COMVERSE UNIVERSITY

# Signaling Gateway Unit (SGU)

Comverse ONE

# Lesson Objectives

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

- List the SGU functionalities in Comverse ONE
- Describe the SS7 Signaling flow in Comverse ONE
- Describe the DTCAP Comverse-proprietary protocol
- List the SGU structure and components
- Describe the OMNI Middleware on the SGU

# Agenda

**Signaling Gateway Functionalities**

**Signaling Flow and DTCAP in Comverse ONE**

**SGU – Structure and Components**

**OMNI Middleware on the SGU**

# Comverse ONE Functional Architecture

Open Framework

Operations

Active Customer Management

Rating, Charging and Promotions

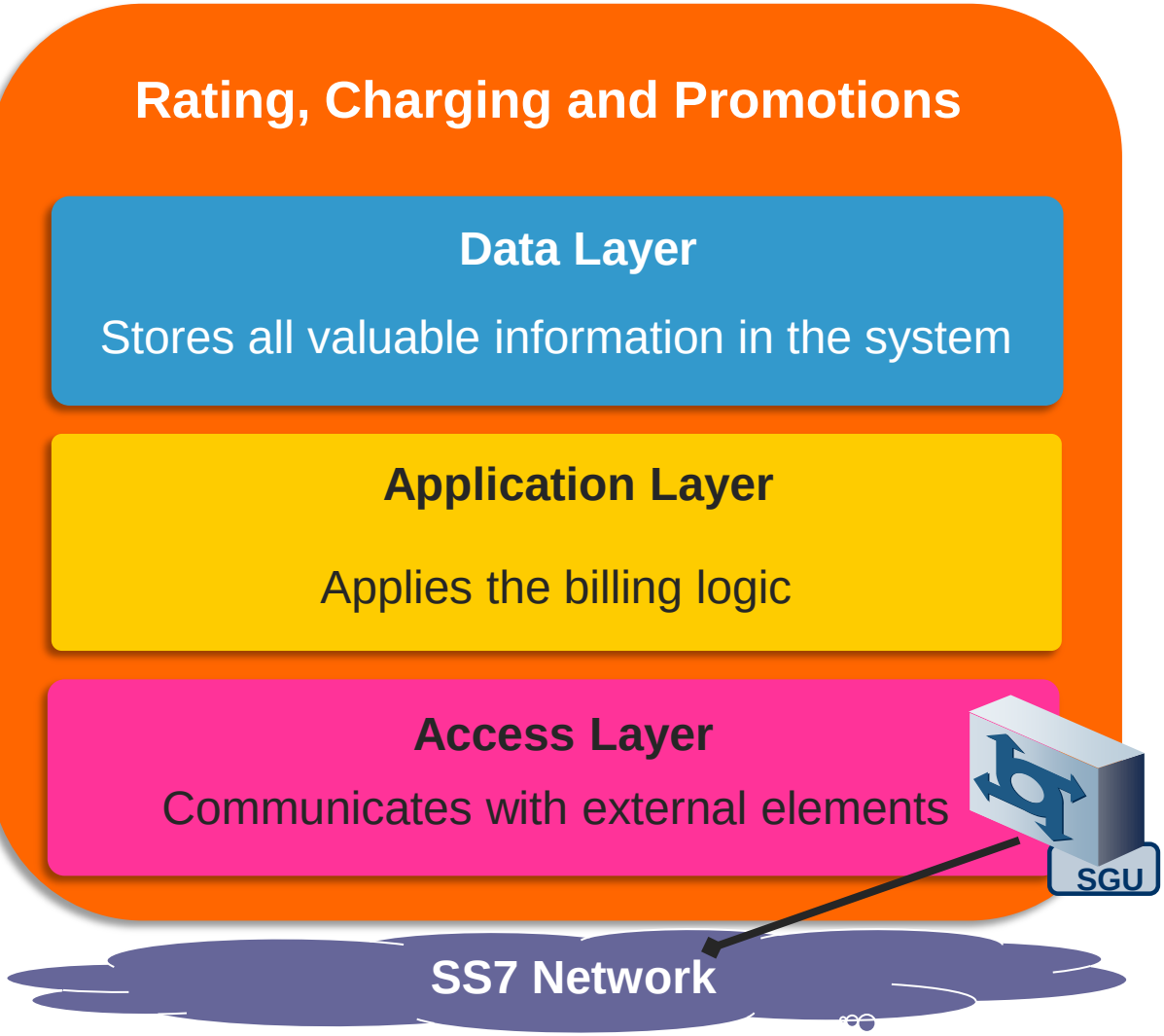

Single Data Model

Billing & Financials

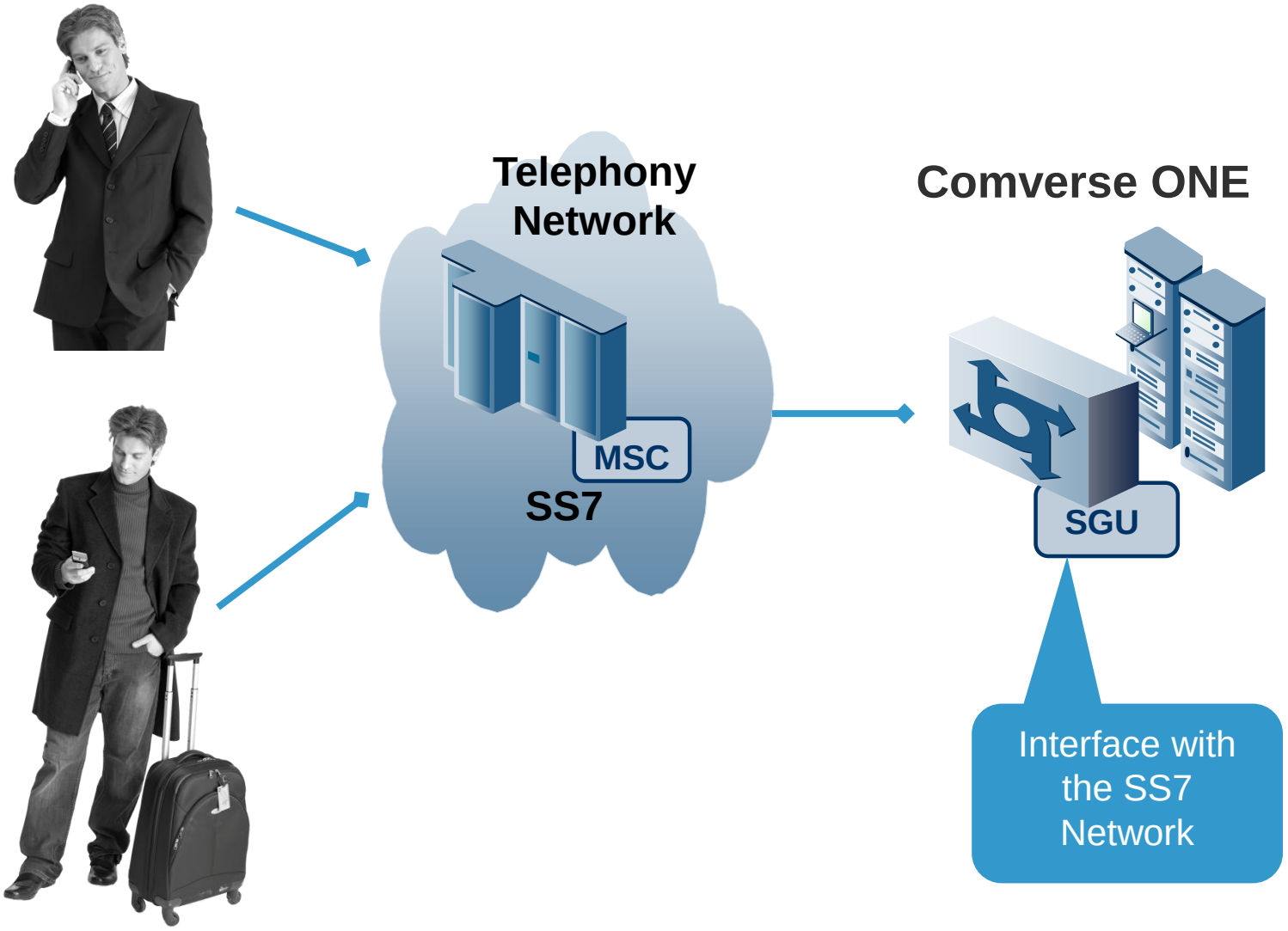
Product Catalog

Mediation & Settlements

# Where We Are

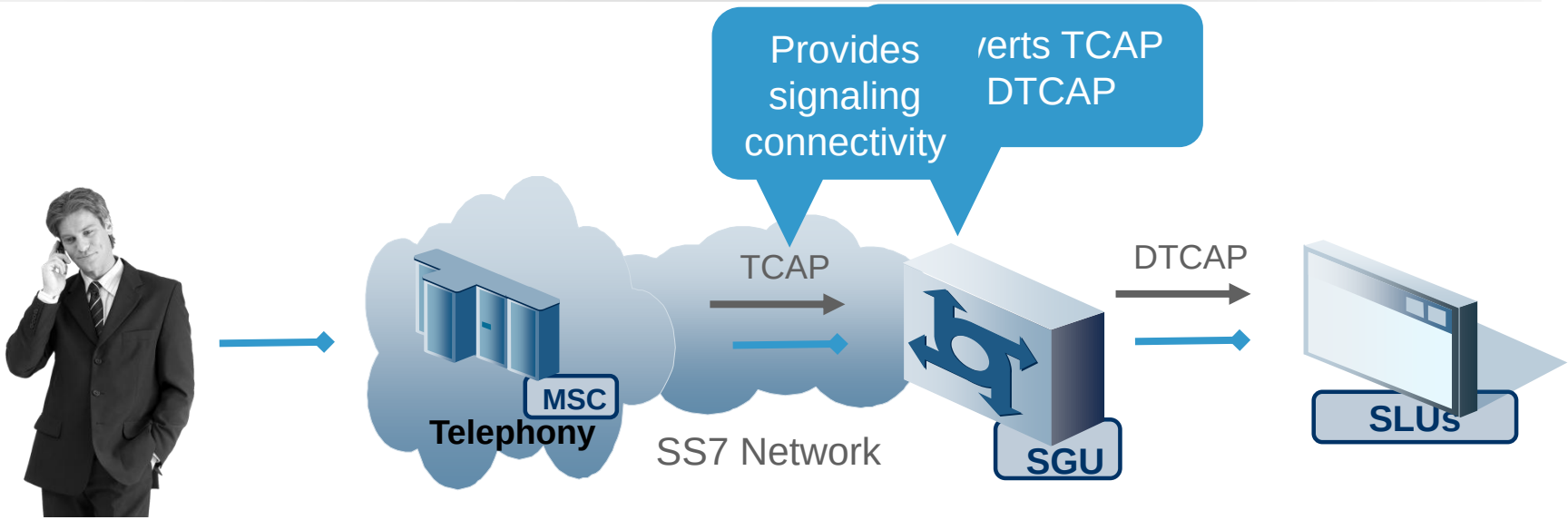

Rating, Charging and Promotions
Data Layer
Stores all valuable information in the system
Application Layer
Applies the billing logic
Access Layer
Communicates with external elements
SGU
SS7 Network

# SGU in the Signaling Flow



# SGU – Functionalities

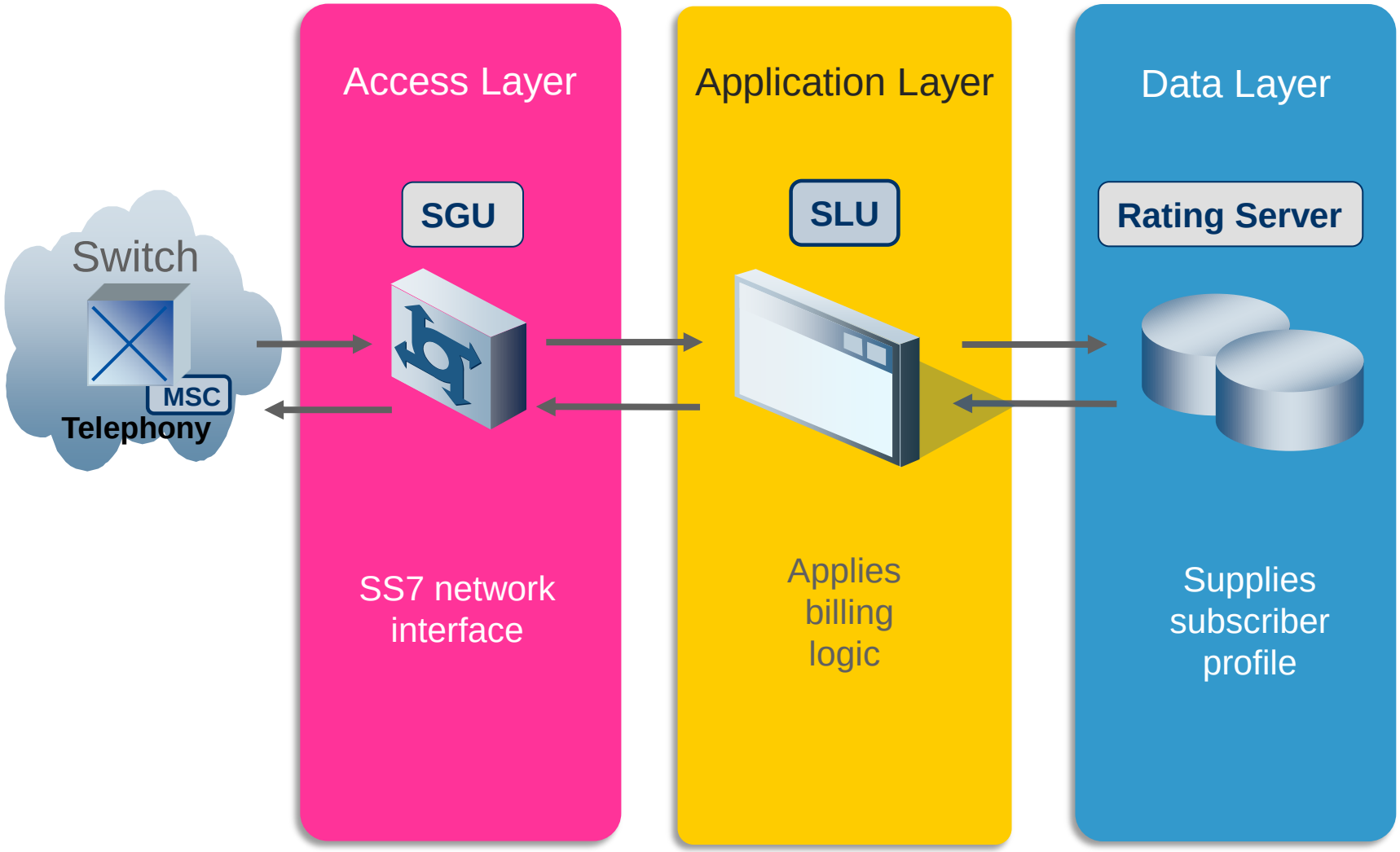
- Provides signaling connectivity to the SS7 network
- Translates TCAP information to DTCAP for load balancing
- Routes the info from the SS7 network to the SLUs



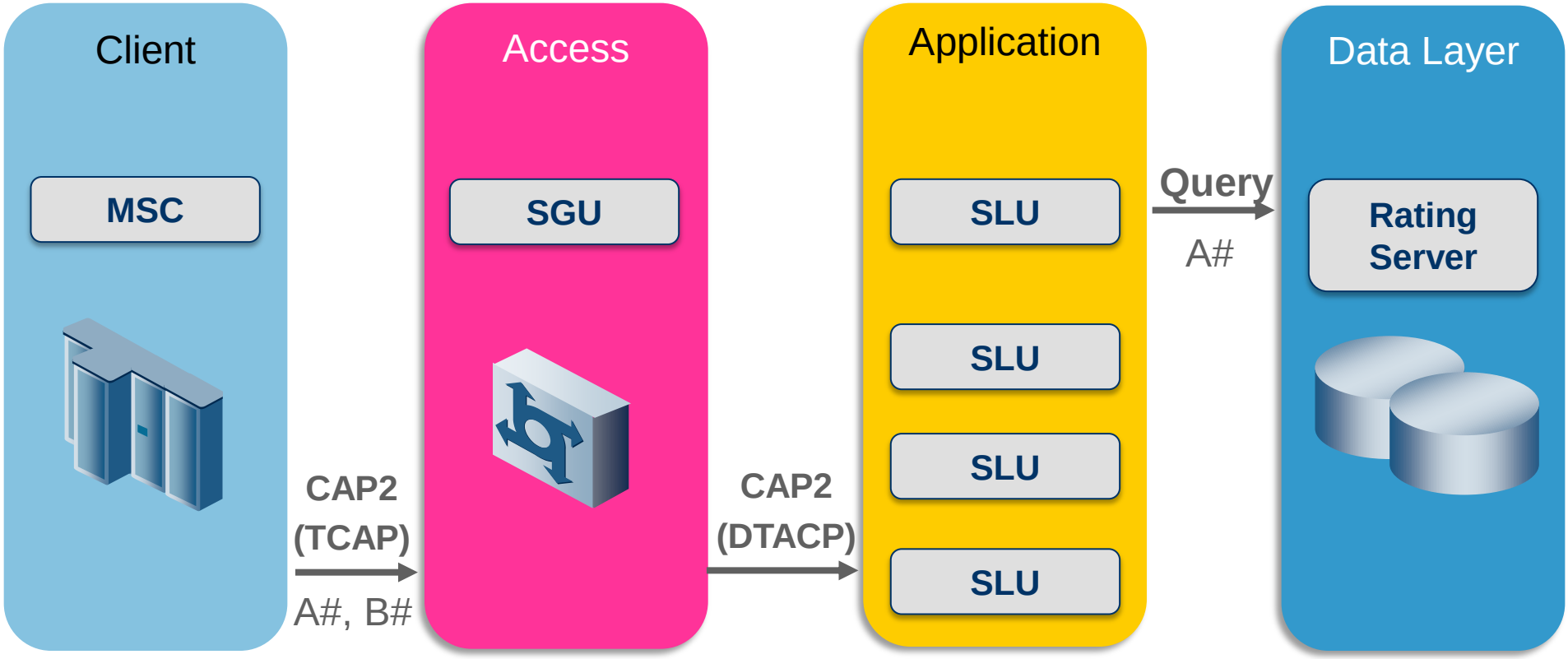
# Agenda

- Signaling Gateway Functionalities
- **Signaling Flow and DTCAP in Comverse ONE**
- SGU – Structure and Components
- OMNI Middleware on the SGU

# Voice Call Billing Flow

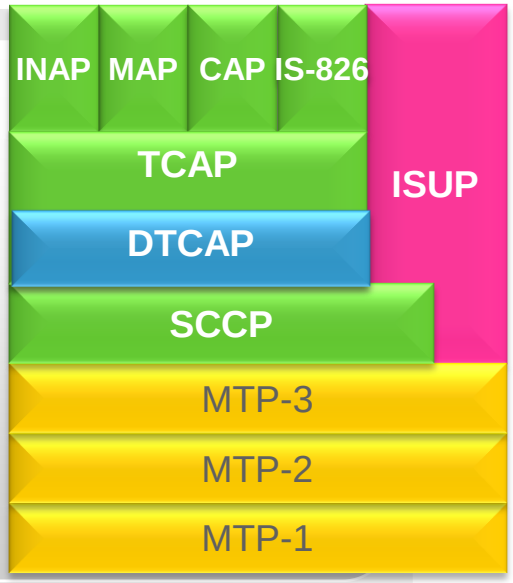


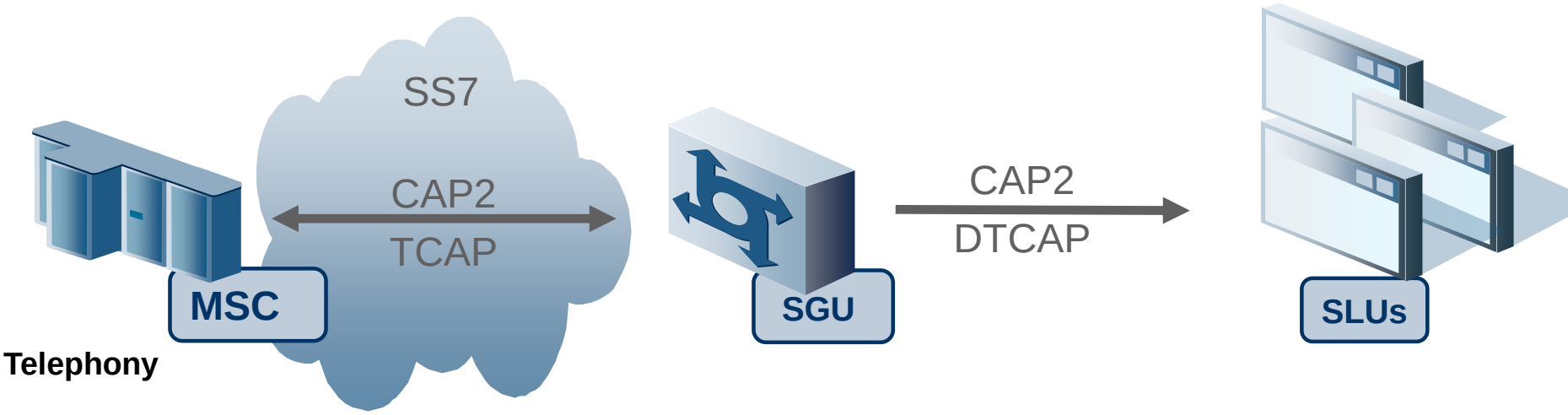
# SS7 Call Flow Building



# The DTCAP Protocol

- Comverse-proprietary protocol
- Distributes the TCAP protocol to the SLUs
- Performs load balancing between the SLUs
- Detects SLU failure, recovery and overload



# Review Question (1)

Where is SS7 TCAP protocol converted to DTCAP?

1. MSC
2. URE
3. SGU
4. Rating Server

# Review Question (2)

What does the DTCAP do ?

1. Distributes TCAP protocol to the SLUs
2. Acts as SLUs load balancer
3. Detects SLU failure, recovery and overload
4. All of the above

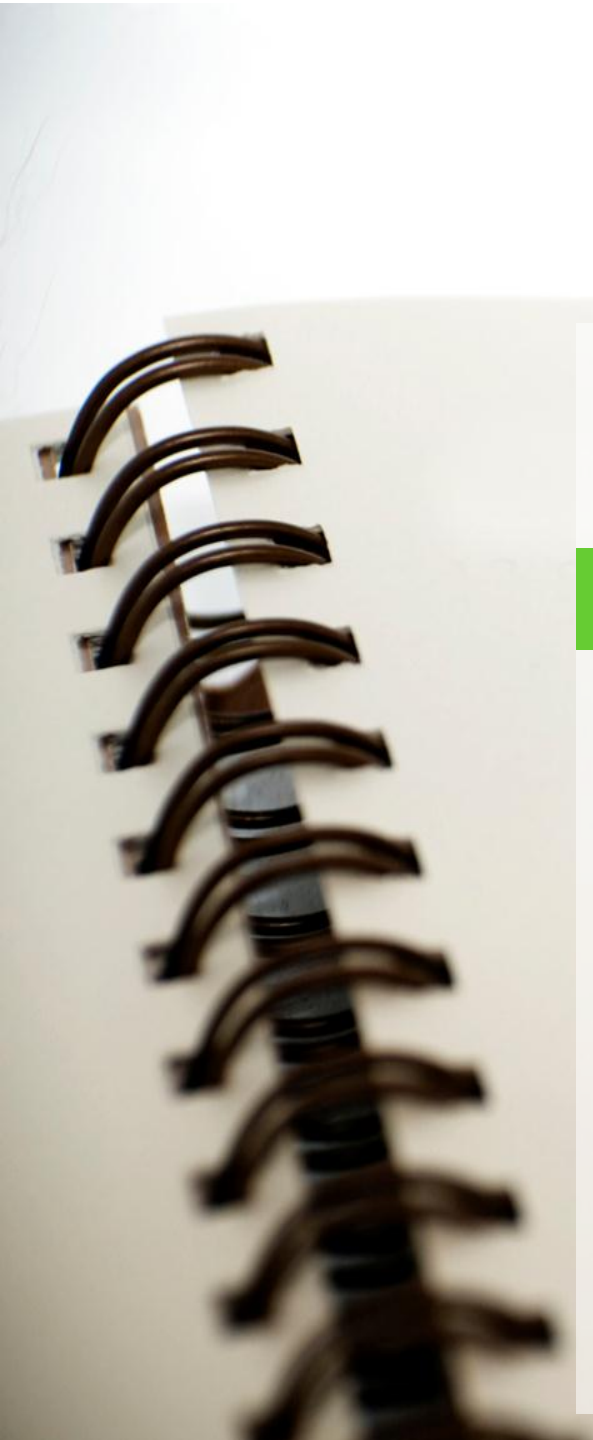
# Review Question (3)

Match each component to its description.

1. MSC
2. SGU
3. SLU
4. Rating Server

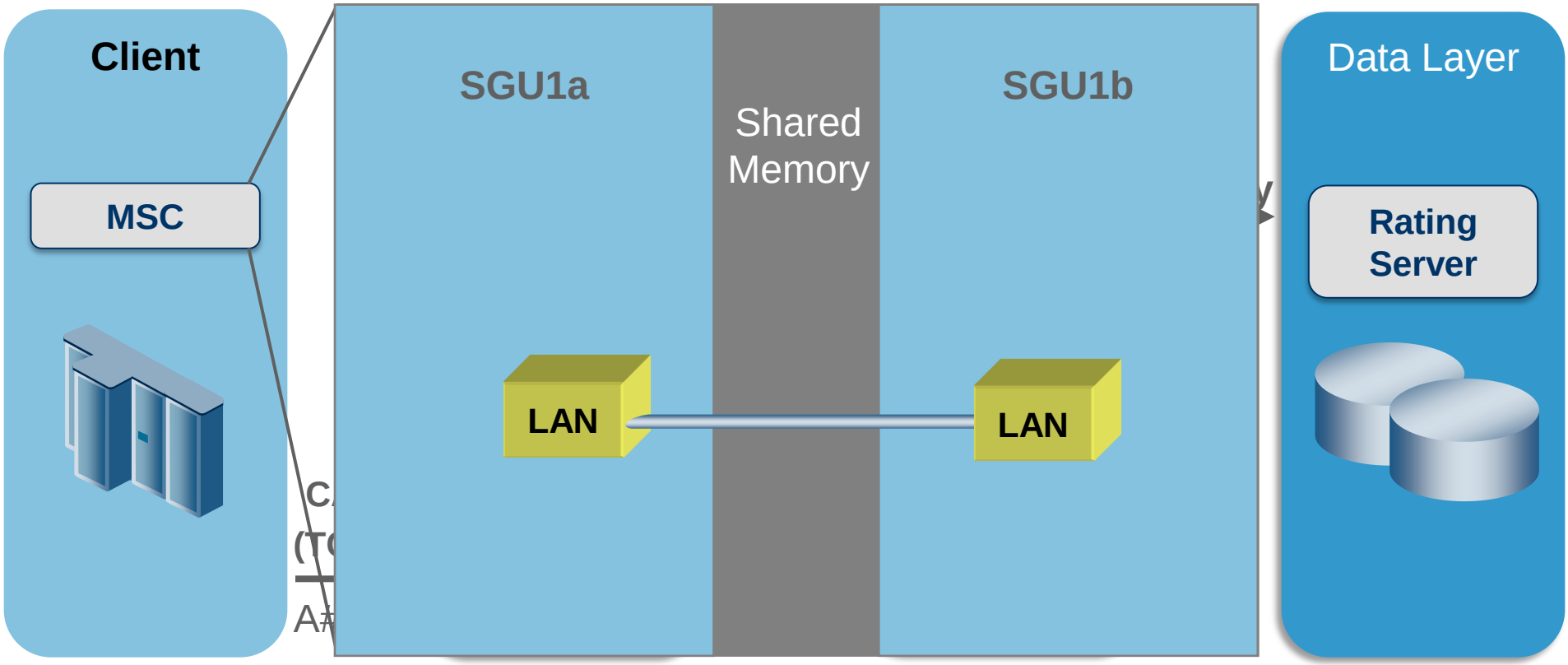
A. Comverse ONE SS7 interface server
B. Supplies subscriber's profile and balances
C. Customer activity is collected by it
D. Performs rating according to subscriber's account

# Agenda

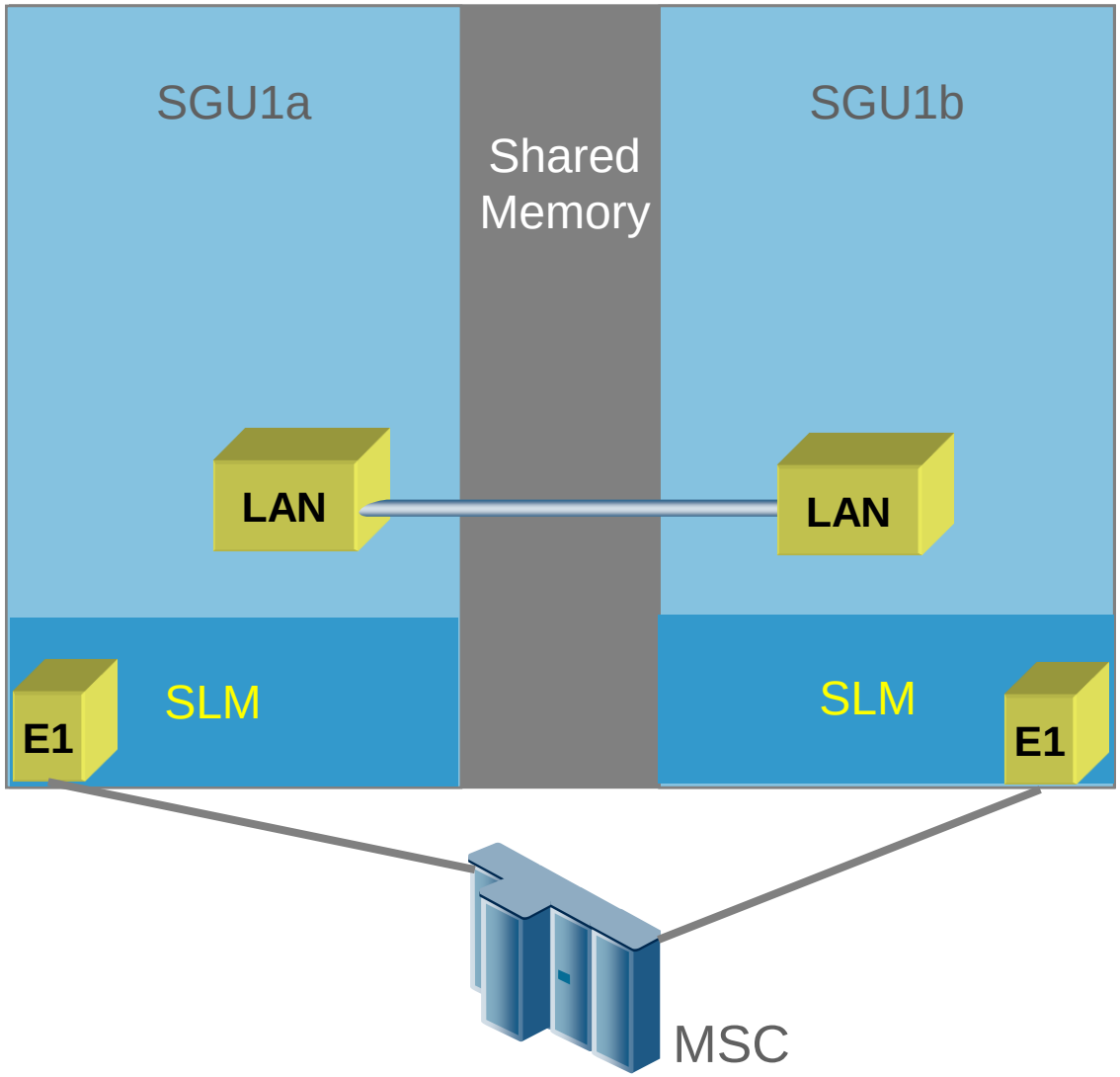


- Signaling Gateway Functionalities
- Signaling Flow and DTCAP in Comverse ONE
- **SGU – Structure and Components**
- OMNI Middleware on the SGU

# SGU – Structure and Components



# The SGU – Structure and Components



# Review Question (5)

Which of the following is true regarding the SLMs?

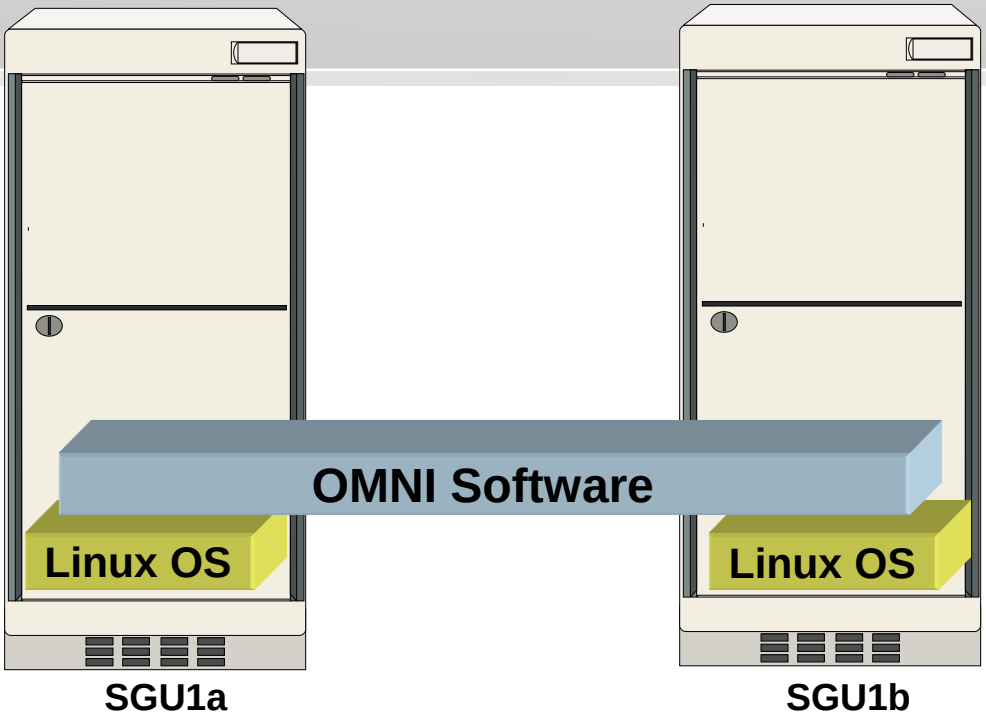
1. They are interface cards that connect to the SS7 network
2. They provide E1 connection between the MSC and the SGU
3. They are installed on the SGU computer element
4. All of the above

# Agenda

- Signaling Gateway Functionalities
- Signaling Flow and DTCAP in Comverse ONE
- SGU – Structure and Components
- **OMNI Middleware on the SGU**

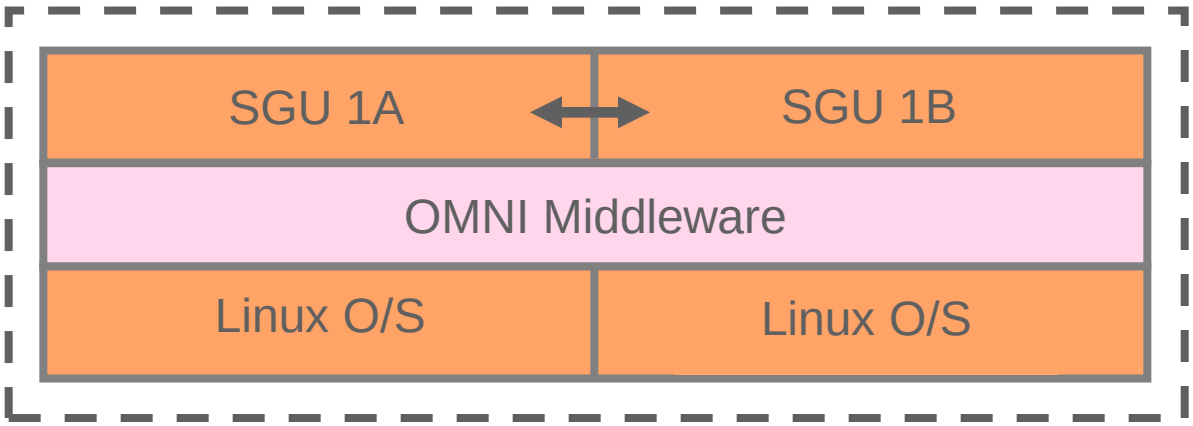
# OMNI Functionalities

- SGU cluster management
- Interface with the SS7 network
- Creates one SS7 logical node



# OMNI Clustering and Redundancy

Provides load sharing redundancy




CLUSTER (2 CEs)

# Review Question (6)

The OMNI middleware enables:

A. SGU redundancy
B. SGU clustering
C. Creating SS7 logical nodes
D. All of the above

# Summary

This lesson has covered the following topics:

- SGU functionalities in the signaling system
- Signaling flow and call flow building in Comverse ONE
- DTCAP Comverse-proprietary protocol
- SGU structure and components
- OMNI Middleware on the SGU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