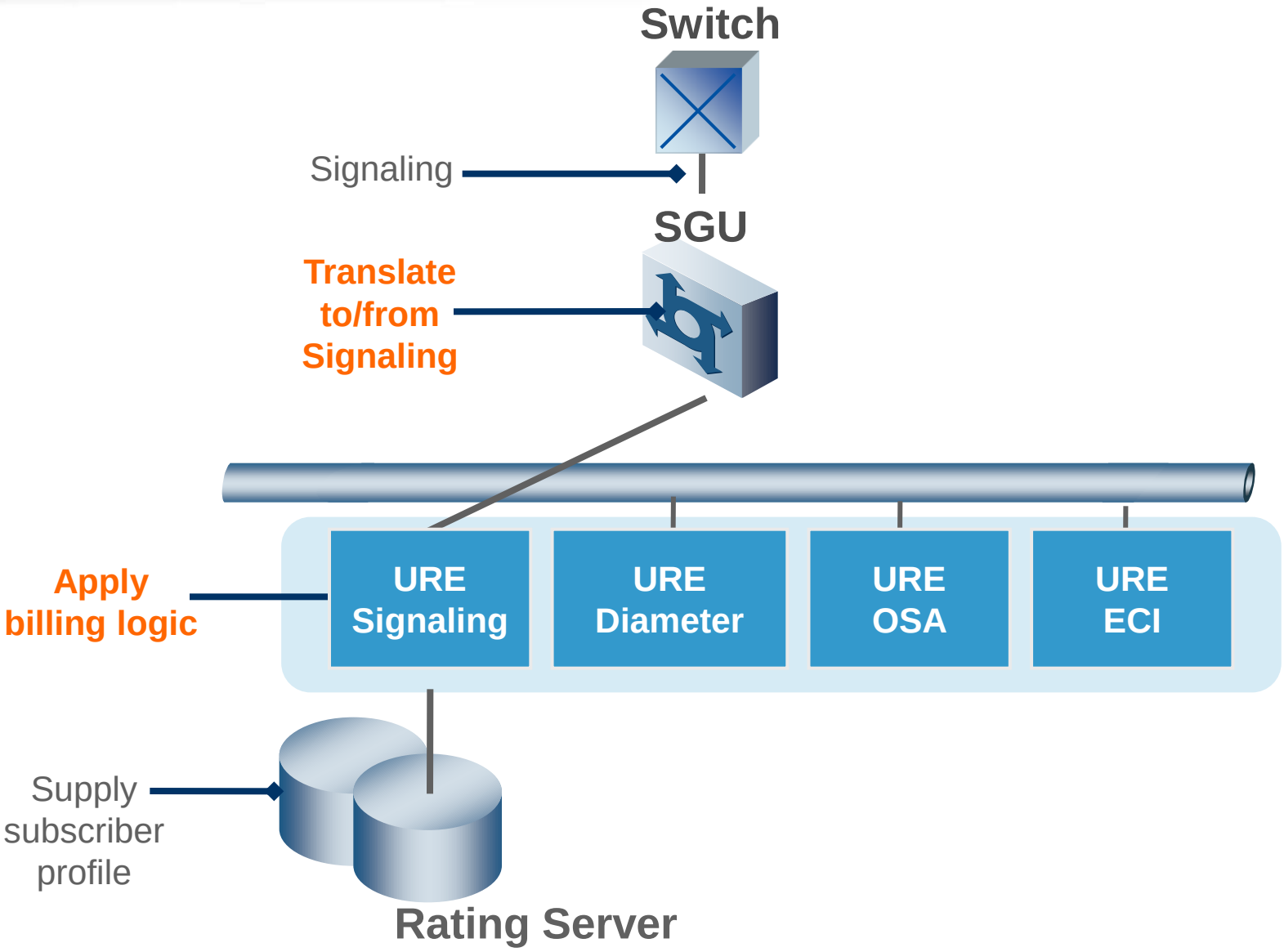
- **Introduction**
- **Key Monitoring Commands**

Network Access

The system is accessed by these networks for real-time billing

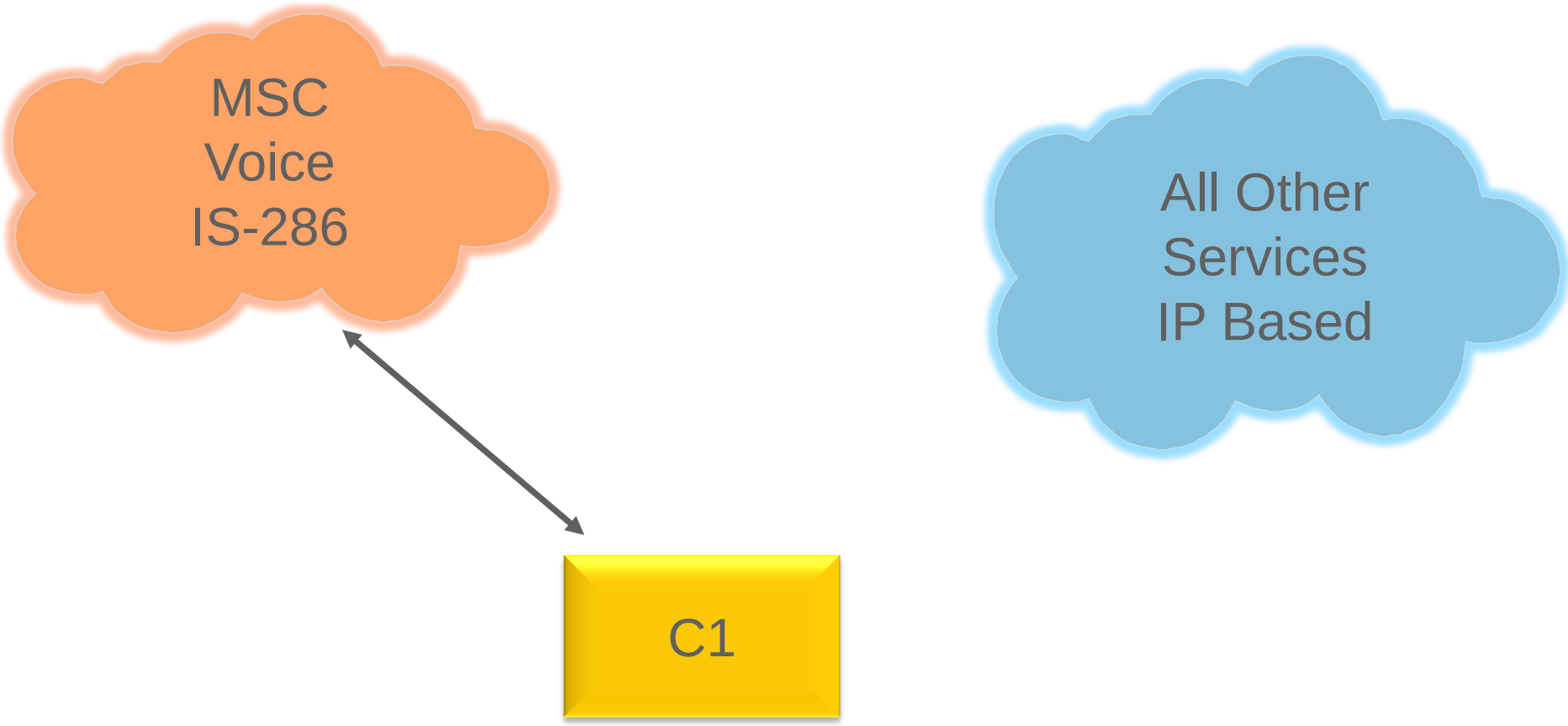


Signaling Flow



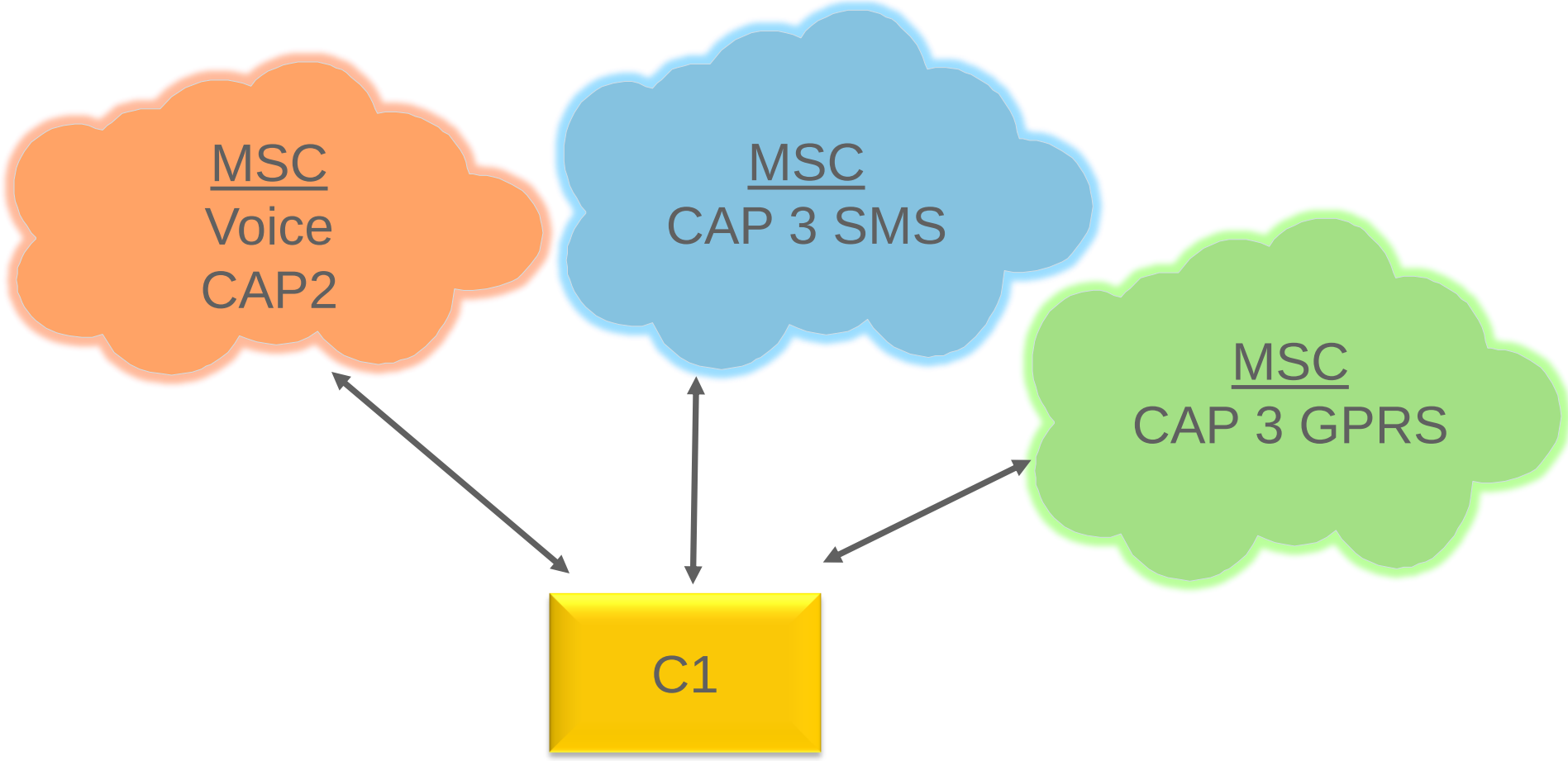
SGU – WIN Architecture

The Signaling Gateway is the focal point for all services provided by the service provider.



SGU – CAMEL Architecture

The Signaling Gateway is the focal point for all services provided by the service provider.



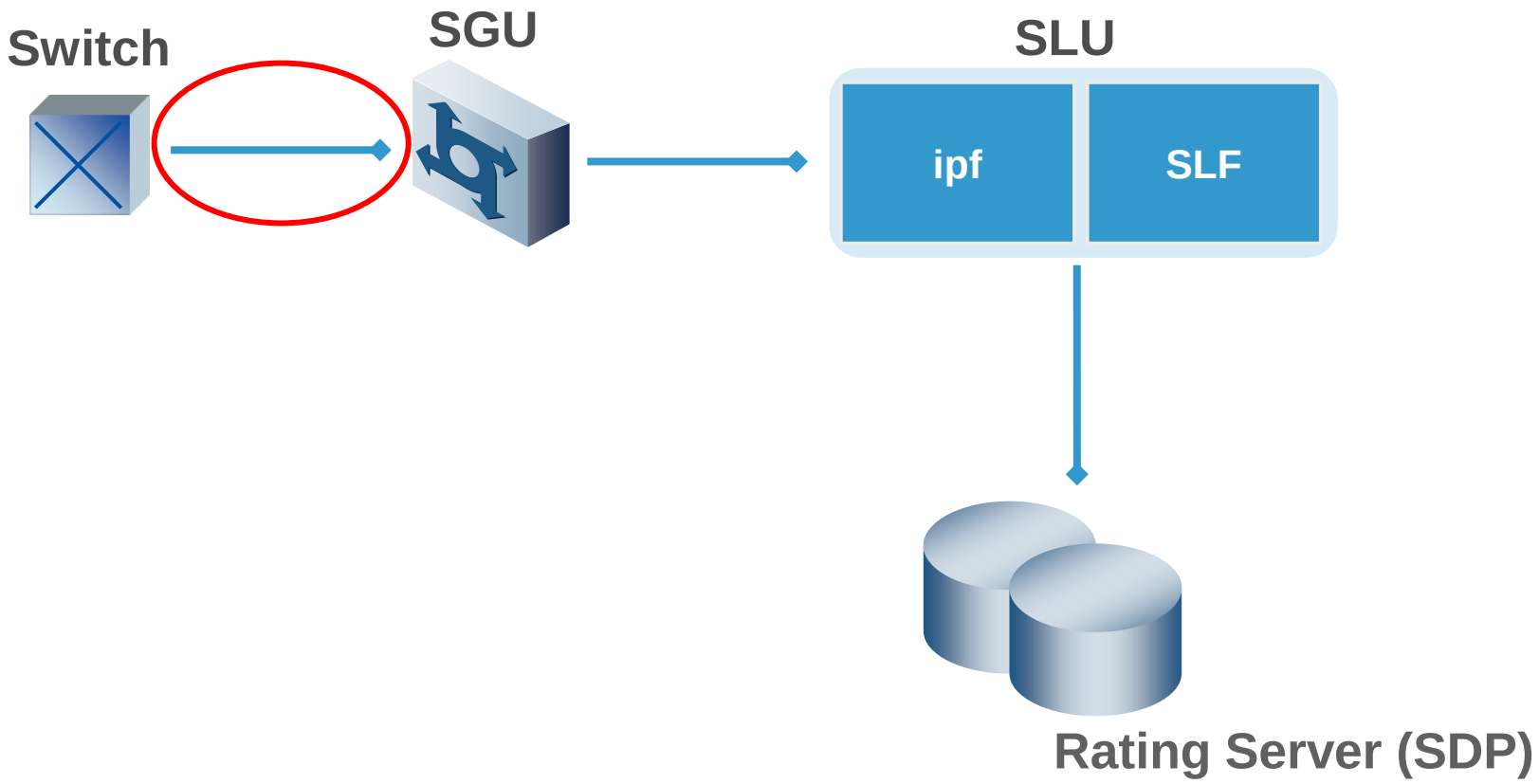
Agenda

Introduction

Key Monitoring Commands

Signaling Flow

To monitor the signaling pipe, you need to monitor each connection separately.



Monitor Signaling in SS7

```
OMNI [29 Jan 2008 20:41:57] #4:displ-slk;

Send [DISPL-SLK;]? [Y/N]y
Sent MML command #4  to PM, cmd[DISPL-SLK;]
starting 600 sec. timer...
4    [29 Jan 2008 20:42:02]
DISPL-SLK;


--- SIGNALLING LINKS --

Name     Nbr  LSet       LSet SLC Port Chan Speed      ADPC      State   Status
              Name       Nbr

LNK1       1  LSET0        1   0    0    12  64000  4114(0x1012)  ACTIVE   iFbolra
P

LNK2       2  LSET0        1   1    1    13  64000  4114(0x1012)  ACTIVE   iFbolra
```

Displays the links from the SGU to the MSCs.

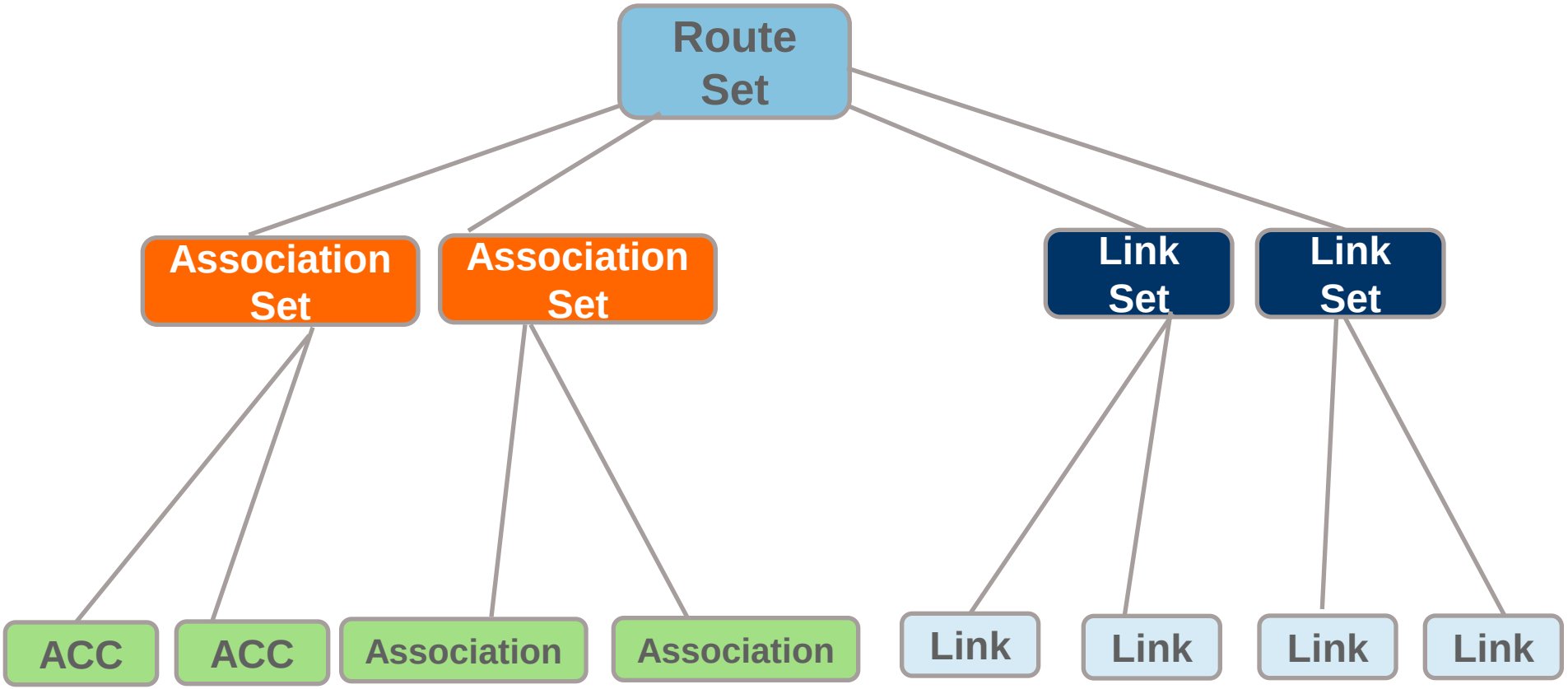
```
[alpha] [/home/omni] 103 > DFcat db.C7.mtp.201.pri
CRTE-OSPC:PC=2057,NI=NAT0;
CRTE-LSET:LSET=LSET0,PC=4114;
CRTE-SLK:SLK=LNK1,LSET=LSET0,SLC=0,SPEED=64K,PORT=0,CHANNEL=12;
CRTE-SLK:SLK=LNK2,LSET=LSET0,SLC=1,SPEED=64K,PORT=1,CHANNEL=13;
```

Monitor Signaling in SIGTRAN

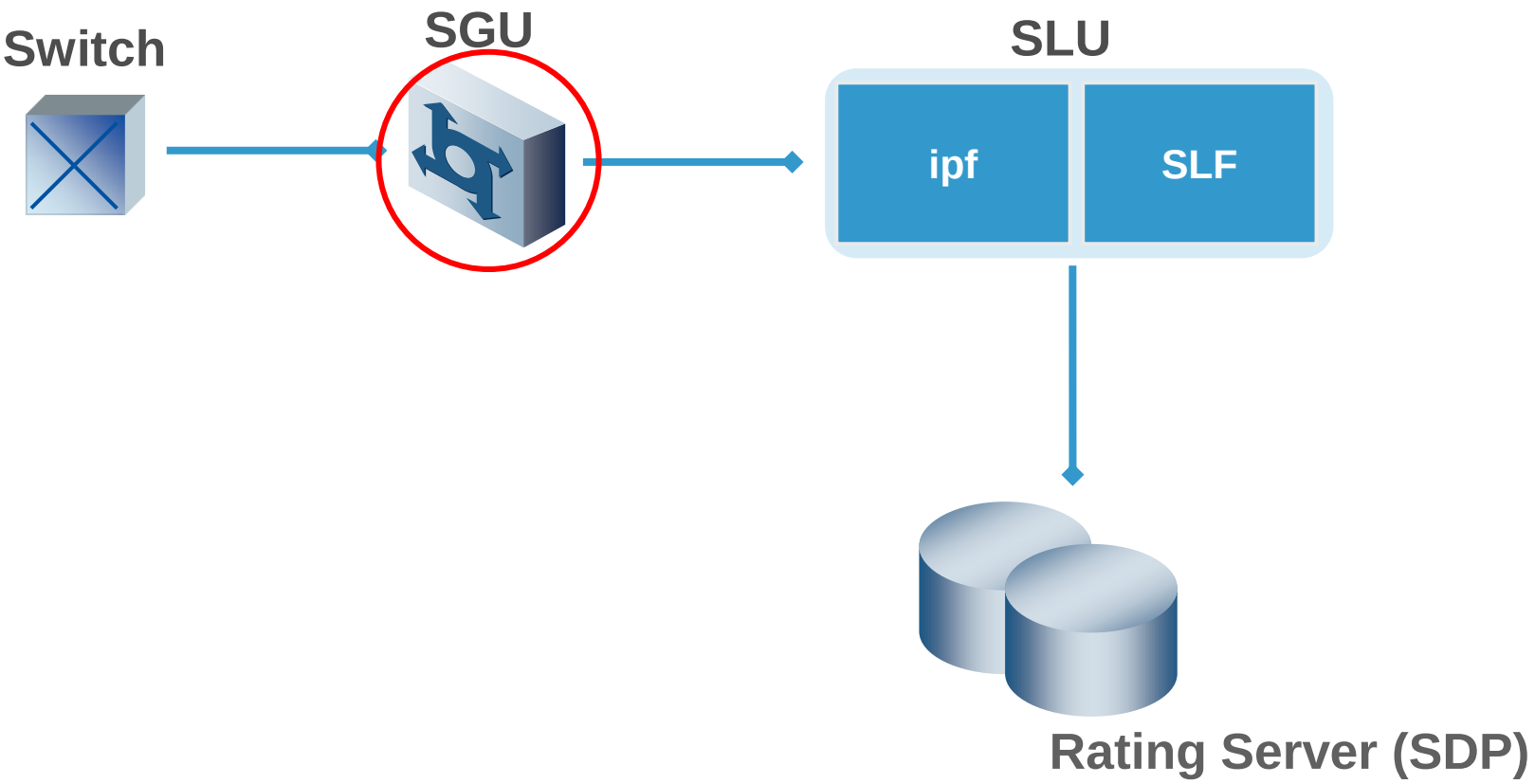
```
DISPL-ASSOC;

--- Associations --

Name     Nbr      ASet     Nbr      ADPC              State Status  CE

ASSOC1     1      ASET1      1       2000(0x 7d0)     ACTIVE  iF    sgu1a
Raddr(1)= 10.230.16.209
Laddr(1)= 10.212.13.100

                --- ASSOCIATION STATUS LEGEND ---

              i - installed                    I - not installed
              n - association normal           F - association failed
```

```
SGU:sgu1a> DFcat db.C7.mtp.204.pri
CRTE-OSPC:PC=3000,NI=NAT0;
CRTE-ASET:ASET=ASET1,PC=2000;
CRTE-ASSOC:ASSOC=ASSOC1,ASET=ASET1,CE="sgu1a",RADDR=10.230.16.209,LADDR=10.212.13.100;
```

SS7 and SIGTRAN Configuration



Signaling Flow



SGU OMNI Processes (1)

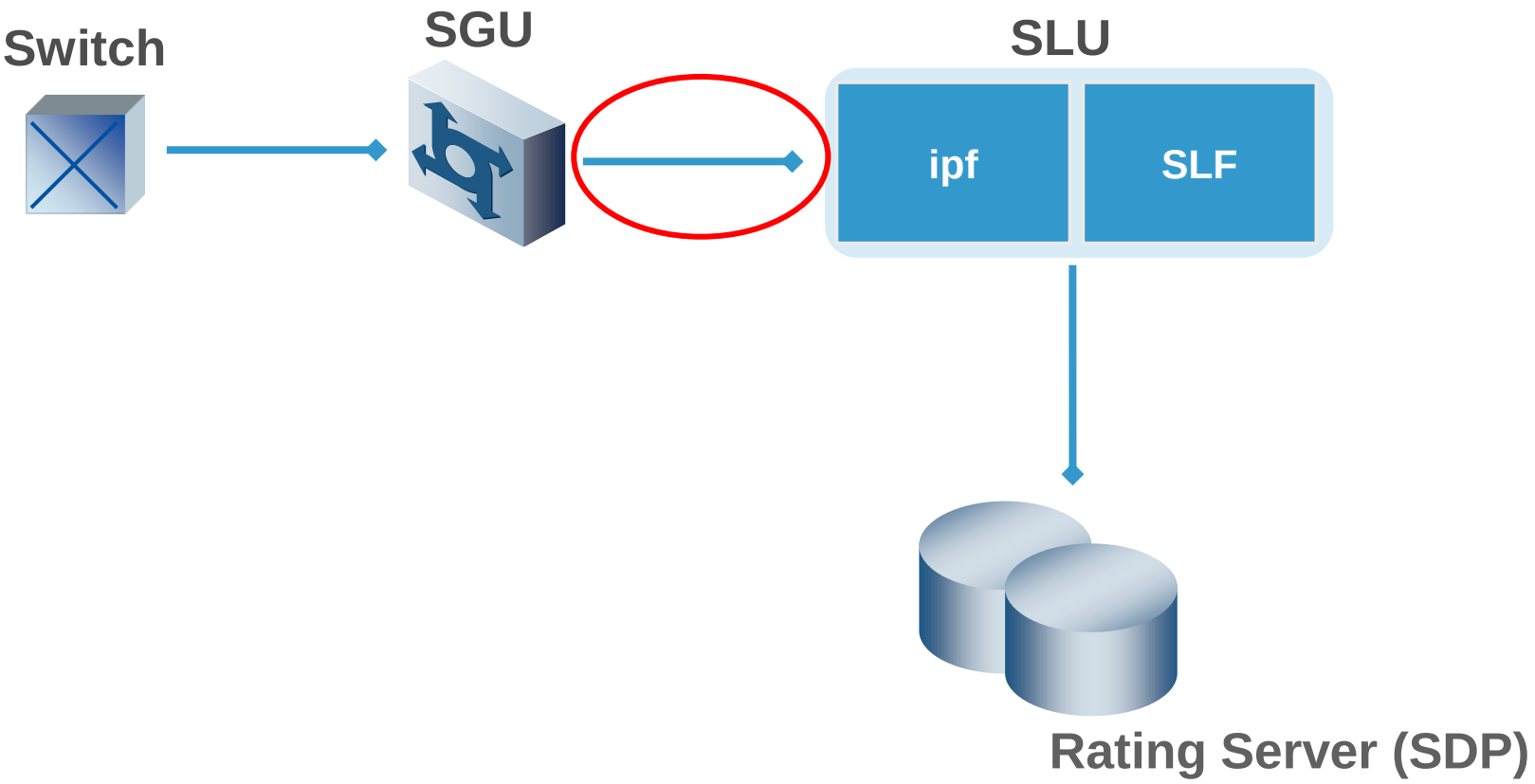
Display Designation on SGU

```
OMNI [29 Jan 2008 17:39:49] #4:displ-designation;

Send [DISPL-DESIGNATION;]? [Y/N]y
Sent MML command #4  to ACTV_PM, cmd[DISPL-DESIGNAT
starting 600 sec. timer...
4    [29 Jan 2008 17:39:56]
DISPL-DESIGNATION;
Designatable Process copies for system 204

Process         Active Copy    Standby Copy   Idle C
TAP             sgu1a          sgu1b
PM              sgu1a          sgu1b
PortMon         sgu1a          sgu1b
OOSVR           sgu1a          sgu1b
GUISVR          sgu1a          sgu1b
MCONF           (none)         (none)
C7_NM           sgu1a          sgu1b
C7_MEAS         sgu1a          sgu1b
C7_L3MTP        sgu1a          sgu1b
C7_SCMG         sgu1a          sgu1b
C7_TCMG         sgu1a          sgu1b
IP_NM           sgu1a          sgu1b
MEAS_MANAGER    sgu1a          sgu1b
ALMSVR          sgu1a          sgu1b
TRMIAP          sgu1a          sgu1b
CEMEAS          sgu1a          sgu1b
ALMSS7          sgu1a          sgu1b
DTCAP           sgu1a          sgu1b
```

Configuration File

```
SGU:sgu1a> DFcat tapdes.204
TAP
PM
PortMon
OOSVR
GUISVR
MCONF
C7_NM
C7_MEAS
C7_L3MTP
C7_SCMG
C7_TCMG
IP_NM
MEAS_MANAGER
ALMSVR
TRMIAP
CEMEAS
ALMSS7
DTCAP
SGU:sgu1a>
```

Signaling Flow



OMD

OMD (OMNI Debugger) is an interface used to access and monitor processes running on top of OMNI.

```
SGU:agul> omd DTCAP
name=omd20896, path=omd, node=, target=DTCAP

current time is Sun Jul  1 03:59:01 2012
type '?' for command list
```

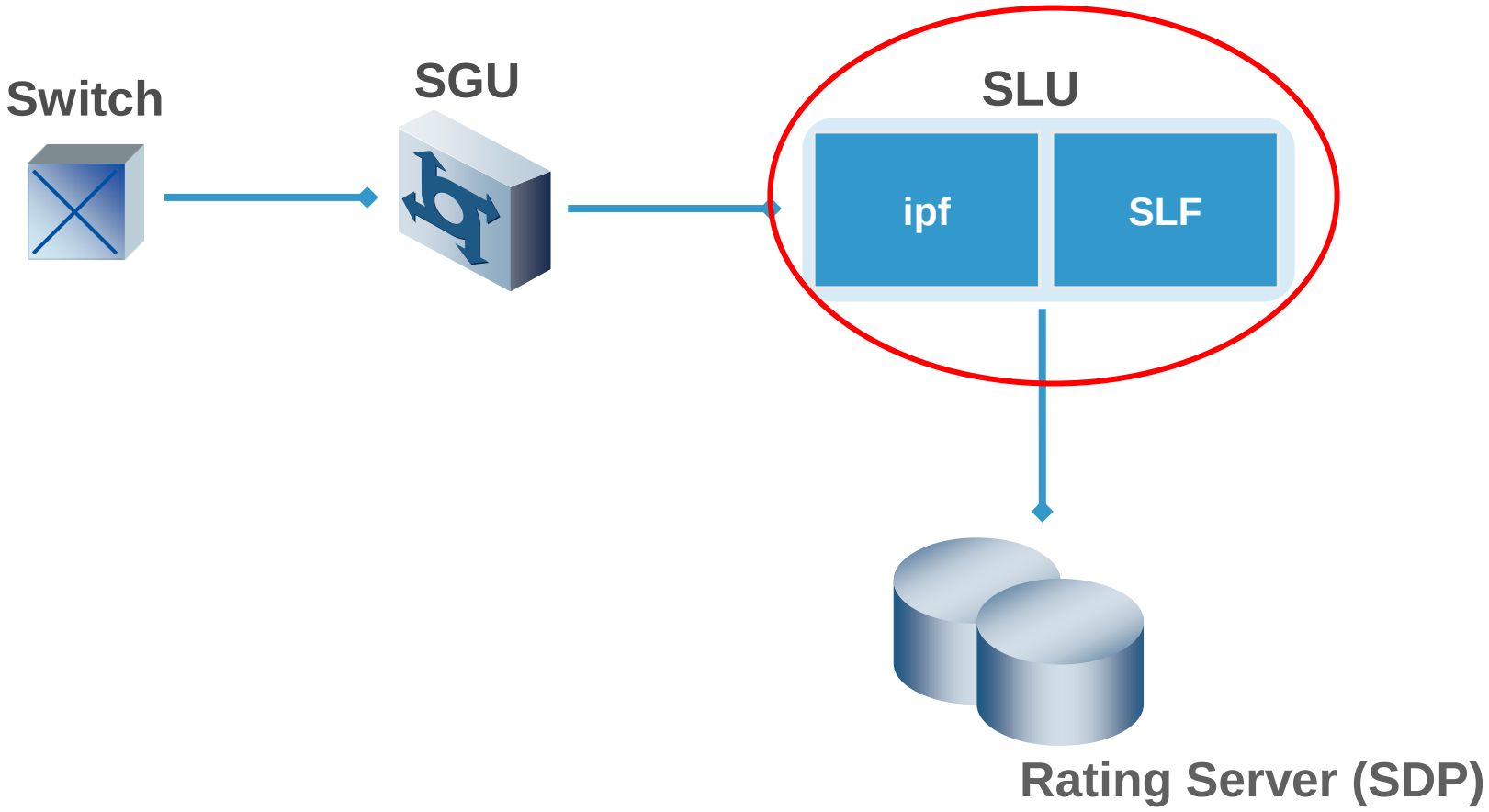
Monitor SGU-SLU Connection

```
DTCAP>>display-dtcap:client=all;
MML sent to sgu1a.PM:
    DISPLAY-DTCAP:CLIENT=ALL;

      ******** DISPLAY-DTCAP REPORT ********
      CE = sgu1a, Designated State = ACTIVE

    DTCAP CLIENT SUMMARY:

        Client ID = 0x0101 (257), IP Addr = 172.017.200.006, UDP Port = 10000,
        state = Accepting All, Heartbeat Period = 2 Seconds, Failure Threshold =
30 Timeouts
        SSNs:
            146:CAP2 {0, 4, 0, 0, 1, 0, 50, 1}, associateByCalRef=FALSE

        Client ID = 0x0201 (513), IP Addr = 172.017.200.007, UDP Port = 10000,
        state = Accepting All, Heartbeat Period = 2 Seconds, Failure Threshold =
30 Timeouts
        SSNs:
            146:CAP2 {0, 4, 0, 0, 1, 0, 50, 1}, associateByCalRef=FALSE
```

```
SNCP:slu1a> DFcat db.IP.ina.202.pri
SET-INA-SERVICE:CE="sgu1a"&"sgu1b",
CHANGE-INA-SYNCH-PARAMS:CCS_SYNCH_R
NRESPONSIVE_THRESHOLD=30;
SET-INA-TCAP-PARAMS:SSN=146;
SET-INA:SLU_ID=1;
SET-INA:ENTITY_ID=1;
SET-INA:LOCAL_PORT=10000;
```

URE has the conf file

Signaling Flow



URE OMNI Processes (2)

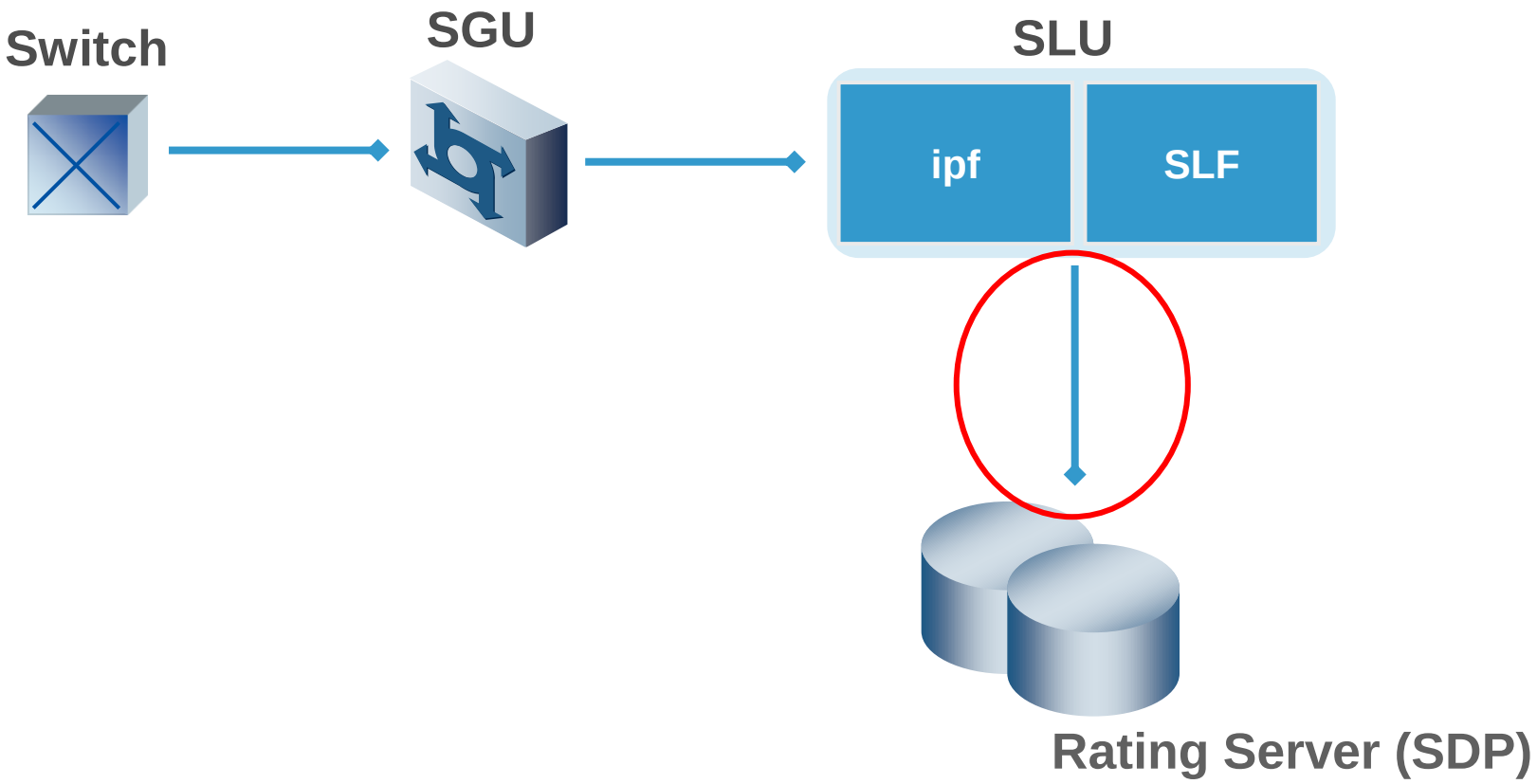
Display Designation on URE

```
OMNI [29 Jan 2008 17:46:23] #1:displ-designation;
Designatable Process copies for system 202

Process          Active Copy     Standby Copy    Idle
TAP              slu2            (none)
PM               slu2            (none)
PortMon          slu2            (none)
OOSVR            slu2            (none)
GUISVR           slu2            (none)
SERVOOS          slu2            (none)
LOG              slu2            (none)
IP_NM            slu2            (none)
MEAS_MANAGER     slu2            (none)
BILL_MANAGER     slu2            (none)
TCPIP_RP         slu2            (none)
IP_GUISVR        slu2            (none)
CALLC            slu2            (none)
RC               slu2            (none)
TREATMENT        slu2            (none)
ALMSVR           slu2            (none)
TRMIAP           slu2            (none)
CEMEAS           slu2            (none)
OR_MANAGER       slu2            (none)
WINA             slu2            (none)
OPPS             slu2            (none)
TPPS             slu2            (none)
TSP              slu2            (none)
```

Configuration File

```
SNCP:slu2> DFcat tapdes.202
TCPIP_RP
IP_GUISVR
CALLC
RC
TREATMENT
ALMSVR
TRMIAP
CEMEAS
OR_MANAGER
WINA
OPPS
TPPS
TSP
```

Signaling Flow



Monitoring Application-Data Connectivity

Command:: show-conn;

```
URE:URE_u9>>ure_u9,show-conn;
MML sent to URE_U9:
    SHOW-CONN;

Connection Info:

Pool: SDP, Connection[0:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[1:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[2:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[3:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[4:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[5:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[6:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[7:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[8:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[9:0] is connected, sdp9_n1.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[10:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[11:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[12:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[13:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[14:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[15:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[16:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[17:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[18:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
Pool: SDP, Connection[19:0] is connected, sdp9_n2.world, WAITING_FOR_REQUEST
DONE
```

Summary

This lesson has covered:

- Introduction to Signaling Pipe monitoring
- Key monitoring commands

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