

Use Case: Service Aggregation

Service Aggregation of Telecommunications Services

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Service Aggregator Use Case



Telecommunications Industry Context

- ◇ Telefonica (TID)
- ◇ A1 Telekom Austria (A1TA)

Market Opportunity

- aggregation of electronic web services to form new bundled product offerings
- quality of service (QoS) of aggregations forms the key market differentiator
- such bundles cover heterogenous technical domains, making SLA management for such QoS difficult, often relying on ad-hoc methods

Applications

- Multi-party voice calls (Conference)
- Voice mail
- Interactive Voice Response (IVR)

Voice

- VoIP
- Fixed-line
- Mobile

Messaging



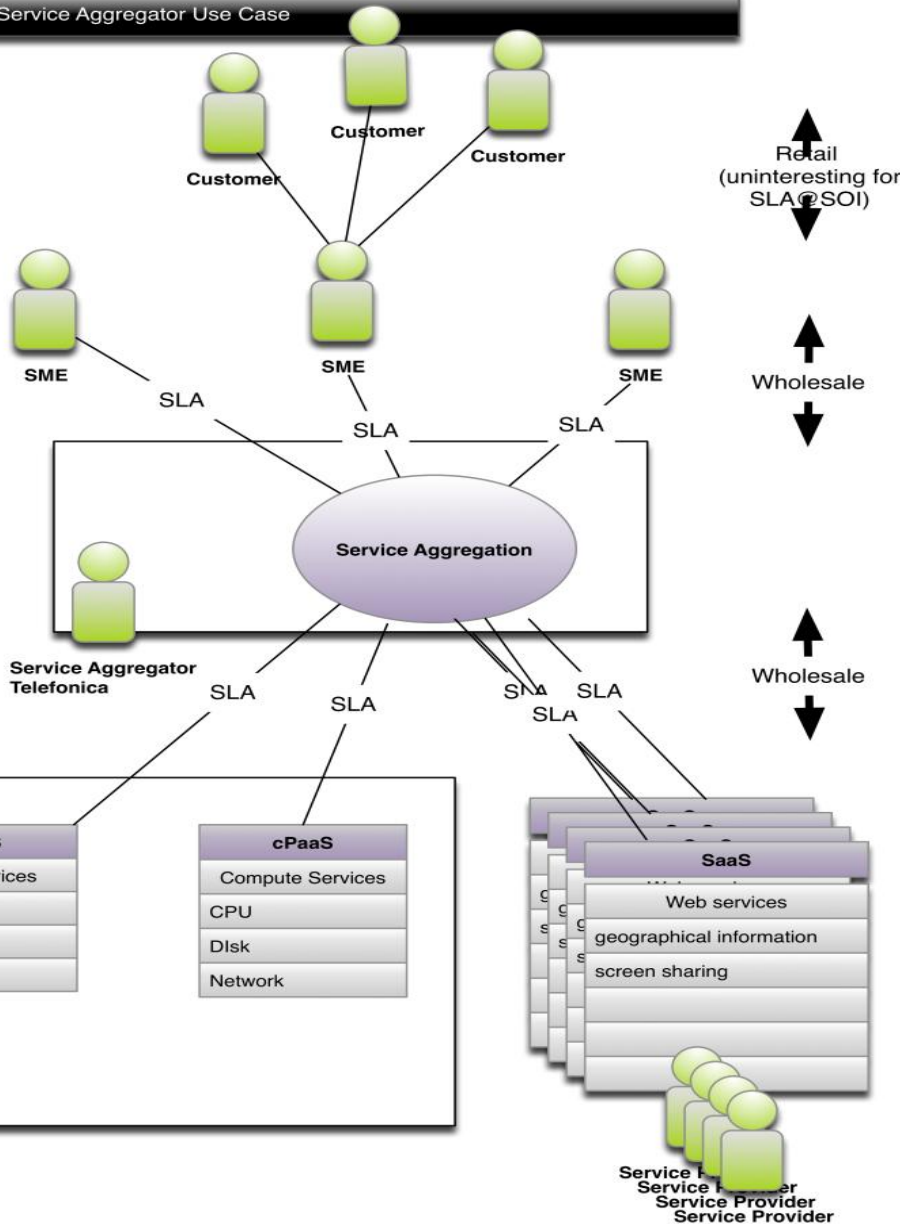
SMS, MMS



Email

Category	Service	Description
Voice	VoIP	Voice communications over internet protocol
	Fixed-line	Voice communications over traditional analog fixed line connections
	Mobile	Voice communication over radio based networks such as GSM or UTMS
Messaging	SMS	Short messaging text messages originally intended for GSM based networks
	MMS	Multi-media messages incorporating text, images, movies, and possibly sound originally intended for GSM networks
	Email	A standard for messaging layered on internet protocol networks
Applications	Multi-party voice calls	The aggregation of voice calls with more than two endpoints (i.e. conference bridge)
	Voice mail	A service that answers a voice call, recording an audio message for subsequent playback
	Interactive Voice Response	The use of DTMF message tones to guide a voice call through a series of messages or possible conference calls

Abstract Service Aggregator Use Case



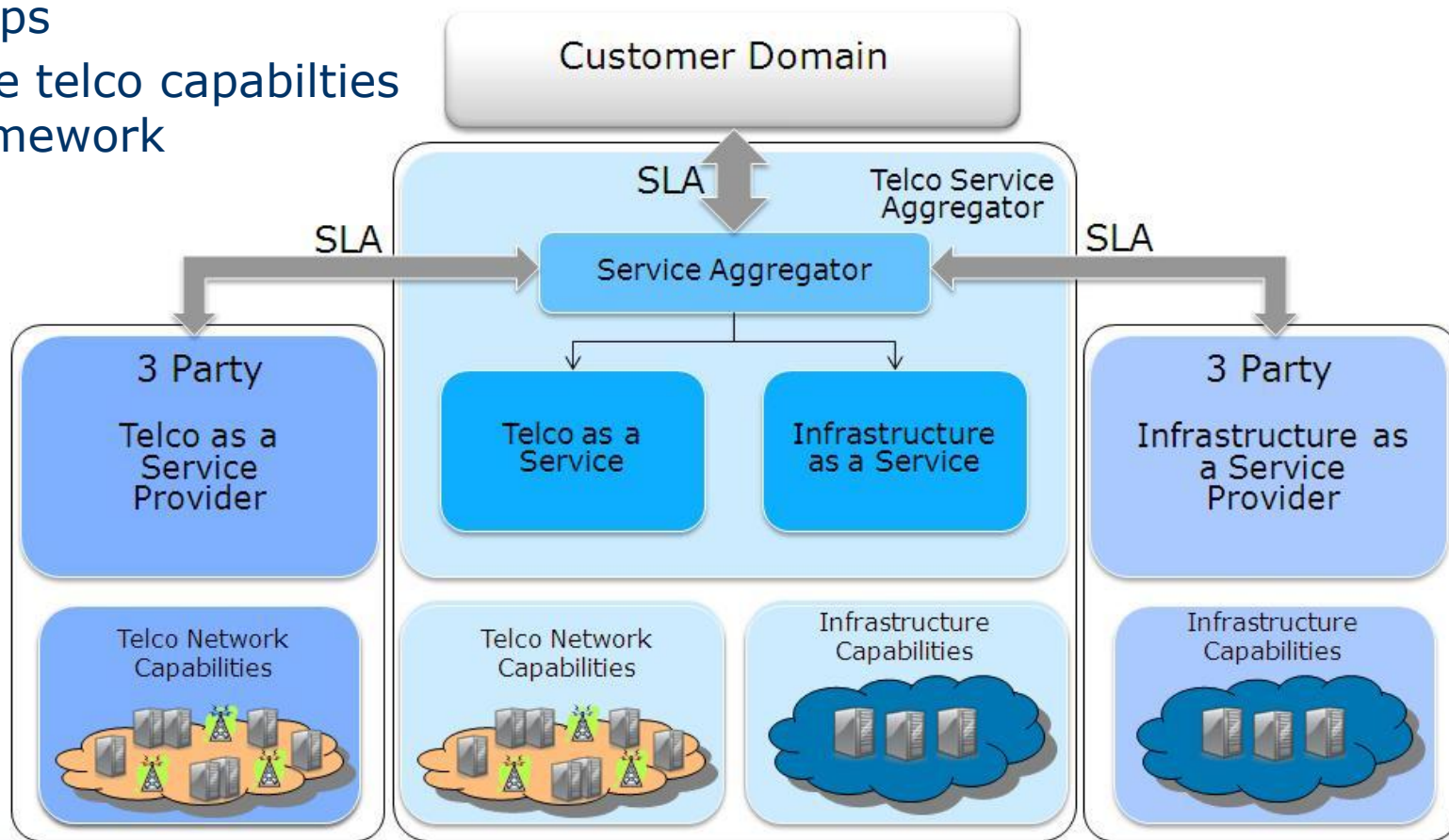
Management

- wholesale relationships form prime motivation in our approach

Two Scenarios

- telecommunications company (Telefónica) offering third party services
- telecommunications company (A1 Telekom Austria) providing Telecommunications as a Service (TaaS) platform which hosts external entity's service aggregations

- multi-provider
- business and technical relationships
- incorporate telco capabilities in SLA framework



- New business environments based on Service Delivery Platforms allows a “win/win” situation for both Telco Service Providers and Infrastructure Service Providers
- Telecommunications Service Providers have few services with high availability and high guarantee terms. They will be more than a “carrier” or the pipe
- Service Aggregator environments allows Time-To-Market reduction and revenues increase, exploring new market niches and new services
- Optimization of efficient use of internal resources based on customer demand
- Delivery of products with guarantee terms automatically associated with the SLA

Telecommunications as a Service

- create a wholesale Service Delivery Platform that encapsulates telco services (voice, SMS, applications) as electronic web services (REST-based)
 - ◇ part encapsulation of existing telco service as web service
 - ◇ part software module for controlling these services
- create a compute cloud for hosting external service aggregation applications (Platform as a Service)
- enables SLA management across the combined vertical stack

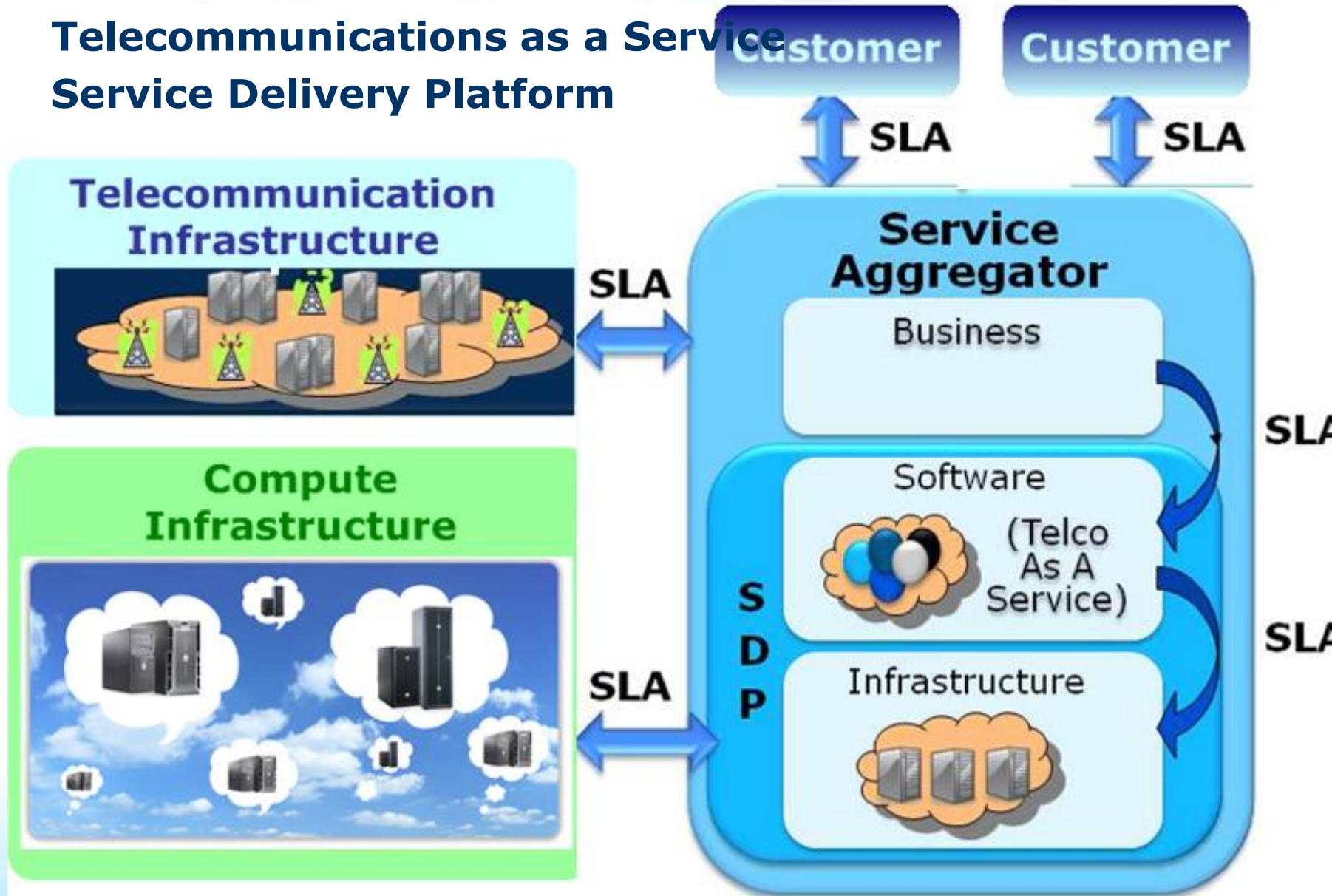
Initial Prototype Scenario

- an external company (Acme Aggregator) creates collaboration tools aggregating
 - ◇ voice service (from TaaS)
 - ◇ shared whiteboard (software application)
- this aggregation is sold to multiple customers
- managed on multi-tenant TaaS container provided by A1TA

A1TA Architecture

SLA @ SOI

Telecommunications as a Service
Service Delivery Platform



Value Dial	Metric
Reliability of Aggregate Service	Availability expressed a percentage of time service is available Average time for service restoration of failure
Service Efficiency	Percentage utilization of compute infrastructure
Infrastructure Utilization	Volume of phone calls made per wholesale relationship
Multi-party Monitoring	Person months (PMs) it takes to establish a multi-party monitoring solution
Agility	Average time to provision a service Average time to modify a service

General overview

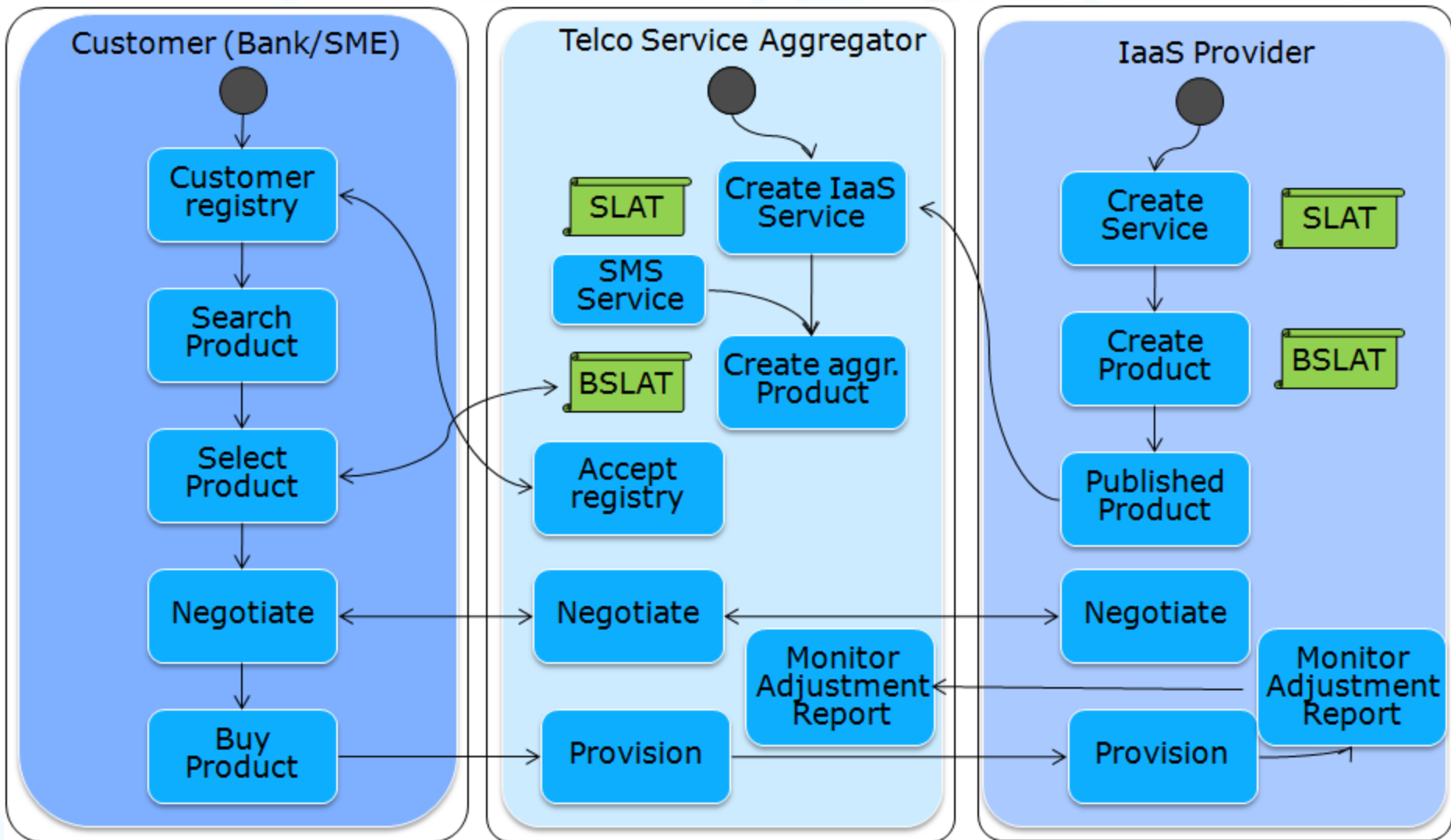
Actors

Bank/SME	=> Customer
IT Manager (End user) service	=> The bank IT administrator who finally use the whole service
Telco Provider	=> Telefónica capabilities like SMS, eMail, VOIP, etc.
IaaS Provider	=> Third party company that provides the infrastructure
Service Aggregator	=> He creates the bundle of services based on Telco + IaaS

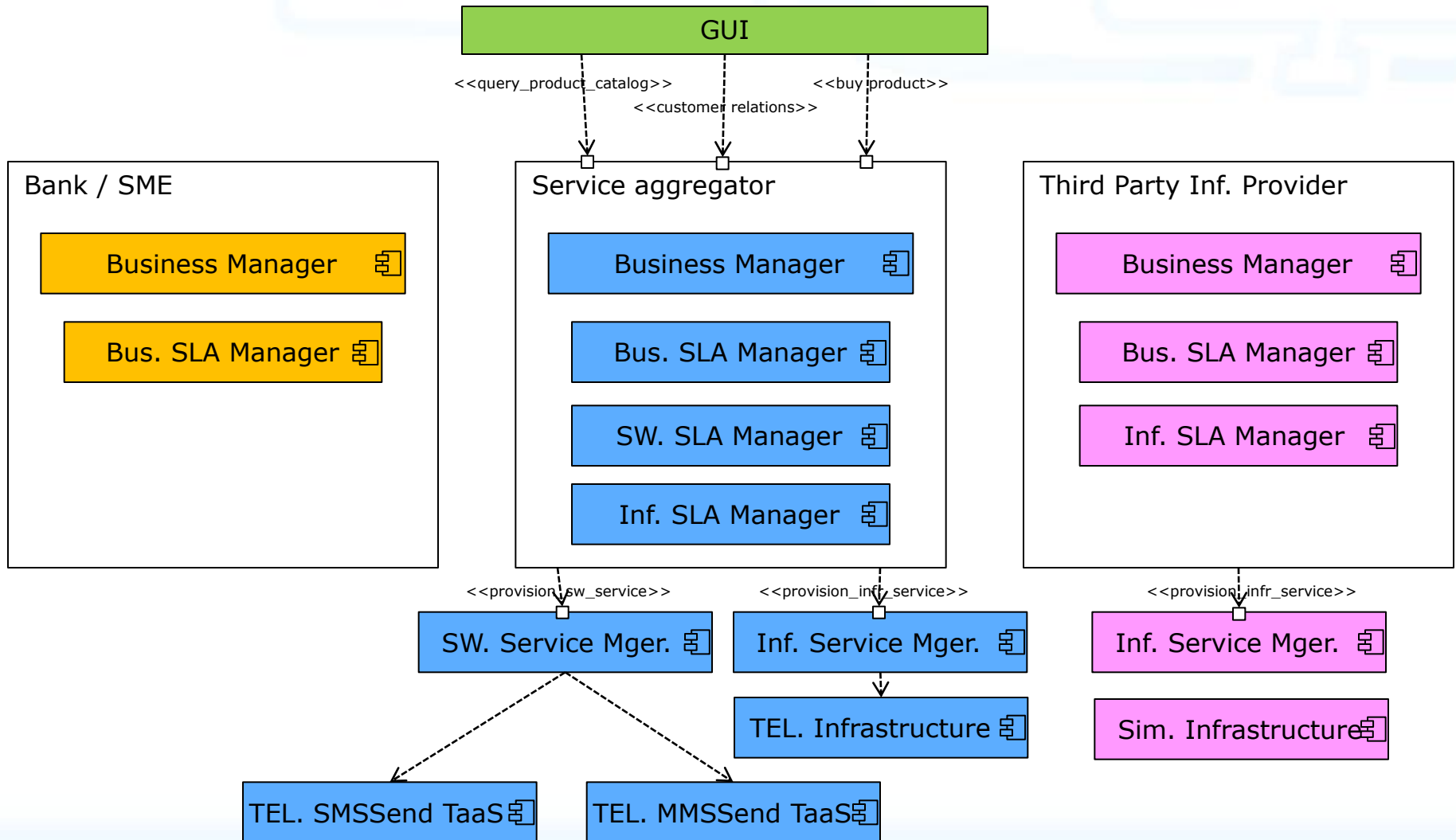
The Story

- Telco service aggregator offer to the customer (Bank or SME), an integrated product that includes Telco services (SMS messaging) and infrastructure services (IaaS) with a determinate SLA
- Telco service aggregator has his own Telco Services and Infrastructure Services
- Telco service aggregator has agreements (SLA) with other Telco and Infrastructure Provider in order to use their services

Telefónica Scenario Flow



Telefónica SLA@SOI Framework



Value Dial	Metric
Customer satisfaction	Rate of claims per customer % reduction (elimination to zero) of undetected SLA violations
Dependability	Availability (% of the time the service is available, ej. 99,99%) Mean time to recover from an SLA breach (in seconds)
End2End manageability	rate of monitored atomic services per total number of atomic services
Fast decision making	% of automatic penalties adjusted
Agility	average time to provision a service average time to modify a service
Operational Efficiency	Opex associated to platform management
Energy Efficiency	Energy Consumption kW/hr Energy Savings

**Thank
you!**