COMVERSE UNIVERSITY

Comverse ONE Architecture

Lesson Objectives

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

- Explain offline and online processes
- List the components in the offline and online processes
- Describe basic prepaid and postpaid flows

Agenda

- **Offline and Online Processes**
- **Online Process**
- **Offline Process**

Offline and Online Processes

Offline

Postpaid:
Kate receives an invoice at the end of the month

Online (Real-Time)

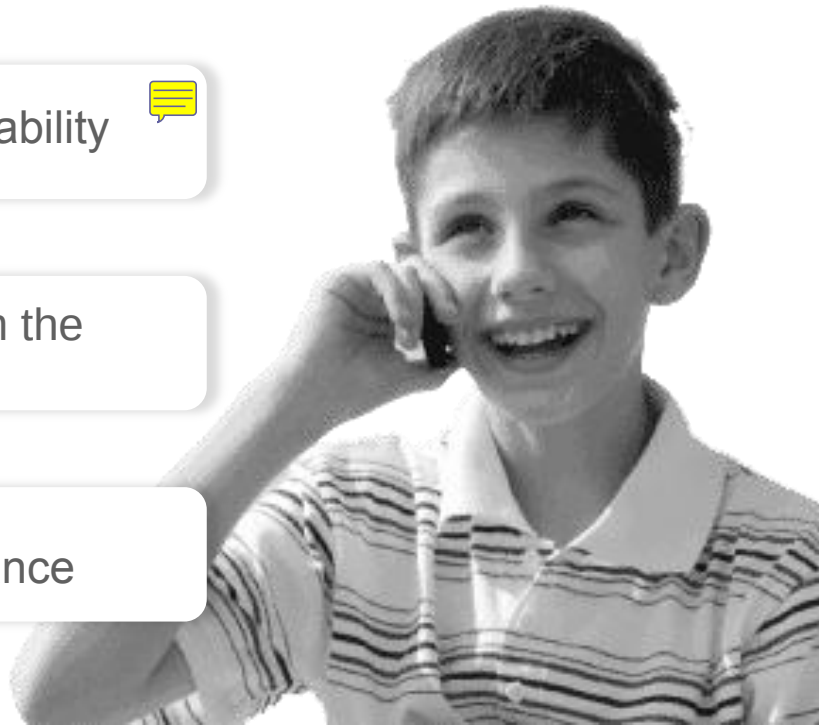
Prepaid example:
Jason uses his recharged card

Agenda

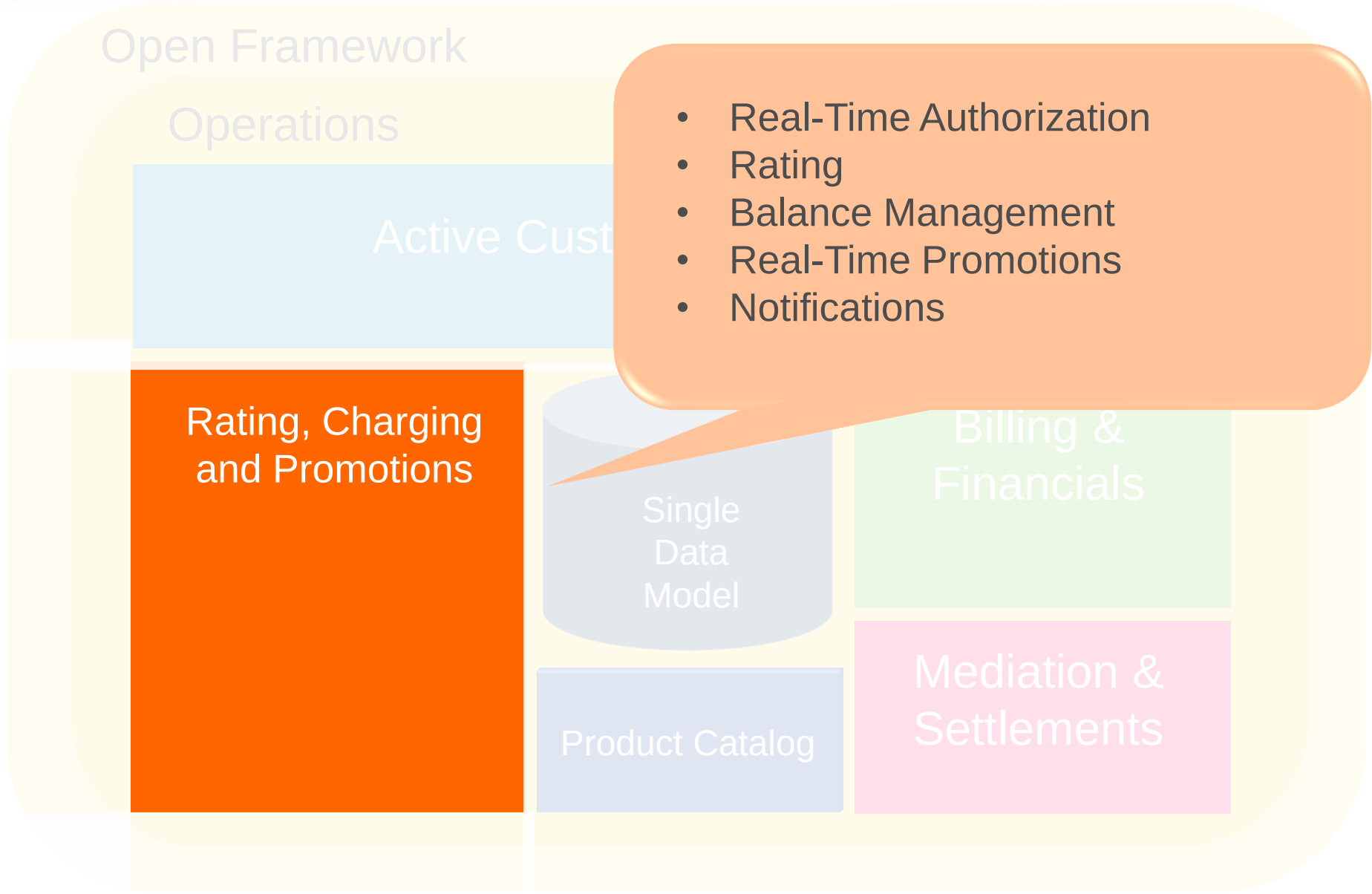
- Offline and Online Processes
- **Online Process**
- Offline Process

Common Real-Time/Online Billing Flow

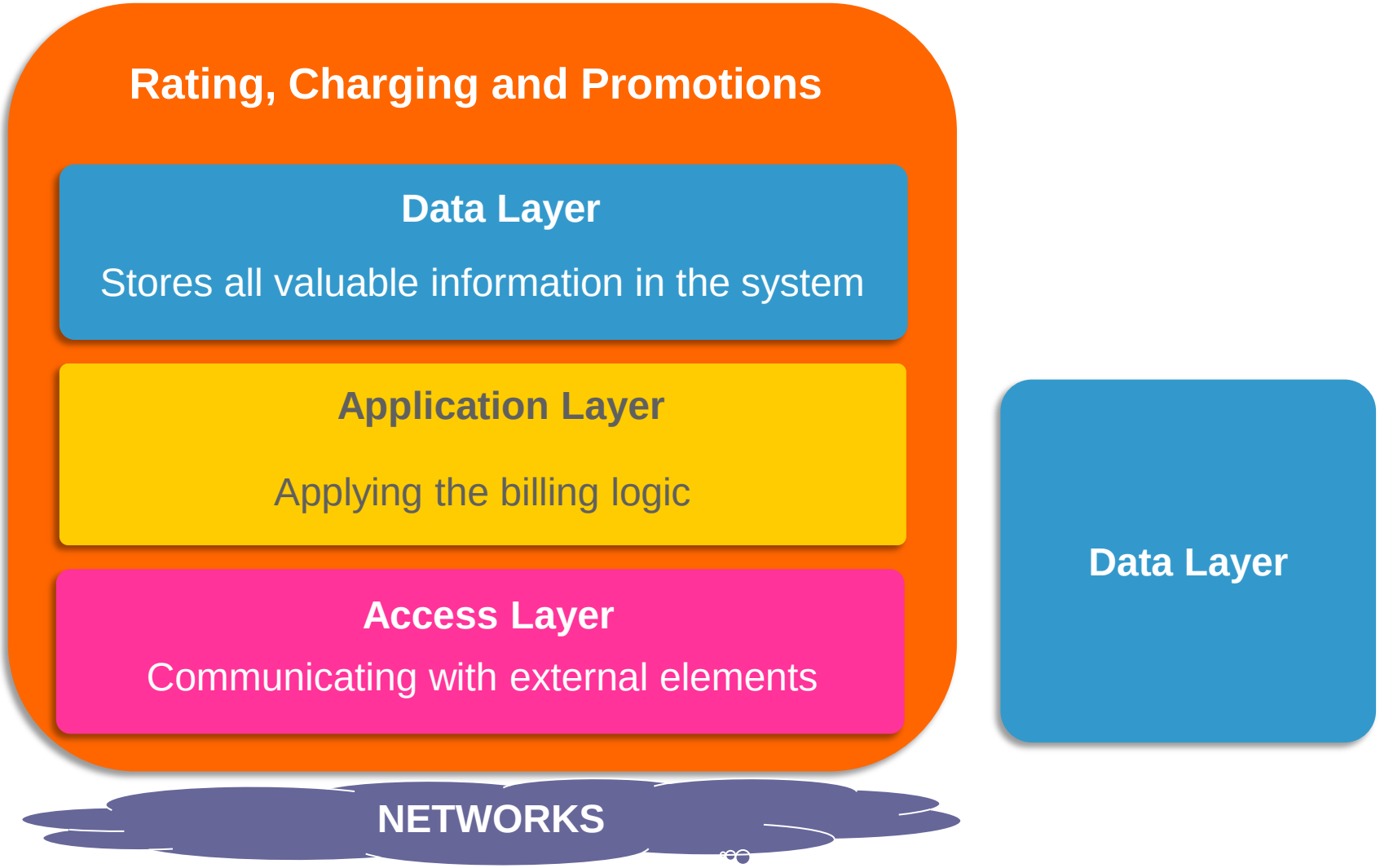
- Request is received
- System calculates the cost of the activity
- System checks subscriber's accountability
- System gives authorization to perform the activity
- System updates the subscriber's balance



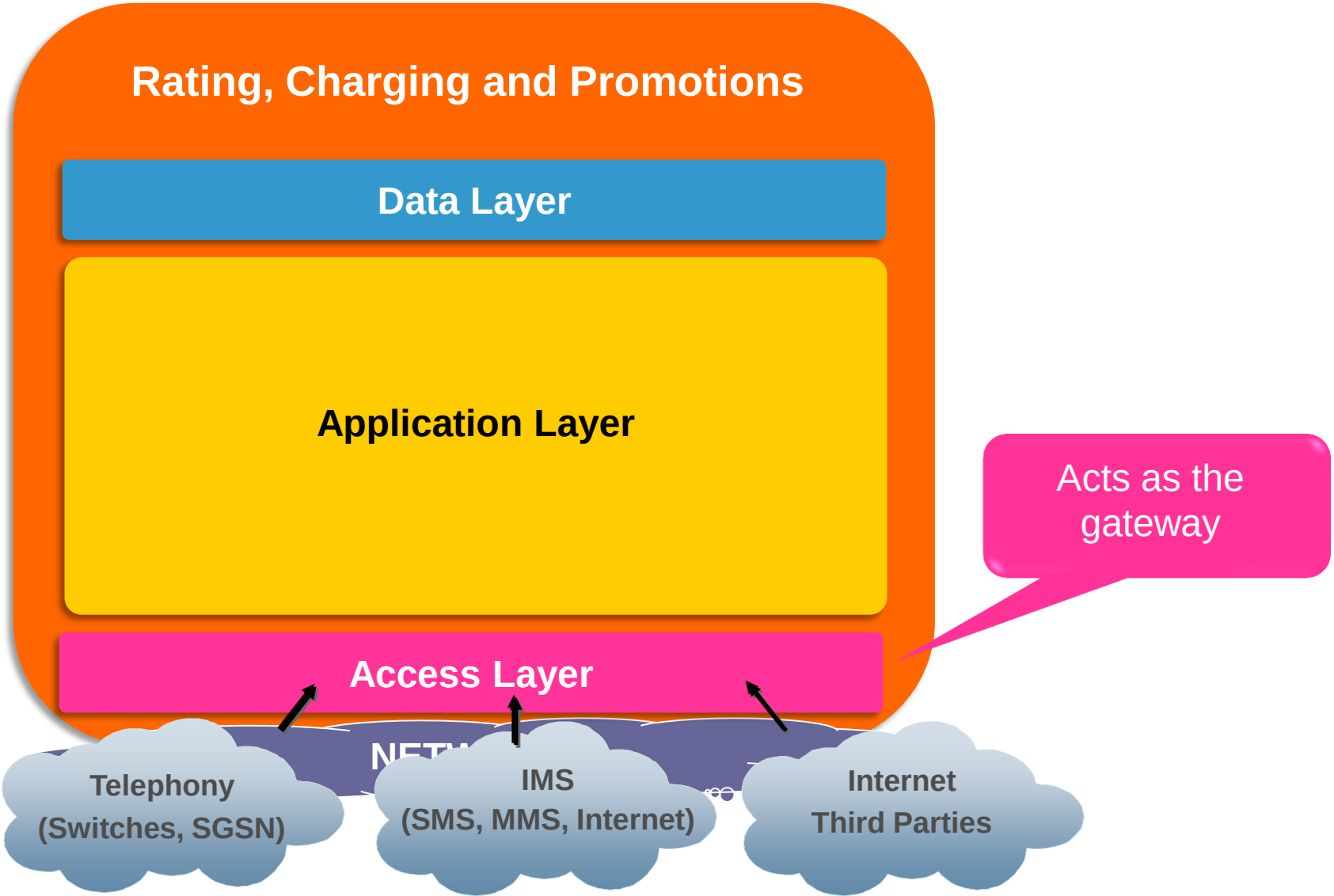
Comverse ONE Functional Architecture



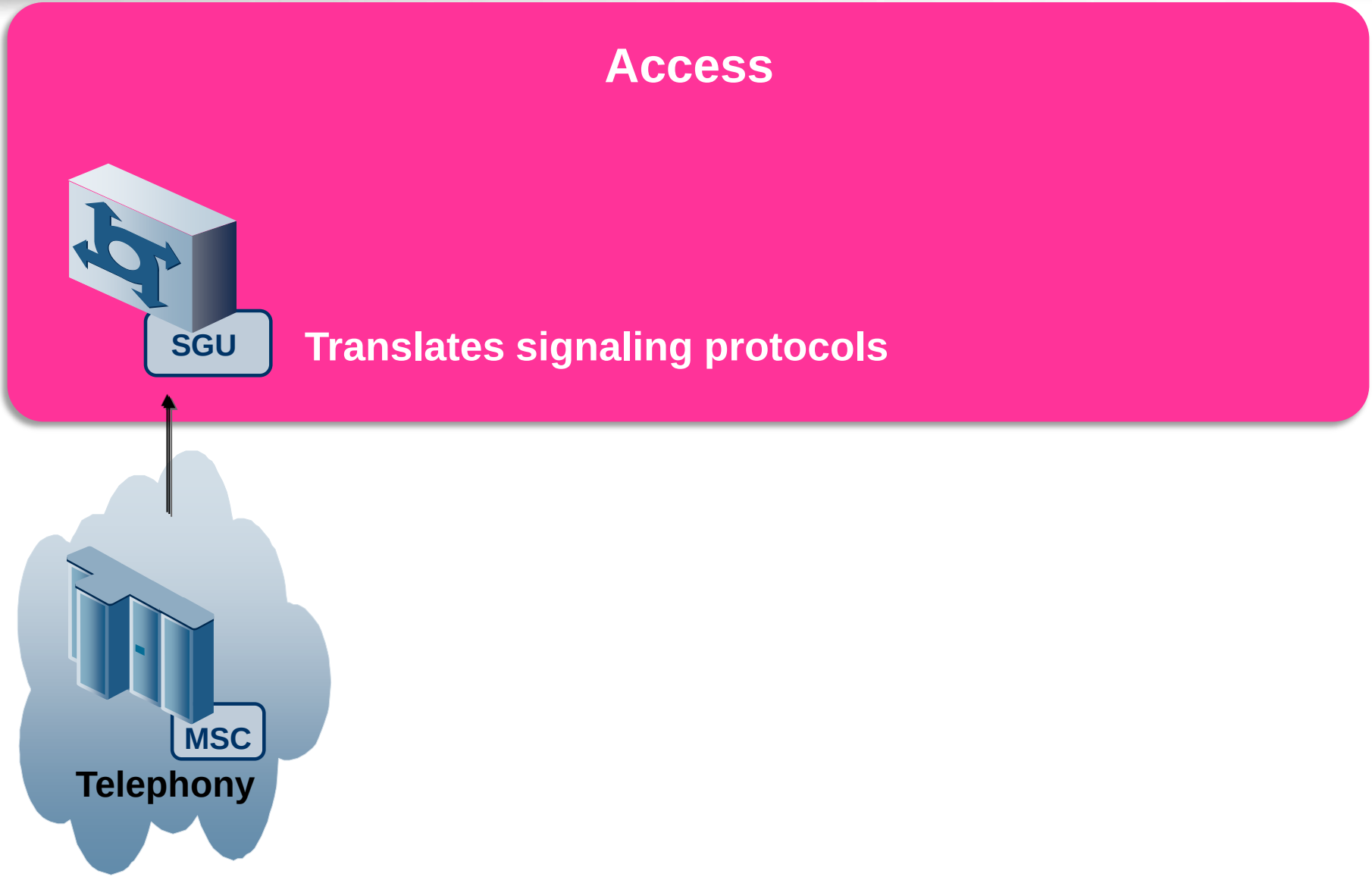
Real-Time (Online) Rating



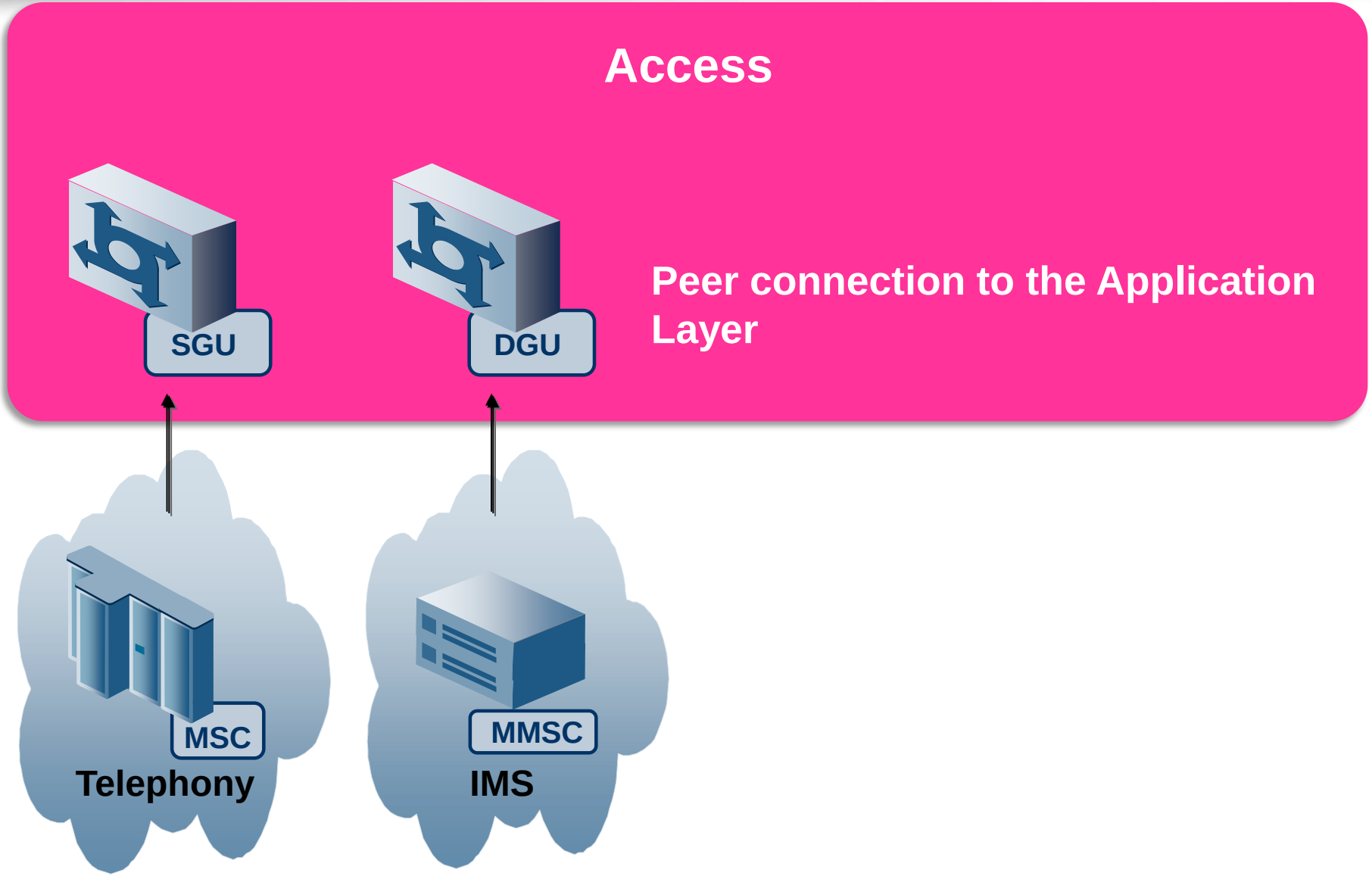
The Access Layer



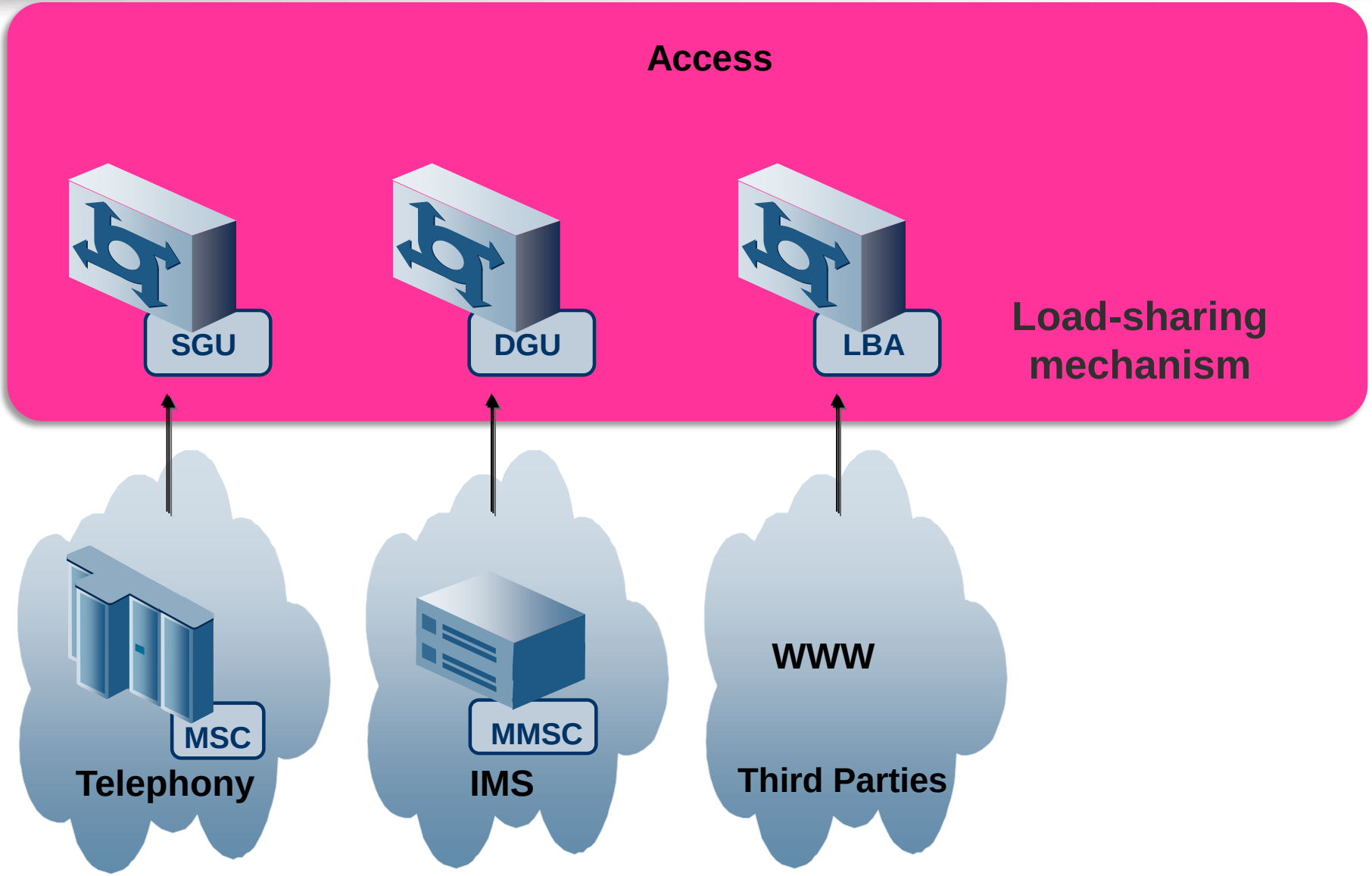
The Access Layer – the Signaling Path



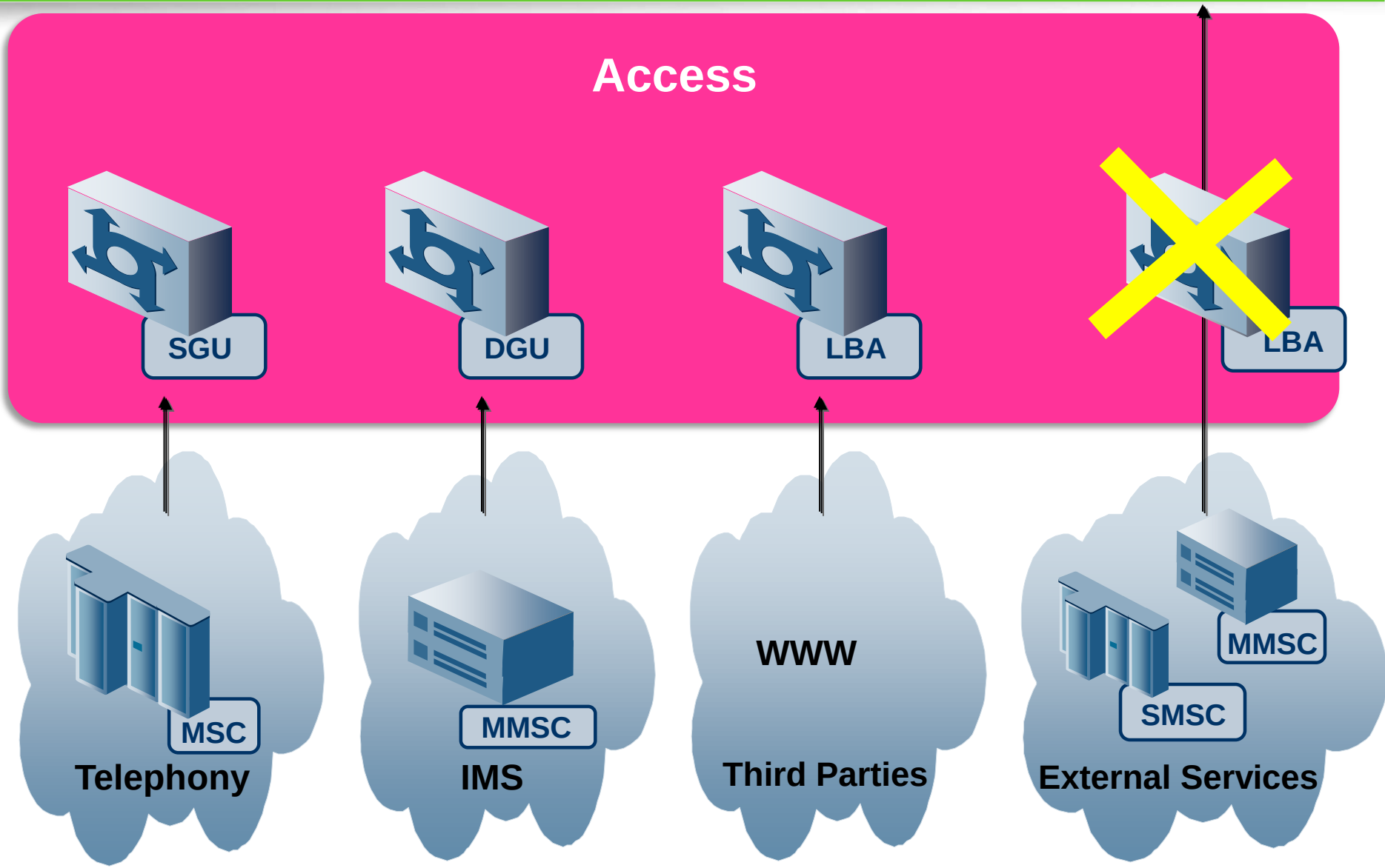
The Access Layer – the Diameter Path



The Access Layer – the OSA/Parlay Path

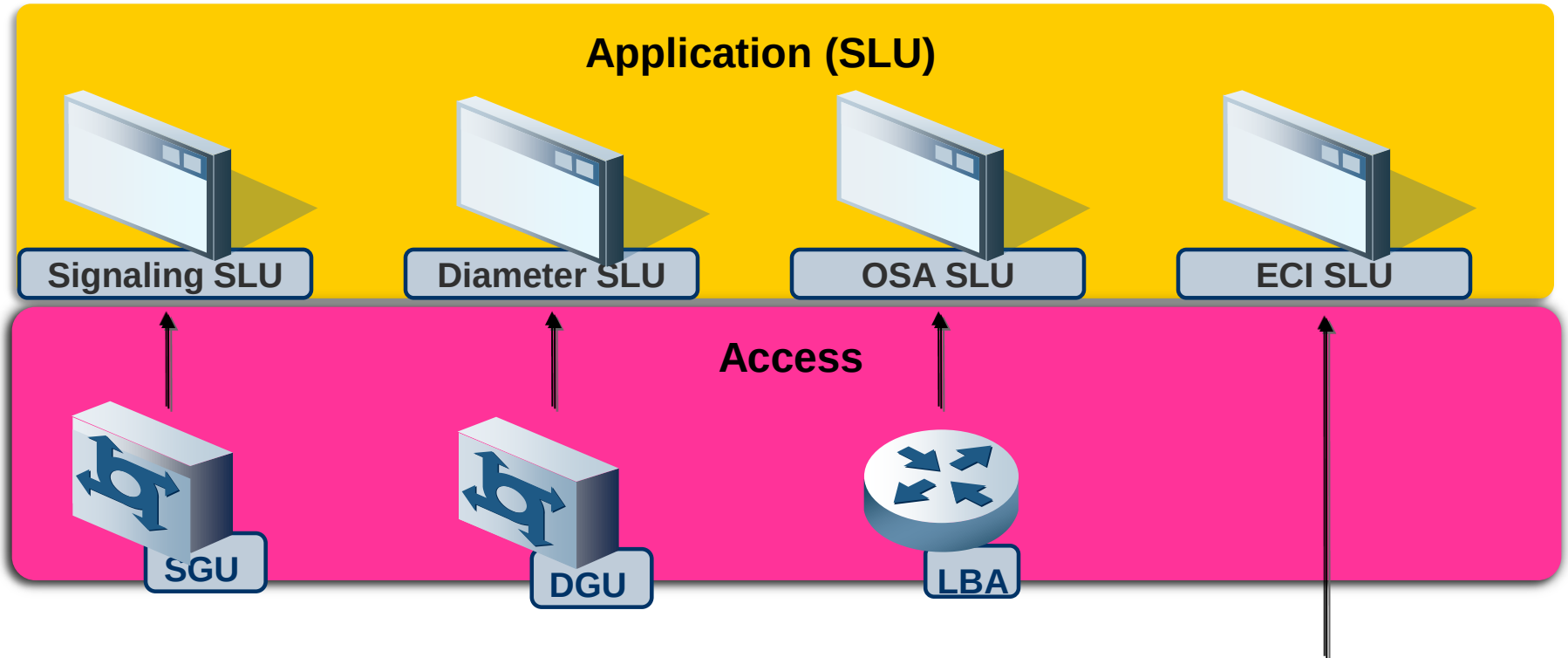


The Event-Charging Interface (ECI)

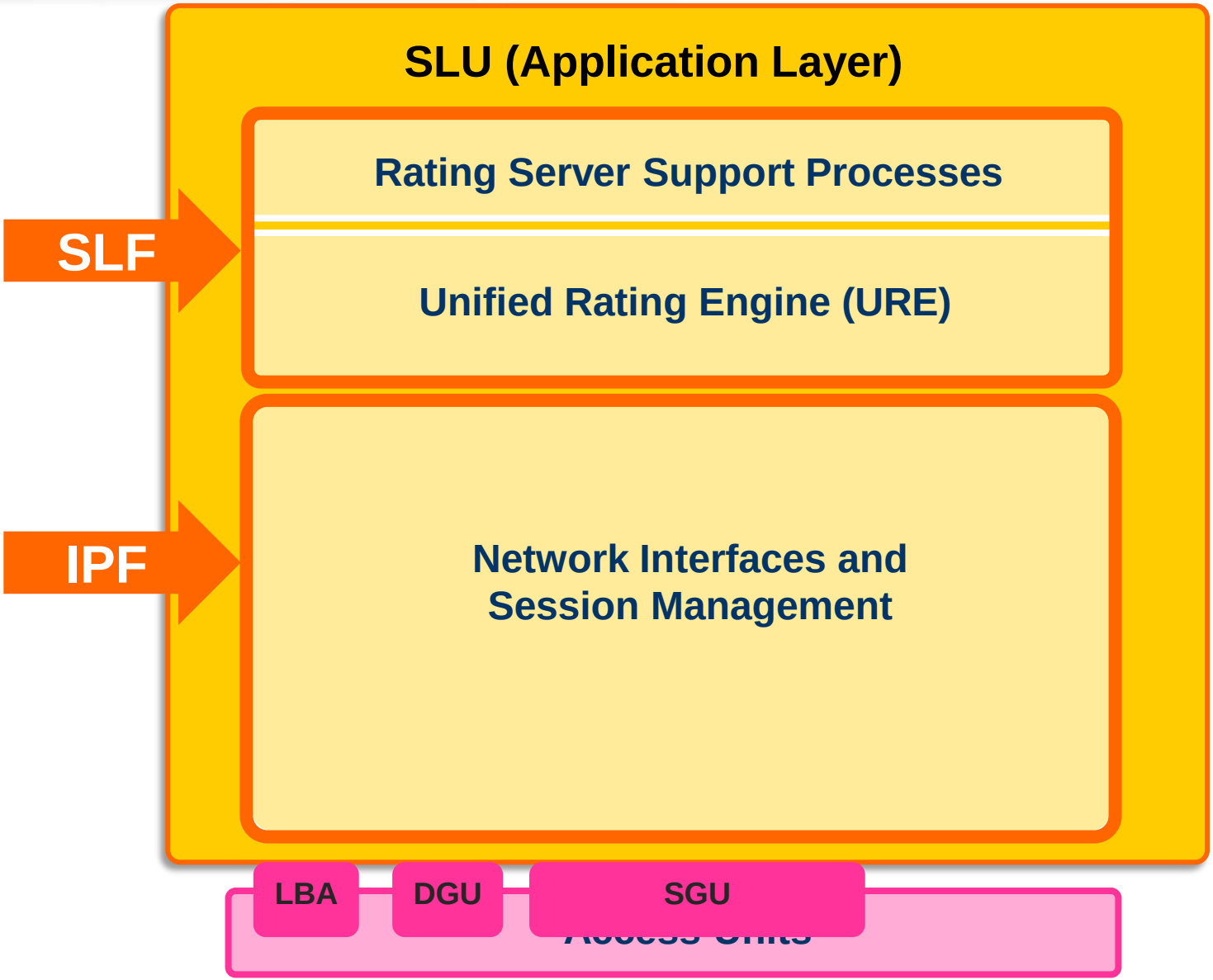


The Application Layer

- Implements the actual charging logic
- Unique billing logic for dedicated SLUs



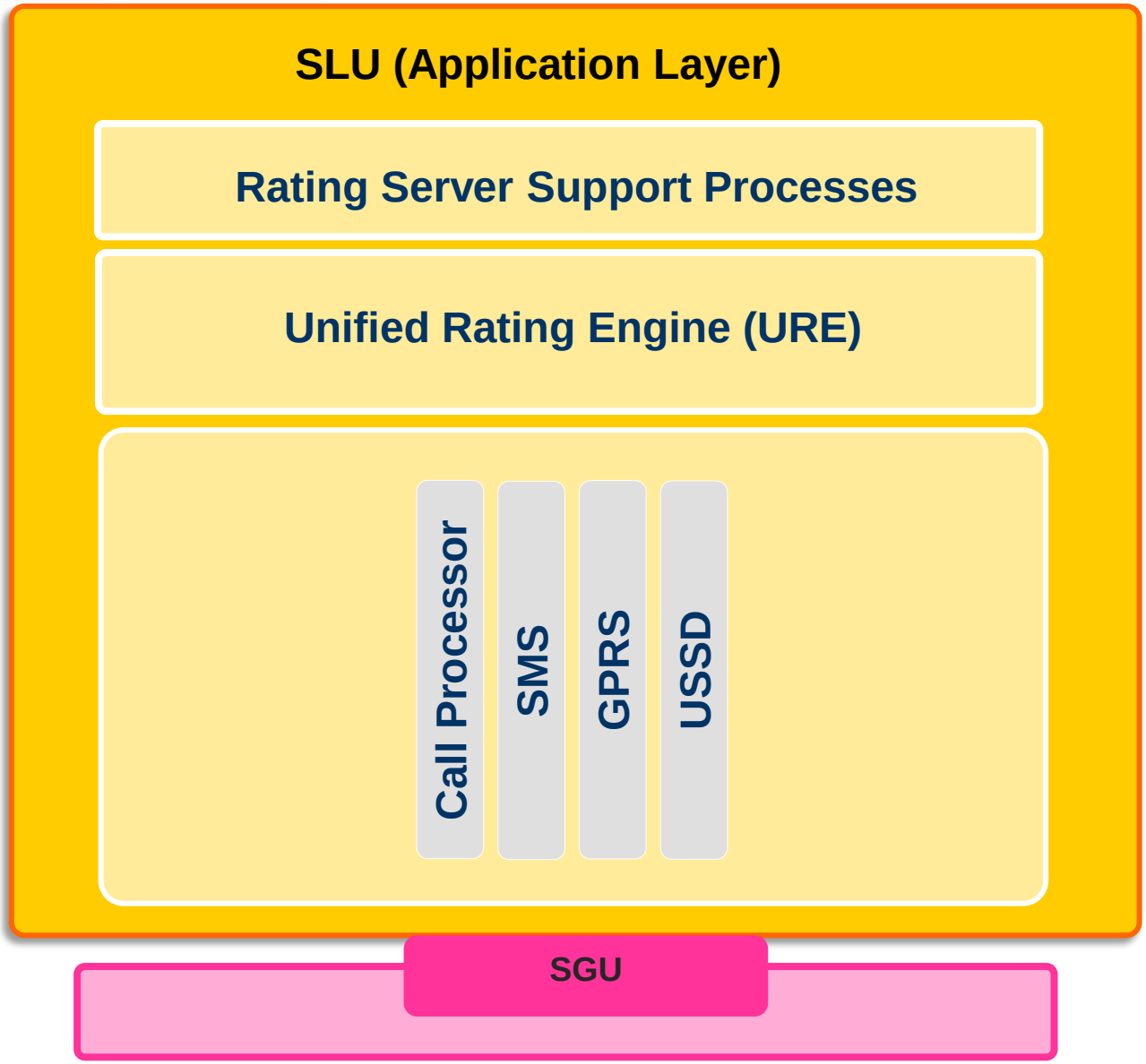
Service Logic Unit (SLU)



Service Logic Units (SLUs)

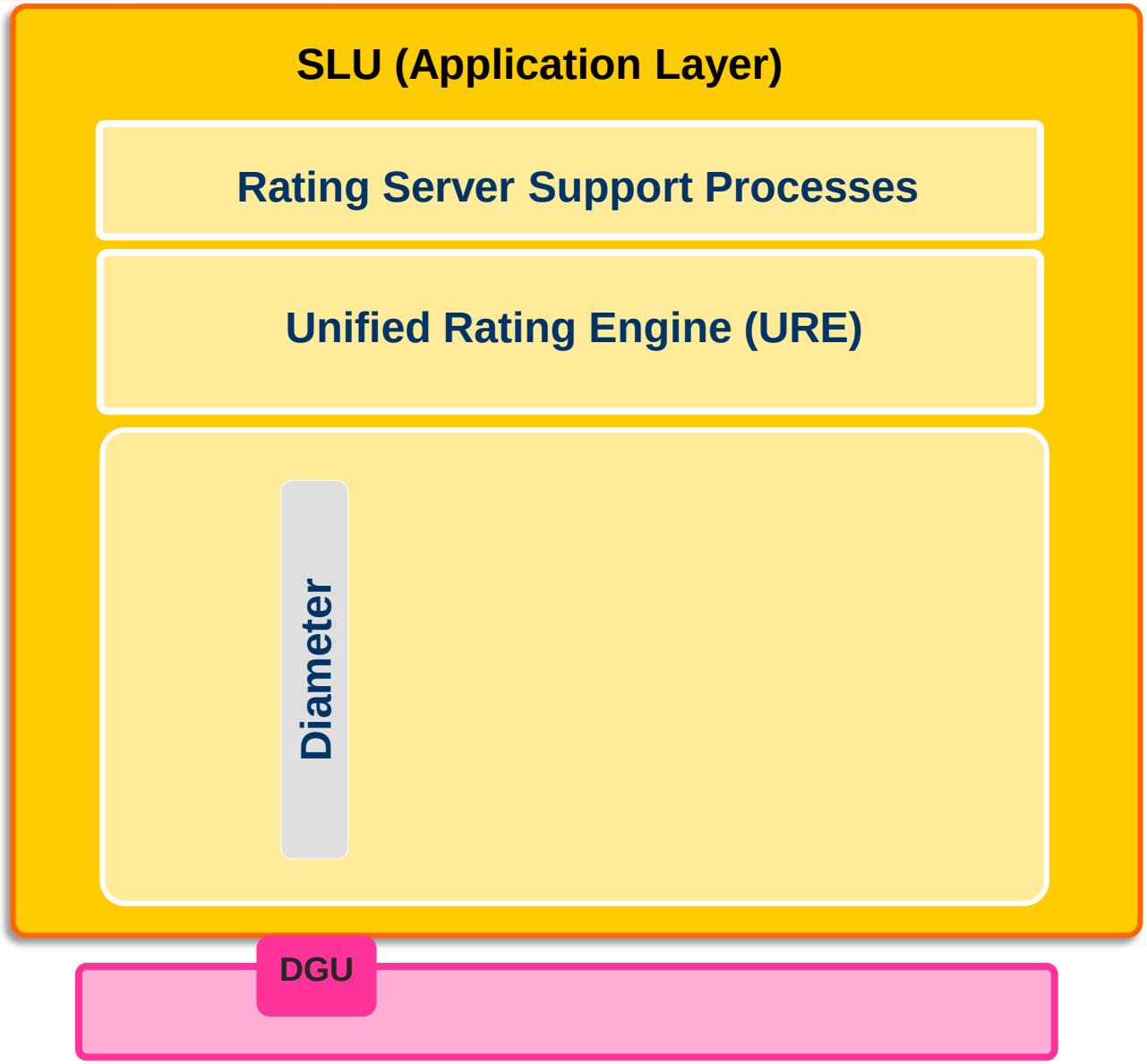
Signaling SLU

Signaling SLU



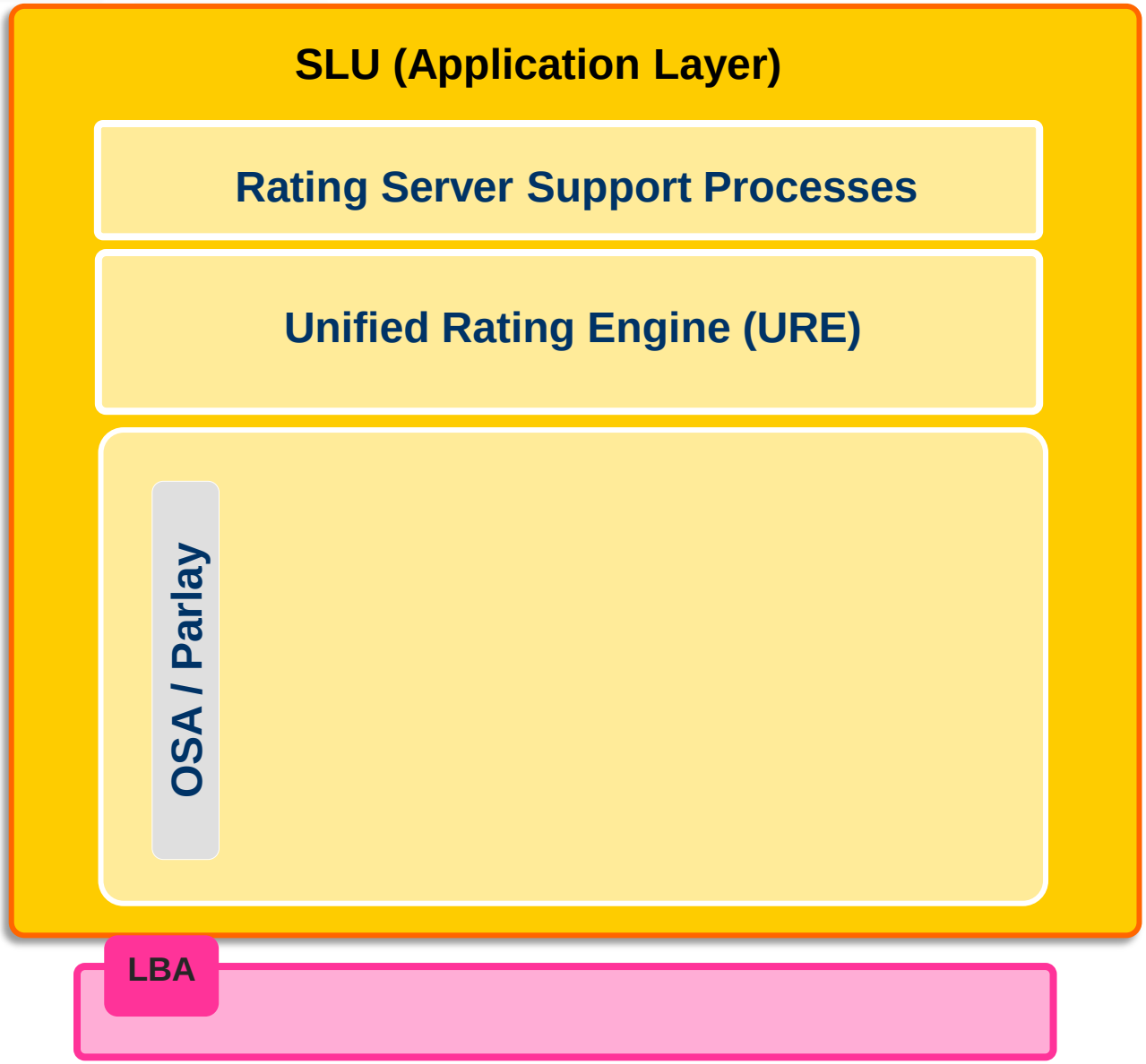
Diameter SLU

Diameter SLU

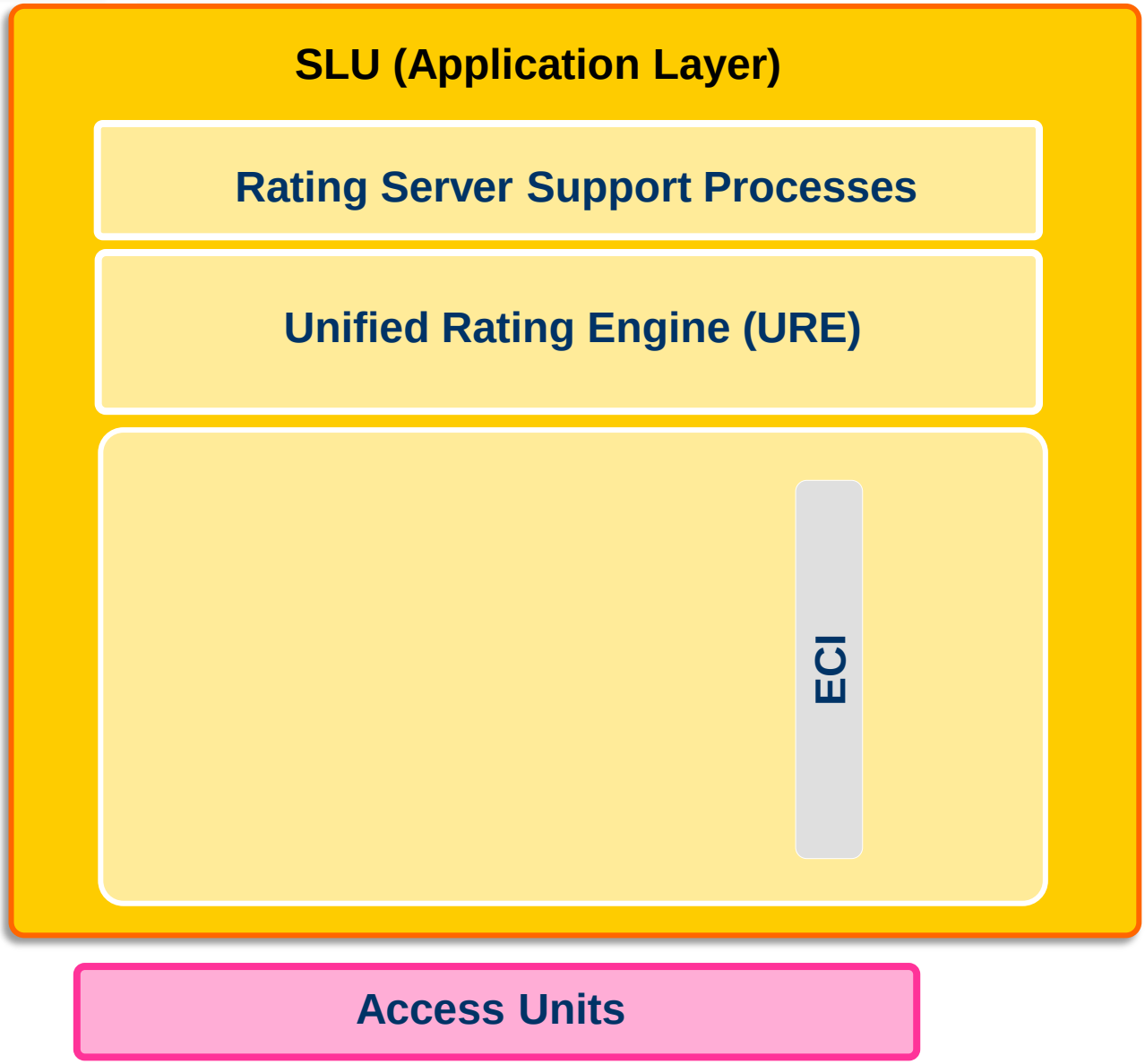


OSA SLU

OSA SLU

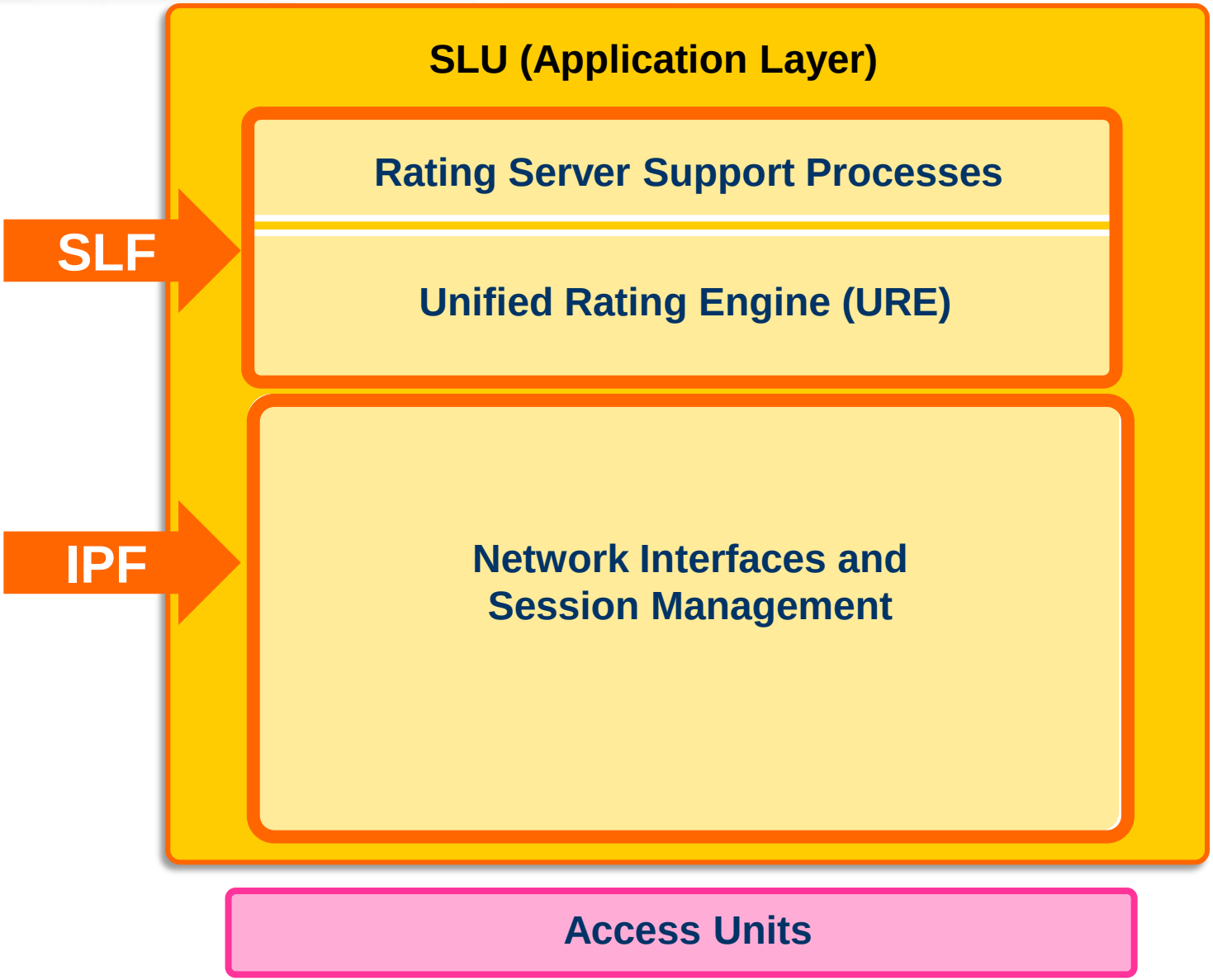


ECI SLU

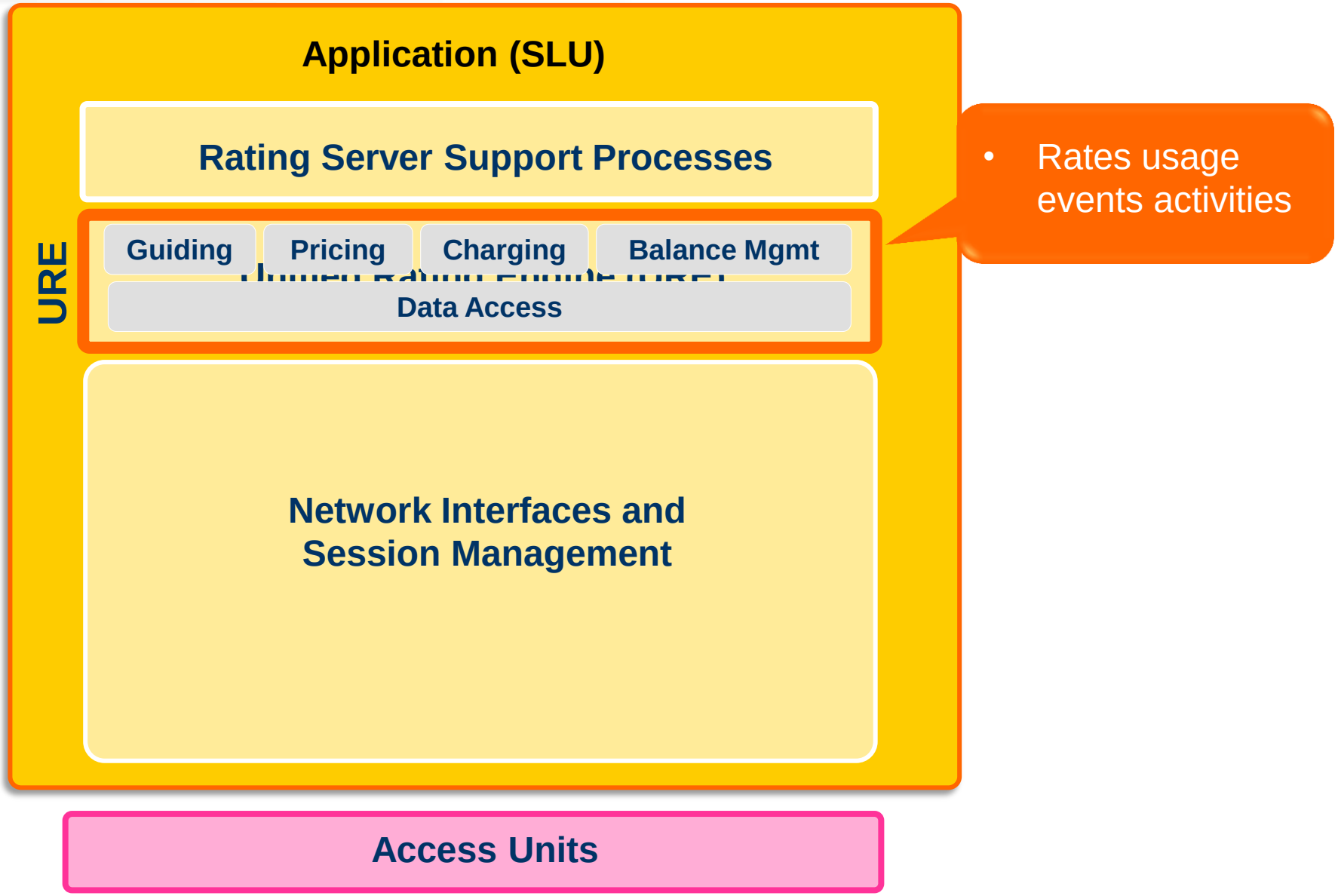


ECI SLU

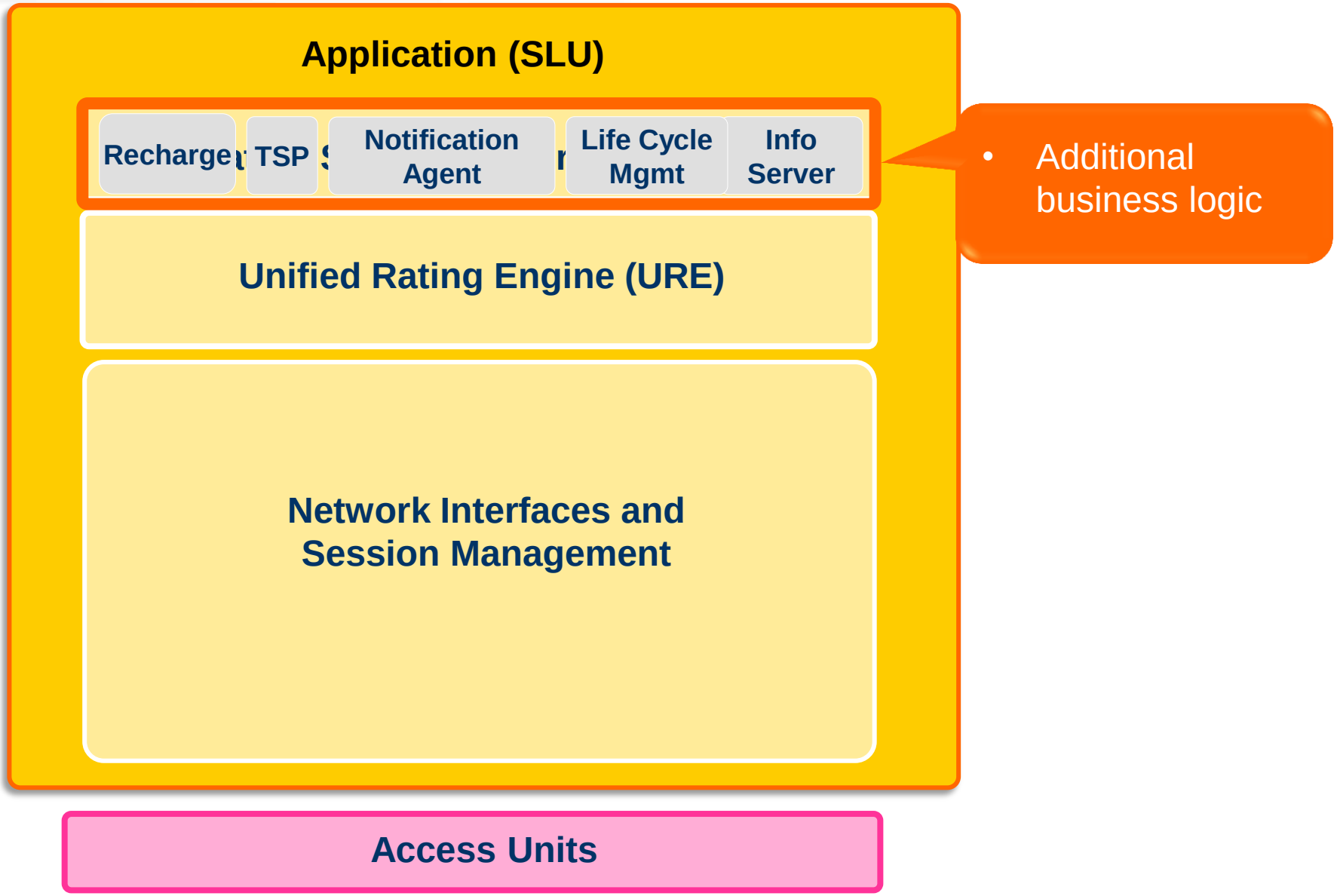
Where We Are


SLU (Application Layer)
Rating Server Support Processes
SLF
Unified Rating Engine (URE)
IPF
Network Interfaces and
Session Management
Access Units

Unified Rating Engine (URE)

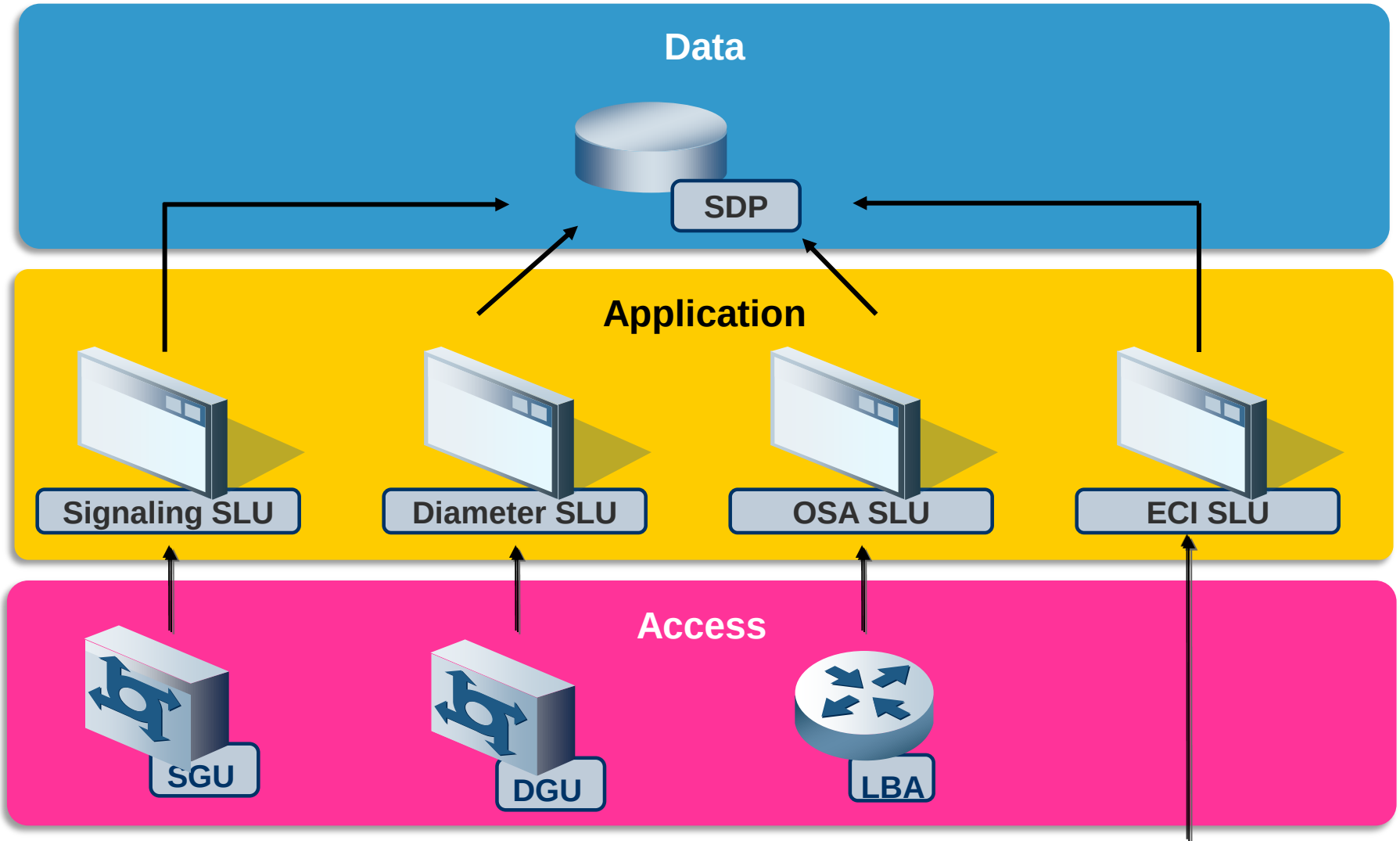


Rating Server Support Processes



The Data Layer

Stores all information that is required for rating operations

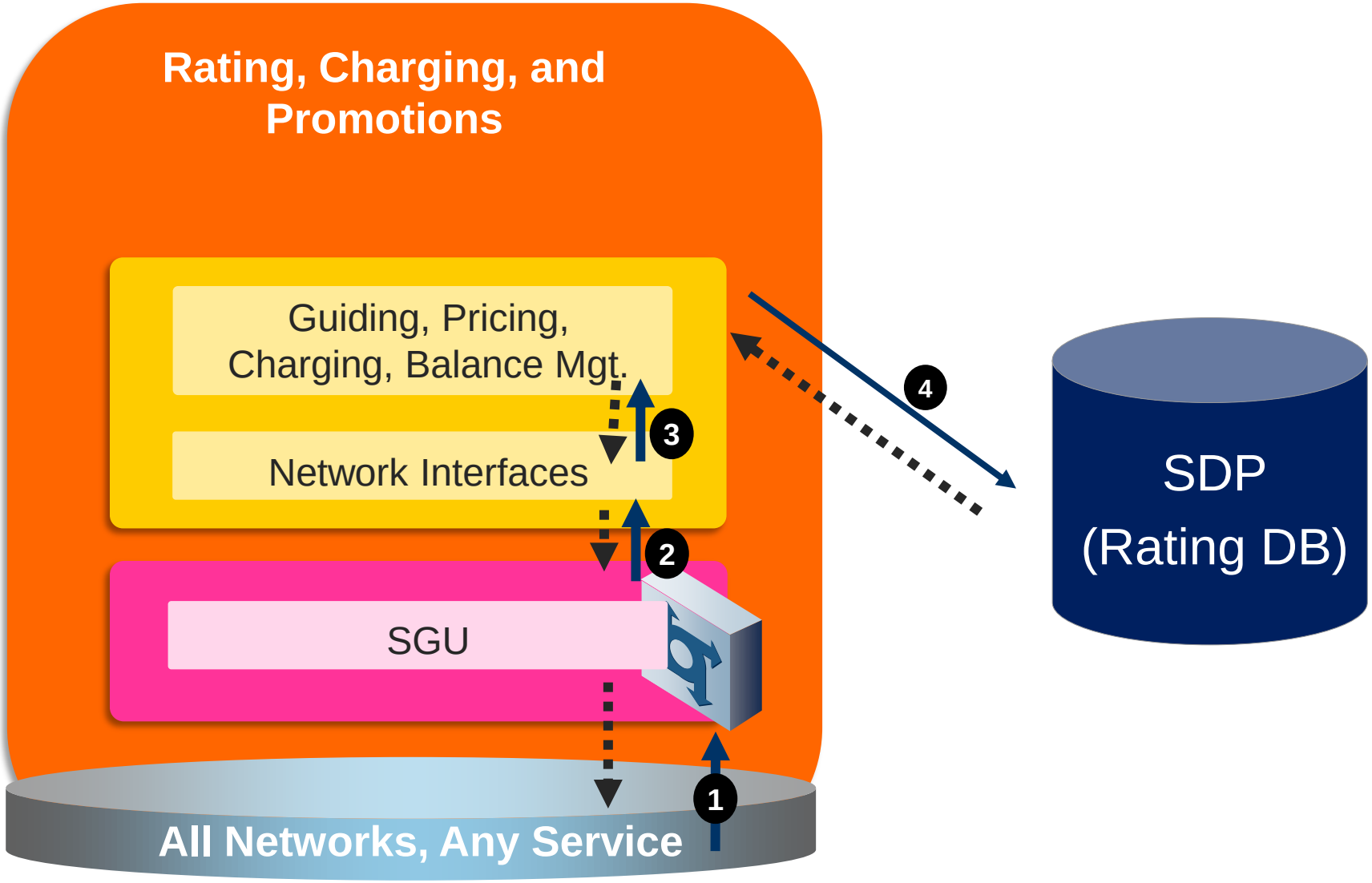


Review Question

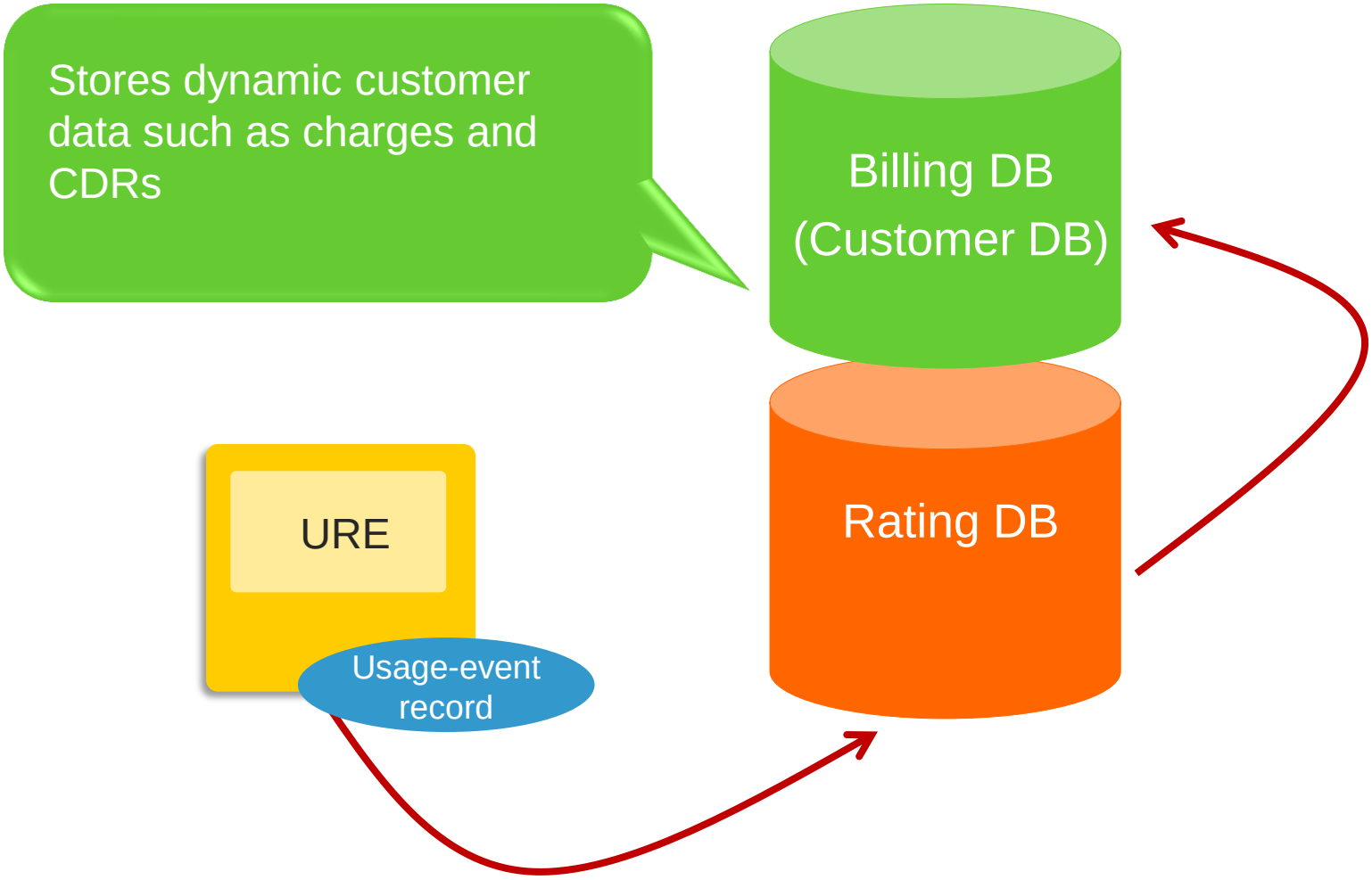
Subscriber A calls subscriber B. Arrange the flow according to the components that participate in it:

1. SDP
2. SLU
3. Switch <= Nhieu kha nang
4. SGU

Basic Real-Time Prepaid Flow



Rating DB and Billing DB



Agenda

- Offline and Online Processes
- Online Process
- **Offline Process**

Common Offline Billing Scenario

Usage

A CDR is generated

Rating

A CDR is rated

Billing

- Other charges are added
- Invoices are produced

Finance

- Payments are collected
- Balances are updated

An Example of an Offline Process

- Kate requests her history activity records
- Kate's pays her bill using her credit card
- The system collects charges and creates an invoice
- Kate uses her cell phone. The switch creates records for her activities and these records are rated in the Comverse ONE system

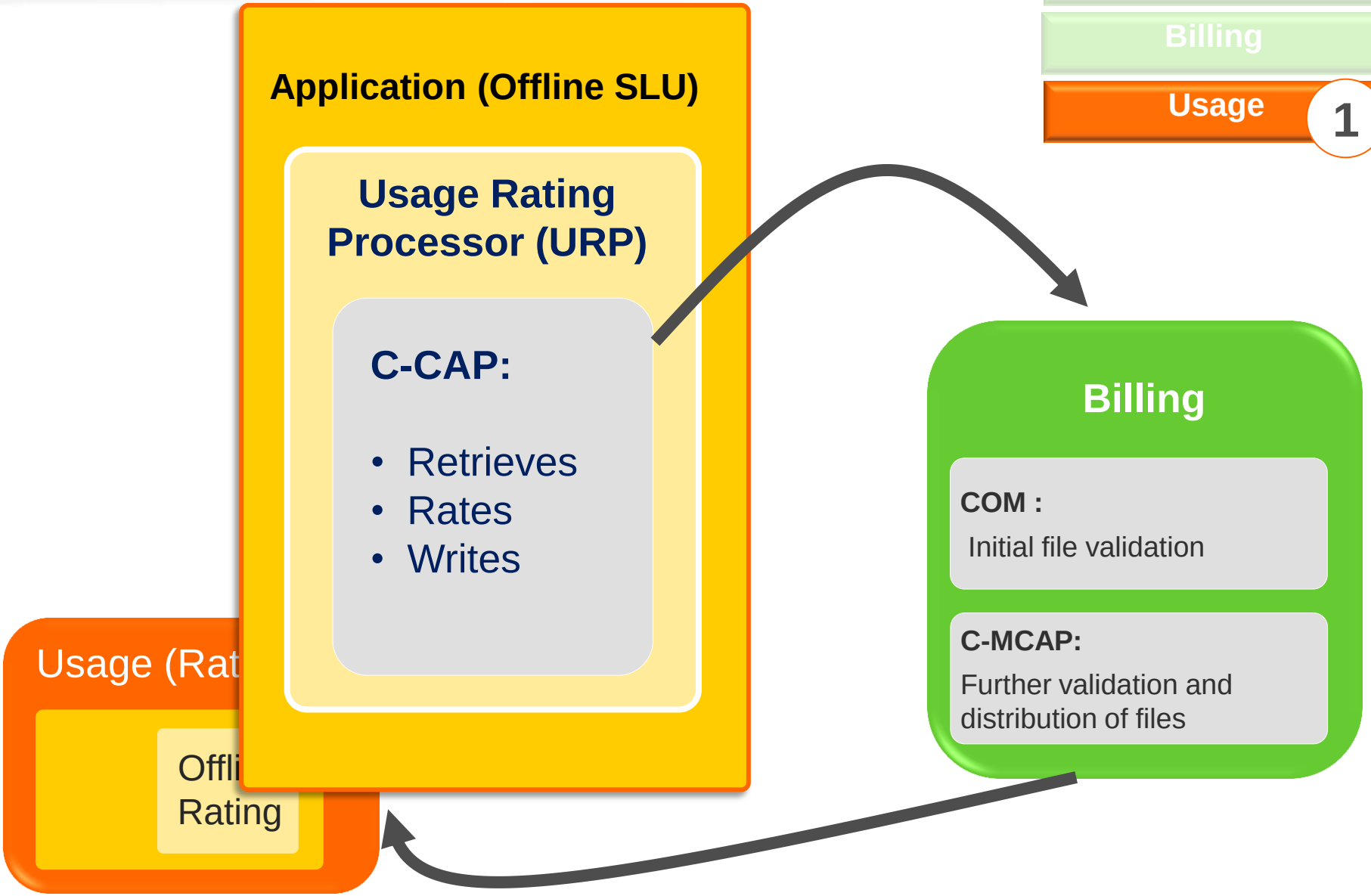
Financials

Payments

Billing

Usage

Usage


Application (Offline SLU)
Usage Rating Processor (URP)
C-CAP:
• Retrieves
• Rates
• Writes
Billing
COM :
Initial file validation
C-MCAP:
Further validation and distribution of files
Usage (Rat
Offli
Rating

Billing

Financials

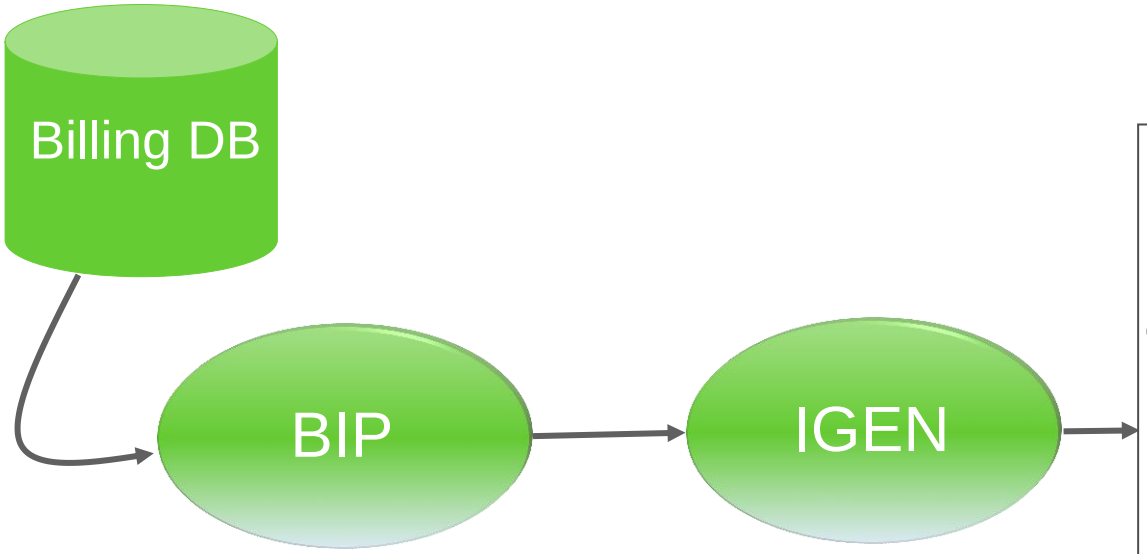
Payments

Billing 2

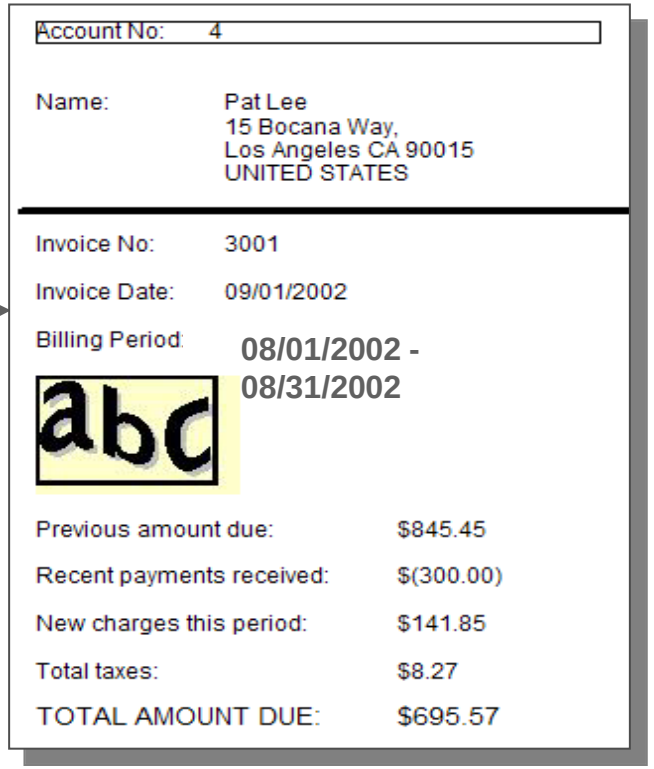
Usage

Charge Aggregation	BIP (Bill Invoice Processor) collects pre-calculated charges and other information
RC/NRC	• Applies Recurring and Nonrecurring charges • Can be implemented on an external server
Cyclical Promotions	• Apply to prepaid, postpaid, and converged subscriber • Promotions impact real-time balances
Taxation	Single tax component is used by rating and invoicing processes.
Credits	Supports adjustments and refunds and credits
Invoice Calculation	BIP Consolidates all charges associated with a time period
Invoice Design	Design multiple invoice/statement formats to respond to operators' needs

Bill Processing Flow



Collects and calculates charges and credits



Account No: 4

Name: Pat Lee
15 Bocana Way,
Los Angeles CA 90015
UNITED STATES

Invoice No: 3001

Invoice Date: 09/01/2002

Billing Period: 08/01/2002 - 08/31/2002

abc

Previous amount due:	$845.45
Recent payments received:	$(300.00)
New charges this period:	$141.85
Total taxes:	$8.27
TOTAL AMOUNT DUE:	$695.57

Payments

- Check (LBX)

- Debit Card/Electronic Funds Transfer (EFT)

- Credit Card (CPM)

Financials

Collections:

- Manages delinquent accounts - with past due balances that meet certain criteria
- Collections selects an appropriate **scenario** and then schedules a series of **events**.

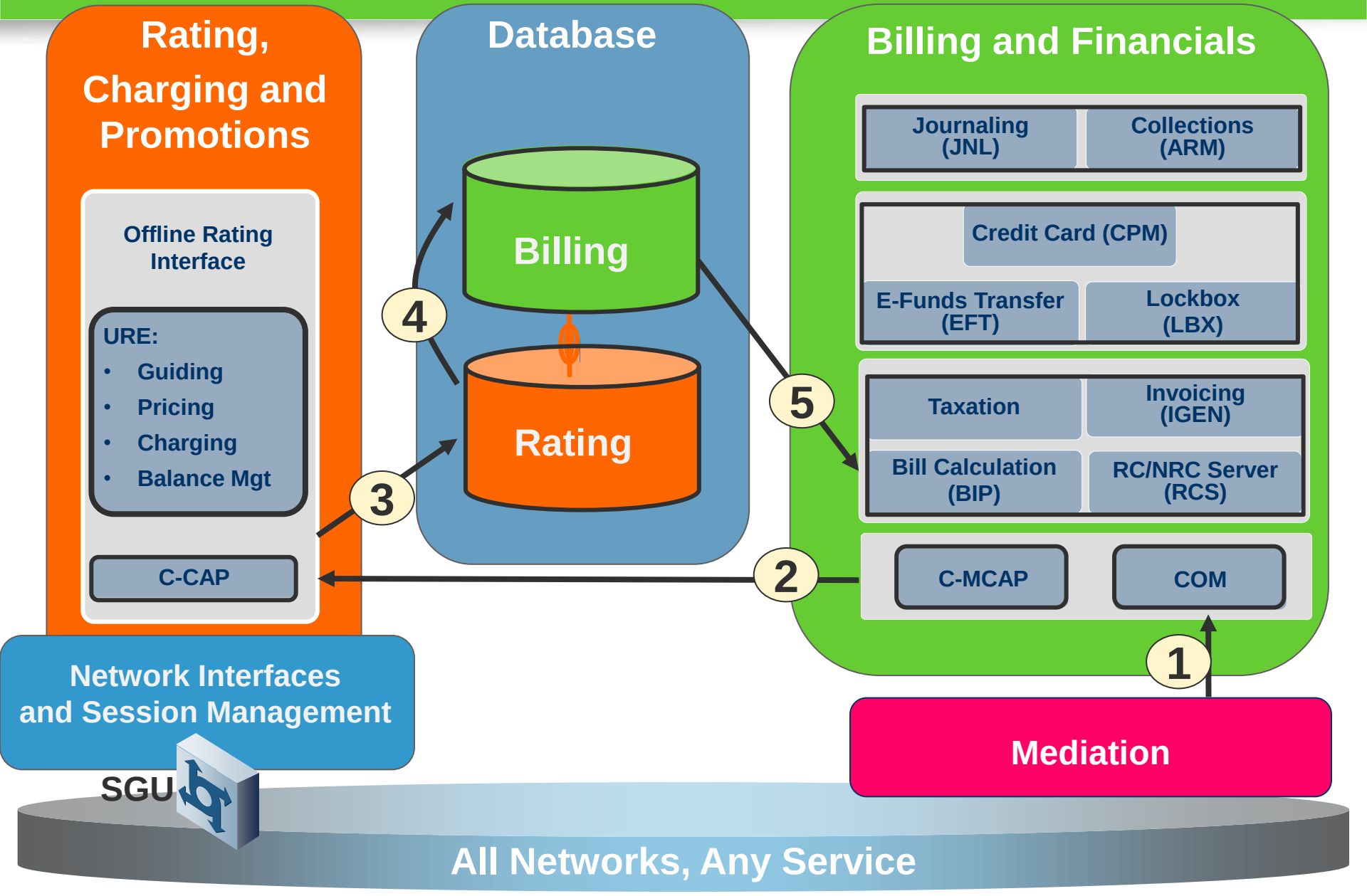
Journaling:

- Journals all prepaid or postpaid transactions in the system
- An output feed of data is provided to the G/L, which is an operator's external server that collects these transactions for financial purposes

- Letter events
- Telephone contact event
- Write-off event
- Provisioning requests
- API requests

1. Send letter
2. Call customer
3. Send second letter
4. Disconnect service

Offline Postpaid Basic Flow



Summary

This lesson has covered:

- Online process components:
  - Access Layer
  - Application Layer
  - Data Layer
- Basic Online prepaid flow
- Offline process components
  - Usage, Billing, Payments and financials processes
- Basic offline postpaid flow

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