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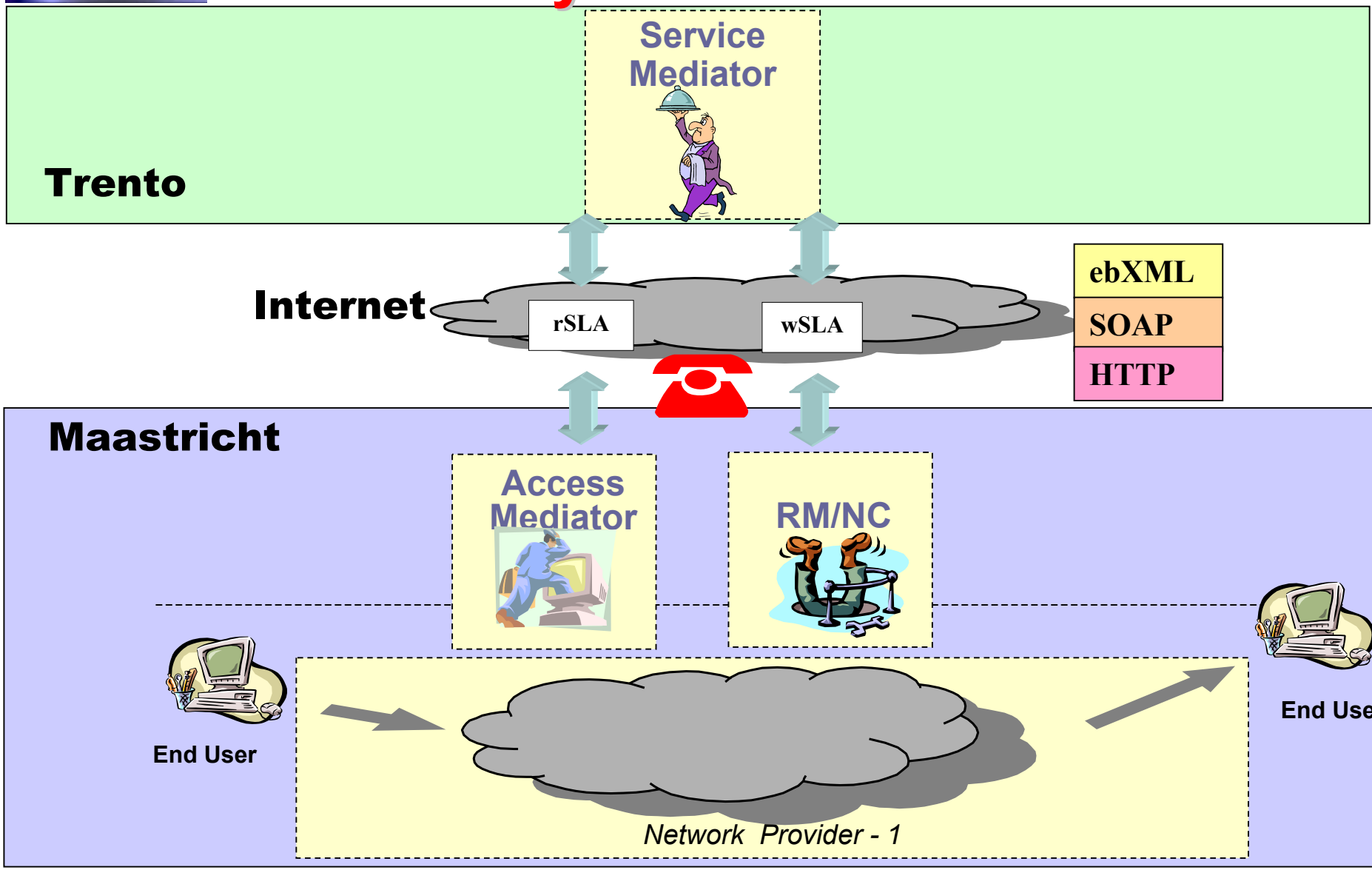
Service Mediator: VoD Service Demo

Demo Physical architecture

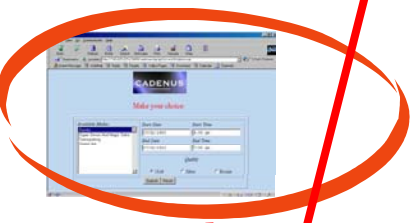


SM Architecture

Well-known VoD

Access Mediator

ebXML



Internal Rep

SLA Inventory

SDO Directory

B2B Gateway

Order Management

SLA-SLO Translation

Service Design

Workflow Engine

SLA-SLO Rules

Fulfilment Tools

Service Fulfilment

VoD Server Manager

SLS

IP Trader

Process Design

B2B Gateway

End-User Request

Send Request

Translate Request

Create Contract/Service Structure

Compute SLO

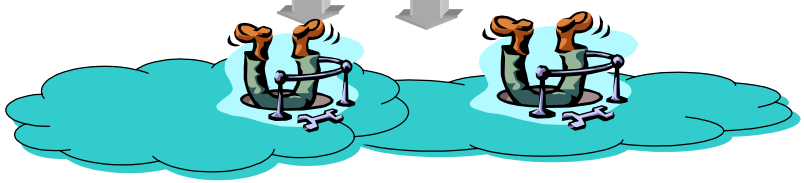
Reserve VoD Resources

Generate SLSs

Negotiate IP QoS Services

Resource Mediators

ebXML



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VoD Service Design

- Steps for introducing a new service type in the Service Mediator:
  - SLA Template and Service Template
  - Service negotiation and configuration workflows
  - SLA-SLO translation rules
  - Data format translation rules
  - Configuration policies

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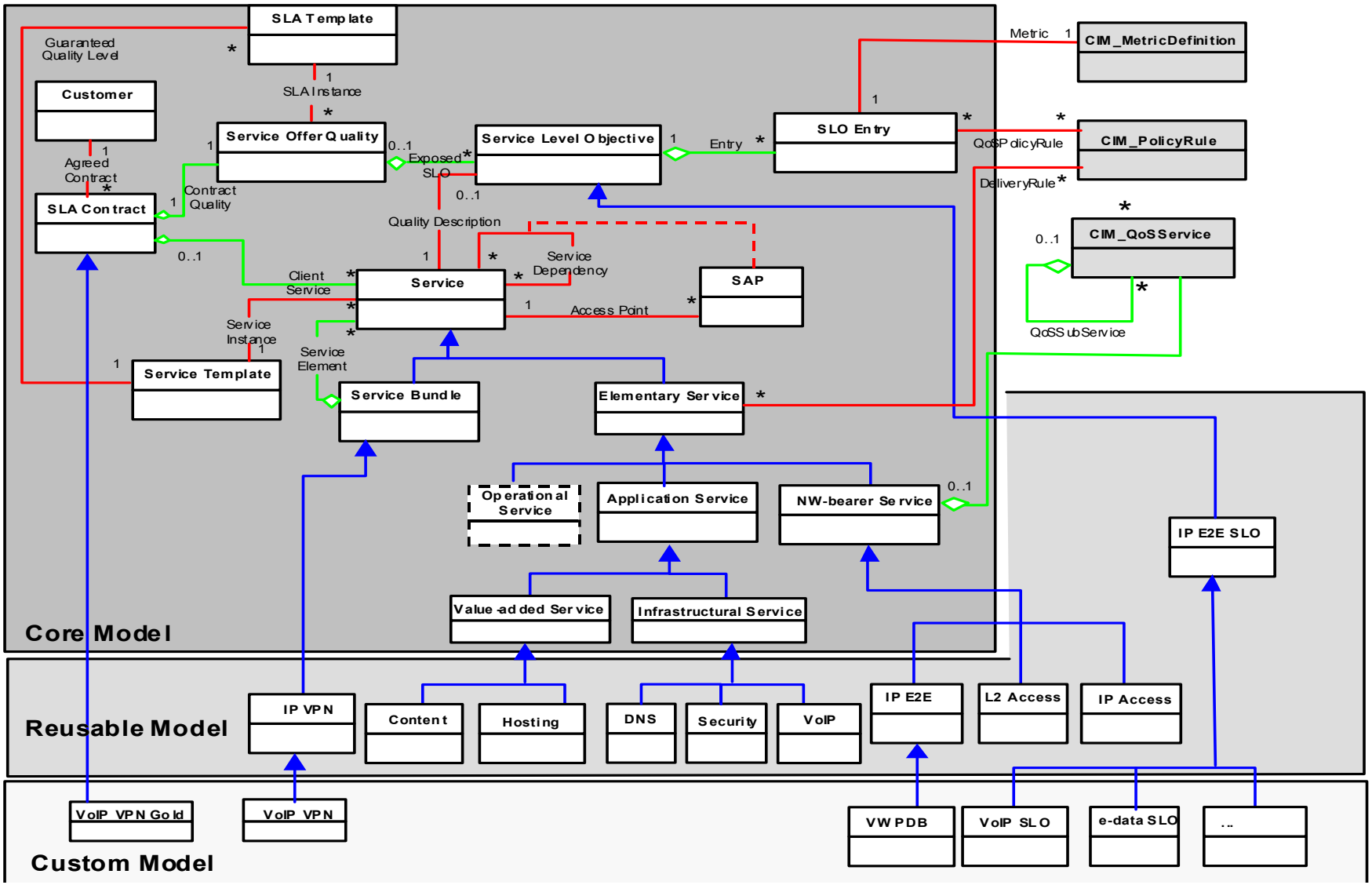
SLA/ Service Model



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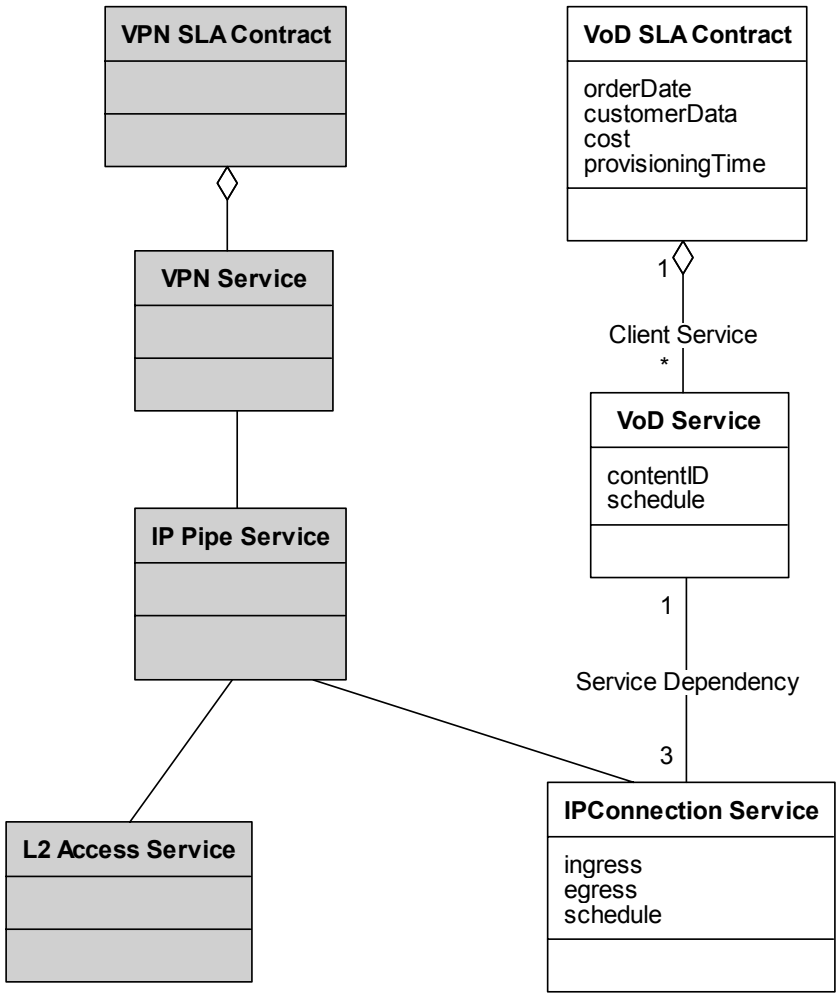
VoD Service Model



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VoD QoS Characterisation

- Assumption:
  - the customer has an Internet access with bandwidth suitable to the required CoS
- Video recorded at constant quality (e.g. MPEG 2)
- VoD Class of Service imposes constraints on the IP connectivity service required
  - Bandwidth requirements
  - Performance parameters requirements for the different channels required (video, audio, control)

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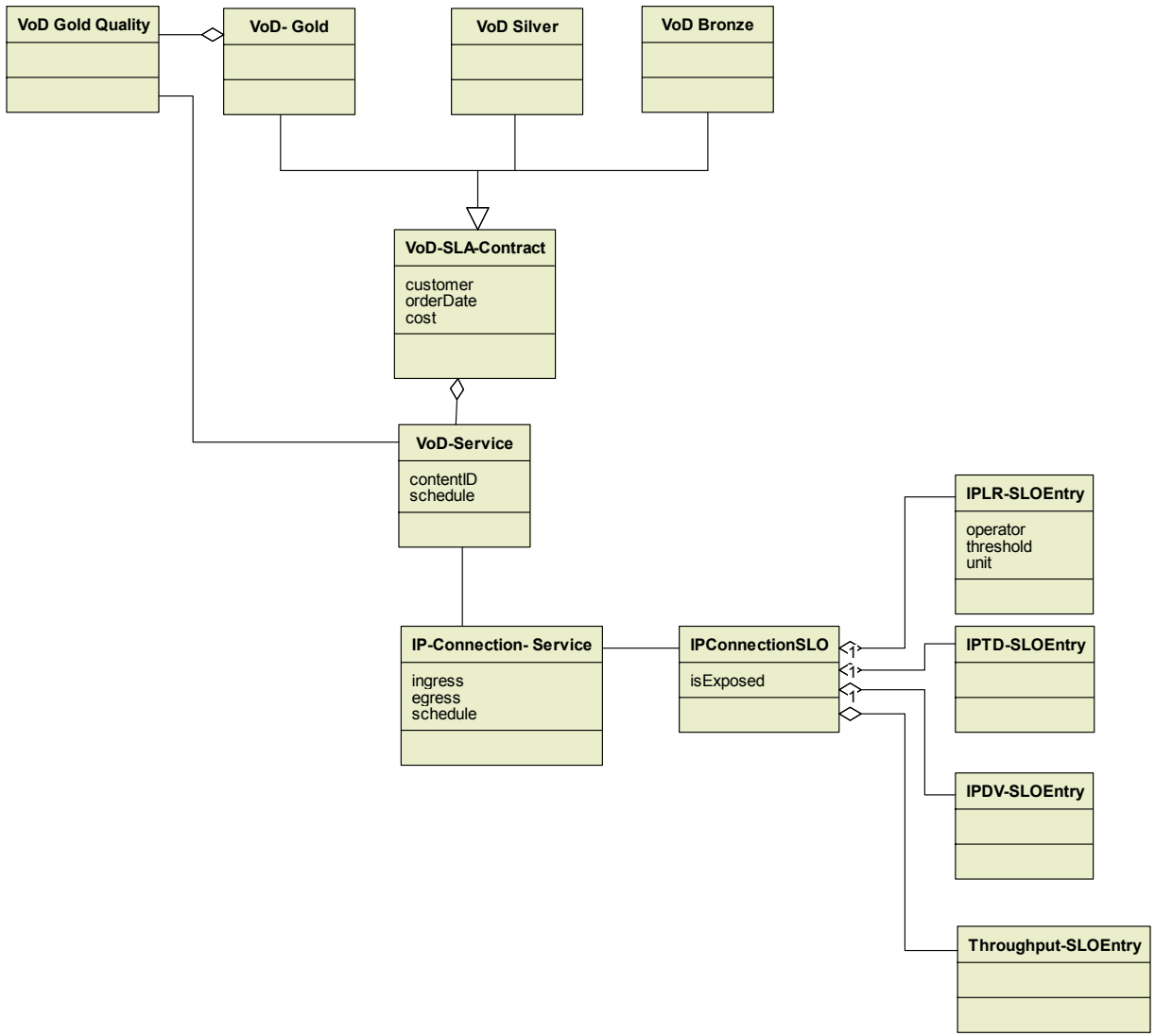
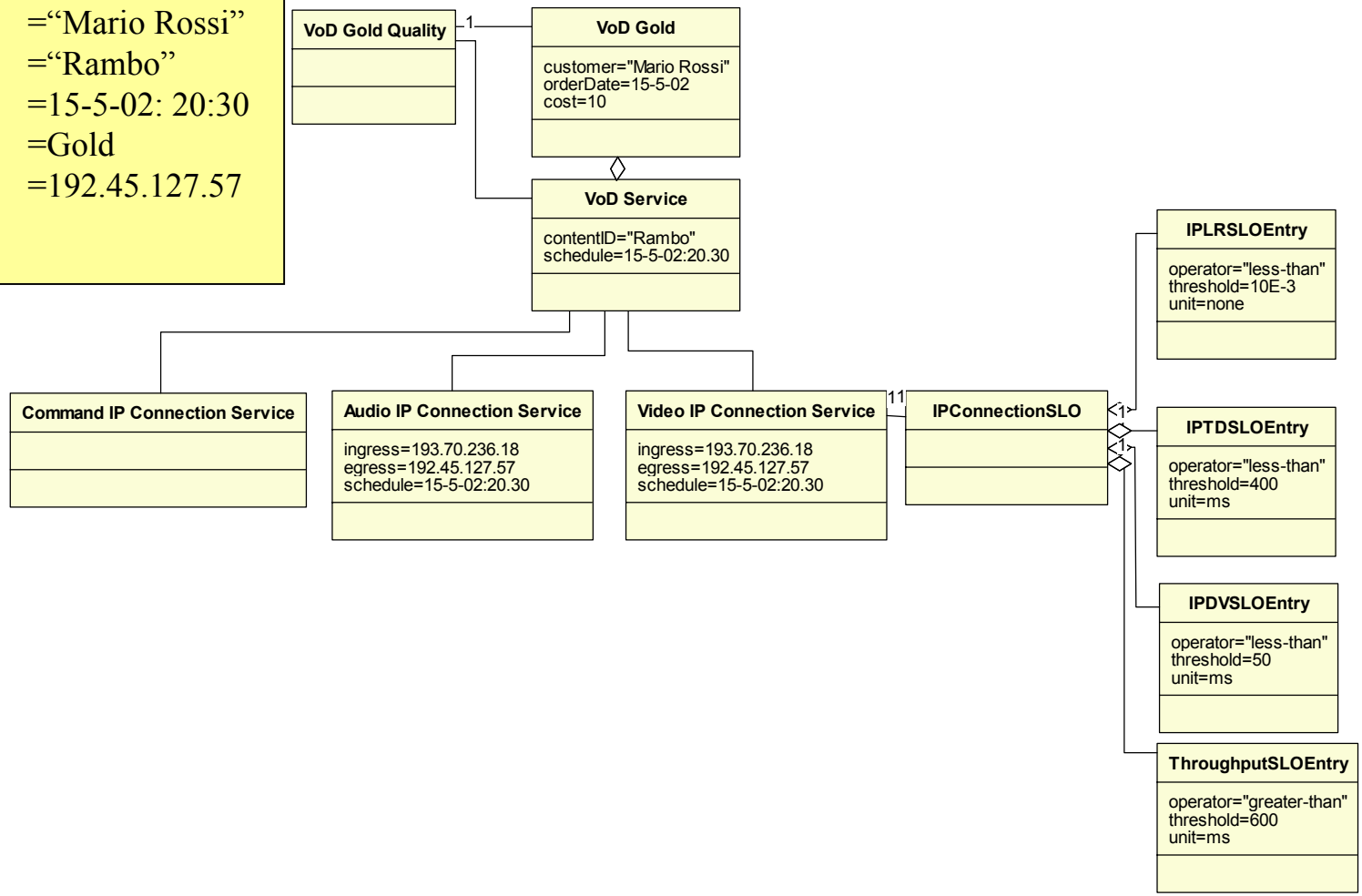
VoD Classes of Service



VoD Instance

End-User-Request

Customer	=“Mario Rossi”
Selected Title	=“Rambo”
Schedule	=15-5-02: 20:30
Quality	=Gold
IP Address	=192.45.127.57
…	



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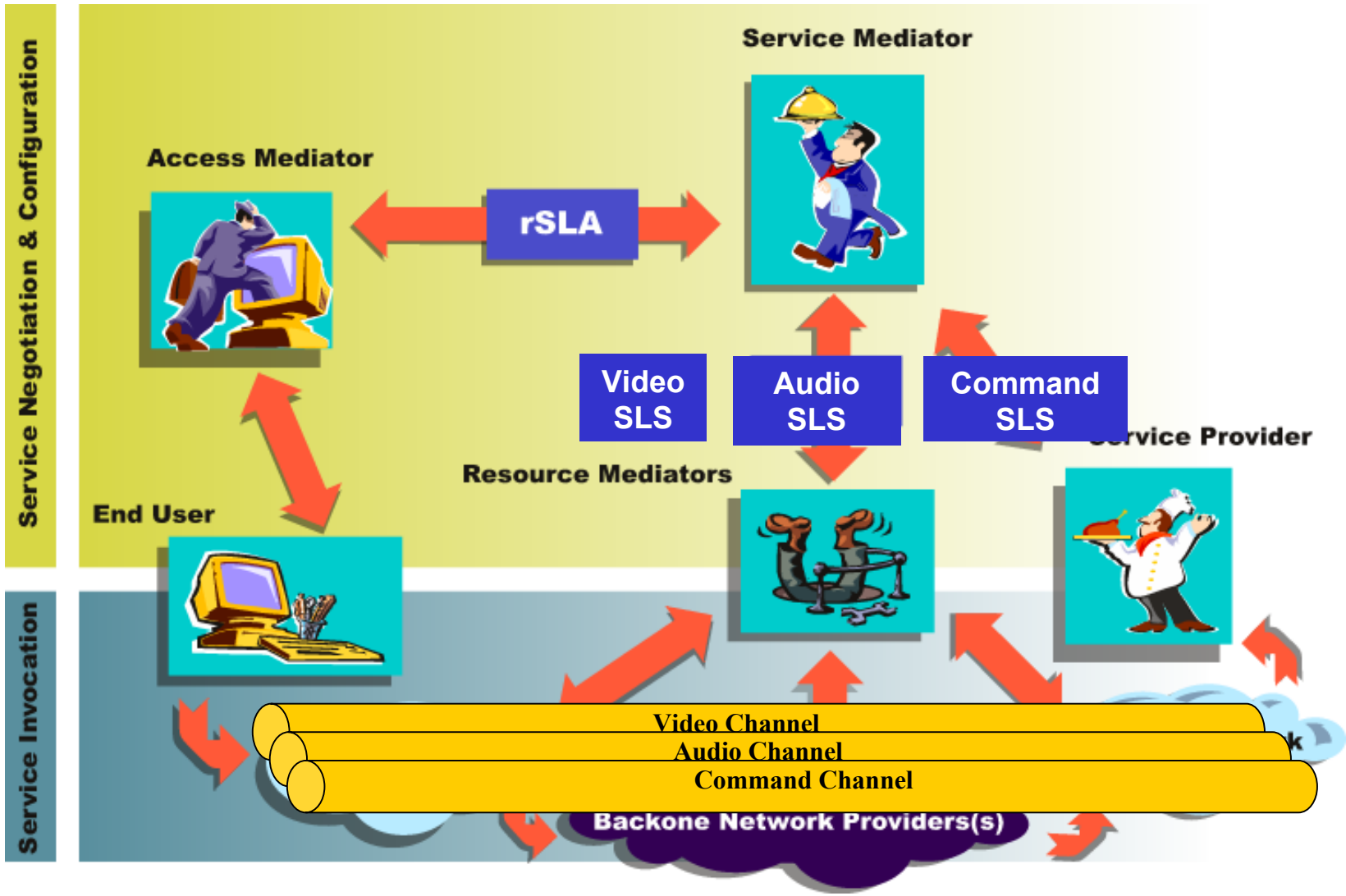
SLS Generation



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SLS QoS Parameters

VoD CoS	Channel Type	IPTD (ms)	IPLR	IPDV (ms)	Bandwidth (Kbps)
Gold	Video	400	10E-3	50	2000
	Audio	400	10E-3	U	64
	Command	400	10E-3	U	50
Silver	Video	400	10E-3	50	256
	Audio	400	10E-3	U	32
	Command	400	10E-3	U	50
Bronze	Video	U	U	U	U
	Audio	U	U	U	U
	Command	U	U	U	U

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Tests and Measurement for Trial 1

- Functional testing of the architecture:
  - Service registration and partner localisation (AM, SM, SA)
  - Service design, SLA-SLS translation (SM)
  - Service negotiation and configuration (AM, SM, RM)
  - Service invocation (RM)
  - SLA monitoring
- Non functional testing:
  - Performance
  - Scalability
  - Usability