New Value Chain through Service Platform

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Technology for better business outcomes
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Introduction
SDP Point of View

- Telecom Industry
  - Change in Telecom industry’s circumstances (ambiguous boundary)
  - Competition and collaboration with heterogeneous player
- Where SDP reside in?
  - Layered model view: Network Layer or Service Layer?
  - Business ecosystem view: Which part of the Value Chain?
- Who are SDP provider? (Who are the competitor?)
  - Telecom operator?
  - Service provider?
- Who are SDP user?
  - Start-up company (minimize initial cost)
  - Service provider/Enterprise (reduce operating cost)
  - Telecom operator (time to market, reduce development cost, third party development)
Introduction

SDP Point of View

- What kind of service does user anticipate?
  - Business core functions? (payment, credit control, sales channel, advertising)
  - IT resources? (computing and or storage resources, operation)
  - Network services? (user location, real-time notification)

- Required technology
  - Easy to use APIs (user acceptable)
  - Operation and management functions for secure and stable service
Collaboration and Platform
Open Service Platform by Service Provider

Killer service providers exposed their data and functionality

- Google、Yahoo、eBay、Amazon…
- Amazon Web Service Platform
  - Access to Amazon’s database
  - Finding items
  - Remote shopping cart
  - Associate receives a commission when a customer purchases an item (4.0% - 8.5%)
- Selling, payment, inventory and distribution commerce platform for a Merchant
Open Service Platform by Service Provider

**SaaS providers exposed their platform functionality**

- **SaaS**: Custom development to On demand service
- **Force.com On demand service**
  - Multi-tenant Architecture: Users can share single instance and version of software
  - Meta-data driven development: defining data model, object, form, workflow by meta-data
  - Web Service API: Users can access any data on Force.com
  - AppExchange web site: Application registration, discovery, trial use, evaluation

![Diagram showing the relationships between CRM, Force.com Platform, Web Service API, AppExchange Web, Apex Developer Network, End Users, and Development partners.](image-url)
Requirement for making success the Platform Business

- Open core business function
  - Expose core business functions for new business collaboration with external service provider and develop new revenue stream by usage of the exposed functions
  - Provide platform function which accelerate easy collaboration with external service provider

- Positioning on new value chain
  - Keep direct contact point to an end user: payment, portal, customer care…
  - Keep End user communication to identify user requirement, evaluation and more

- Price competition avoidance
  - Expose unique services, data and core business functions to differentiate from competitor
  - Provide partner support program to promote new and attractive service and value creation

- Platform System
  - Low cost system and operation: virtualization, integrated system management
  - Secure, Stable, Scalable
Value Chain type by Collaboration model

- Vertical value chain in Layered model
  - Provides common service enablers to a upper layer: Authentication, payment…
- Business Incubation
  - Provides a mandatory business function to reduce cost and time: MVNE to MVNO
- Horizontal Value Chain in same Layer
  - Provide a mandatory business function to a business partners: services/contents aggregation

[Diagram showing vertical value chain, business incubation, and horizontal value chain]
SDP in Network Layer
What’s Operator’s Value Proposition

- Wire-line and wireless access services
  - ✓ Line and device authentication and authorization
  - ✓ Message broadcast to specific areas (Mobile)
  - ✓ Multicast contents delivery
- Guaranteed QoS network (NGN)
  - ✓ Real-time two-way communication
  - ✓ High definition video transmission
- Device status (Mobile)
  - ✓ Terminal device location
  - ✓ Device management
- Real-time notification (Mobile)
  - ✓ Wake on device application
  - ✓ Push alert message
What’s Operator’s Value Proposition

✧ User profile data
  ✓ User characteristic (sex, age, address etc)
  ✓ Activity log (Access log, purchase log, search log etc)

✧ Identification and authorization at sign up
  ✓ Service access by authorized user (address, identification, payment)
  ✓ User ID information

✧ Rating, billing and collection
  ✓ Multiple payment methods for an end user and a service provider
  ✓ Add up access charge and service charge
Collaboration through SDP

SDP Services

Access services
✓ Access line, device Authentication
✓ Cell Broadcast (CBC), multicast
✓ Device location

* CBC: Cell Broadcast Center
Collaboration through SDP

SDP Services

- PUSH service by SMS
  - ✓ Real-time Notification
  - ✓ Information PUSH

* SMS: Short message Service

Collaboration

Shop

Financial Emergency Service

Product Info. Confirmation...

E-mail

Stock alert Emergency...

SDP

E-mail

SMSC

Best Effort

Real-time

Best effort service

Guaranteed Service
Collaboration through SDP

User authentication and authorization
- Authorizes user ID
- Add up
- Pre-paid, Post paid and more
- Rating, billing, collection

SDP Services

Collaboration

Shop

Billing Payment

Account id
Credit card #

Service Product

User ID

Billing

Collection

Pre-paid Post Paid

Collaboration
SDP in a broad sense or in a narrow sense

SDP in a narrow sense
Network
✓ IP Network
✓ IMS based session control
SDP Service
✓ IMS standard services
Open Interface
✓ OSA/Parlay-X Web service

SDP in a broad sense
Network
✓ CS, PS, IMS domain network
SDP Service
✓ Network services
✓ BSS and OSS services
Open Interface
✓ OSA/Parlay-X Web services
✓ Operator proprietary Web services
SDP model in a broad sense
SDP Related Standards
- 3GPP/OSA, TMF/SDF -
3GPP OSA (Open Service Access) Application Server と Open API

Parlay 5.0 SCF
- Call Control SCF
- User Interaction SCF
- Mobility SCF
- Terminal Capabilities SCF
- Data Session Control SCF
- Generic Messaging SCF
- Connectivity manager SCF
- Account Management SCF
- Charging SCF
- Policy Management SCF
- Presence & Availability Management SCF
- Multi-Media Messaging SCF

Parlay-X 2.0
- Third Party Call
- Call Notification
- SMS
- Multimedia Message
- Payment
- Account Management
- Terminal Status
- Terminal Location
- Call Handling
- Audio Call
- Multimedia Conference
- Address List management
- Presence

J2EE Web Application Server
Parlay Application Server
Parlay-X Gateway
OSA Gateway
Service Capability Server (SCS)

Framework
- Authentication
- Authorization
- Discovery
- Service Agreement
- Service Access

Web Service Repository
Find
Publish
WSDL

Parlay-X (SOAP/HTTP)
Parlay (CORBA)

Find
Publish

- Authentication - Authorization - Discovery - Service Agreement - Service Access

HSS
S-CSCF
MRF
Presence
MMSC

NGN
3G
WiFi/WiMAX
xDSL
FTTH

Sh(Diameter)
ISC(SIP)
VoiceXML
ccXML
Peu/Pw
MM7

 burglary

 burglary

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A Service Delivery Framework (SDF) provides a standardized business and operational framework that enables effective delivery and management of emerging services, such as IMS-based services and IPTV.
SDP Management Framework
Framework Functions

- Self-care Portal for 3rd Party (CP/SP/ISV/Enterprise)
  - On-line Sign Up
  - 3rd Party Profile Management
  - Service Enabler Discovery

- Access Control
  - Authentication and Authorization by Policy Management
  - SLA and Flow Control based on the agreement
  - Logging and Charging

- OA&M for a Operator
  - Enabler Lifecycle Management
  - Service Class (throughput, message length, message type, available time slot)
  - 3rd Party Screening and Authorization
  - Statistics and Reporting for each Enabler

- Congestion Control
  - Enabler Congestion
  - SDP Congestion
Enabler Lifecycle Management

- **Service Delivery**
  Enabler registration/de-registration and fulfillment

- **Service Assurance**
  Monitor and control a SDP user access based on the agreement, CoS and SLA.

- **Service Usage**
  Logging user activity for charging and reporting

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**Service Usage**
- Statistics Reporting
- Charging

**Service Delivery**
- Enabler Registration De-registration
- Sign-up Agreement
- Authentication Access control SLA

**Service Assurance**
- Monitor and control a SDP user access based on the agreement, CoS and SLA.
Testing & Certification Platform
1. Operator implements versatile Web services and provides them to enterprise customer.

2. Each user implements some Web services by themselves which interoperates to SDP provider’s one to complete the business transaction.

3. The issue is who guarantees the quality of web services developed by each user. If some of them go out of control inadvertently, it affects the SDP provider and all of other users.
Testing & Certification Platform

- **Device Certification**: Ensure selected devices functionally support Mobile Website and Java client.
- **Service Validation**: Ensure key features (such as photo upload) are correctly operated (Regression testing).
- **Service Monitoring**: Check regularly service response times and key features match quality.
- **Device Information Management**: Manage efficiently the whole testing cycle (requisites, test cases, defects etc.).
- **Ensuring Quality of Services on Devices**: Promote and ensure the quality of services on devices.

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**Testing Process management**
Thank you