Growing Business Opportunities with OSA/Parlay

Celio Rosa
Director
Ericsson Service Layer Sales Account
Member of the Parlay Marketing Executive Committee
Growing Business Opportunities with OSA/Parlay

• The need for a new business model!
• What's OSA/Parlay? Who's OSA/Parlay?
• What type of services are most likely to generate Revenues?
• What is the next step? How does OSA/Parlay fit IMS?
• Conclusion
Increasing Operator Business: Two Paths...

**Revenue Generators**
- Broaden the offering: New Services and applications
- Broaden the market: Reach new subscriber segments
- Increase usage by leveraging installed base
- Replace competitors’ offerings

**OPEX Reducers**
- Reduced operating costs
- Common platforms, pre-integrated products, integration services
- Subscriber self-provisioning
- Automation of tasks
What the operators are saying loud?

“We live in an ever-changing converging Telecoms and IT environment, with pressures to get new products and services to market quickly, with minimal OPEX and CAPEX. It is critical for us to invest in a next generation service architecture platform.”

European Operator

Source: Operator Guidebook to IMS and New Generation Networks and Services
SECOND EDITION
FEBRUARY 2006
The growth with large terminal subsidies, infrastructure investments and strong competition has led to a decrease in EBITDA margins.

How is Brazil doing?

Source: Merrill Lynch
How is Brazil doing?
Brazilian Operators MOU & ARPU

Source: Merrill Lynch

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What the operators are saying loud?

- "...how to facilitate mass development of services?
- ...how to ensure reuse of assets in the future?
- ...how to simplify supply management and mass partnering?
- …It costs me millions of dollars to launch services “

American Operator
### Most Common Architecture

#### End user services

<table>
<thead>
<tr>
<th>Customers</th>
<th>Brokered</th>
<th>SP</th>
<th>In-house</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise</td>
<td>3rd Party</td>
<td>Partner</td>
<td>Group</td>
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<tr>
<td></td>
<td></td>
<td>Global/local</td>
<td>Local</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service</th>
<th>Service</th>
<th>Service</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portal</td>
<td>Portal</td>
<td>Content Mgmt</td>
<td>Content Mgmt</td>
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<tr>
<td>Content Mgmt</td>
<td>Content Mgmt</td>
<td>Billing</td>
<td>Billing</td>
</tr>
<tr>
<td>Rendering</td>
<td>Billing</td>
<td>Billing</td>
<td>Billing</td>
</tr>
<tr>
<td>WAP</td>
<td>SMS</td>
<td>Streaming</td>
<td>MMS</td>
</tr>
</tbody>
</table>

**Network Element**
Beyond a few capabilities / customers, the common approach for extending and enriching Enterprise Applications is unworkable.
Reducing the complexity
### Horizontal architecture

#### End user services

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<td>Global/local Local</td>
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#### Horizontal Service Network

- Service Network Framework (SNF)
- Common Functions SDP

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**Network Element**

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What is Parlay?

Def.: A mediator API between Telecom networks and 3rd Party applications

Open standards (specified by the Parlay Group and 3GPP, OSA), allowing operators to extend their business into the internet & enterprise markets

Secure interface between Network Operators and Application Servers. Parlay integrates services with IT applications via a secure, measured and billable interface.
Who is Parlay?

- Parlay Group created in March 1998
- In June 2000, became an open multi vendor forum to standardize and promote open application programming interfaces.
- Has over 80 members in Feb 2006
  - Operators
  - Telco vendors
  - IP vendors
  - Developers

www.parlay.org
Parlay Reference Architecture

Parlay/OSA Applications

Intranet

The Parlay APIs

Enterprise Domain

Service Provider Domain

Managed IP Network

Network Elements

Router

Parlay Gateway

Hosted Application Svr

Hosted Application Server

Network Security Boundary

Internet

Parlay Gateway

Network Elements

PSTN

SCCP

Mobile Network

Network Elements

HLR

Parlay/OSA Applications

Application Server

Firewall

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Parlay/OSA Business Scenarios

Network Operator

ASP (trusted)

Application servers

Application Servers

Parlay/OSA Gateway

Parlay/OSA

Wireline
CS/PS

GSM/ GPRS

CDMA

WCDMA

IP network

Parlay/OSA Web Services

other Operator

Application servers

ASP

Enterprise

Corporate Database

Application servers
Korea

(Workshop on Open Services for Next Generation Networks)

- 2 day workshop in July 2003 looking at the use of open APIs, organised by ETRI
  - Over 180 registrations

- Exhibition of Parlay/OSA technology
  - IBM, Kabira, NTT

- There were also Parlay products on display which were developed in Korea
  - Herit, Korea Telecom, uAngel

- www.ngcn.or.kr

Singapore

- The Infocomm Development Authority of Singapore sponsored a seminar in June 2003 for the industry in Singapore and local developers to learn about Parlay.
  - “Ultimately enable a vibrant mobile ecosystem rich in mobile applications and services”
Ericsson Mobility World Developers Day in Bogota, April, 2004

Approx. 300 participants!
The number of trial and deployments is increasing. More are remaining confidential.
Orange UK/France

Orange Parlay deployment

OSA Gateway

Business Domain (billing, provisioning, CRM)

App 1
App 2
App 3

Application Server

OSA FW

OSA GS

OMA + Enterprise Services Domain

Radius, LDAP, Other
Parlay
Parlay / CORBA

SMPP
IN

LDAP
INAP, CAP

VAS
INAP, CAP

Circuit and Packet Switch Network (GSM, GPRS, 3GPP R5)

client
device

Parlay
Parlay
Parlay / CORBA
Parlay
Parlay
Parlay
Parlay

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KT Open Service Architecture

3rd party (MSP/SPs)

KT

Charging Server

INAP

SMS

SCP

IN Hosting AS

Parlay AS

VXML AS

Parlay X Web Services

IN Service Gateway

Parlay G/W

SCF

INMF

Packet-IP

VXML

SIP

H.323

PSTN

VoIP G/W

GK

SIP Proxy

Value Networking KT

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Open standards approach – Parlay X

- Provides a broad set of API's for multiple network services
- Simplifies development by using web services technology
- Reduces business risk
- Enables new business models
- Supports IP/MPLS, CDMA Wireless networks with the same APIs, providing a future-proof evolution path for network services
Benefits of open API

For Operator and Service Provider

- Reduced Time to Market
- Address New Market Segments
- Higher revenues
- Reduced cost & churn
- Open J2EE applications

For the Developers

- Faster development
- Lower costs
- Reduced complexity
- Reduced risk
- Higher revenues
Benefits of open API

Developers and variety & number of services

Number of Developers

1000000s

1000s

100s

Web Services e.g. Parlay X

Increase in number of 3rd party providers increases requirement for:

- Easy APIs - web oriented
- Policy enforcement
- Management

OSA/Parlay

SIP/ISC

Legacy APIs INAP, SMPP, MM7, LIF, etc

Operator

Interfaces
Reducing the complexity

End user services

Customers
Brokered
SP
In-house

Enterprise
3rd Party
Partner
Global/Local
Local
Group

Common functions

Network Element

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### Operator X Service Delivery Platform

<table>
<thead>
<tr>
<th></th>
<th>2005</th>
<th>Dec 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of active service providers</td>
<td>18</td>
<td>50 by Dec 2006</td>
</tr>
<tr>
<td>2. Number of active services</td>
<td>130</td>
<td>200 Dec 2006</td>
</tr>
<tr>
<td>3. Number of active content providers</td>
<td>22</td>
<td>70 Dec 2006</td>
</tr>
<tr>
<td>4. Number of active content areas</td>
<td>26</td>
<td>40 Dec 2006</td>
</tr>
<tr>
<td>5. Content revenue per month (US Dollars)</td>
<td>3.9 MUSD/Month</td>
<td>6.5 MUSD/Month</td>
</tr>
<tr>
<td>6. Service revenue per Month (US Dollars)</td>
<td>10.1 MUSD/Month</td>
<td>16.4 MUSD/Month</td>
</tr>
<tr>
<td>7. Service Time-to-Market</td>
<td>90 days</td>
<td>30 Days Dec 2006</td>
</tr>
<tr>
<td>8. Content Time-to-Market</td>
<td>60 days</td>
<td>20 Days Dec 2006</td>
</tr>
<tr>
<td>9. Service provider contract flow</td>
<td>56 days</td>
<td>20 Days Dec 2006</td>
</tr>
<tr>
<td>10. Content Provider contract flow</td>
<td>55 days</td>
<td>15 Days Dec 2006</td>
</tr>
<tr>
<td>11. Number of registered subscriber</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8 Million sub</td>
<td>8.7 Million sub</td>
</tr>
<tr>
<td></td>
<td>1.400 000 actively using services</td>
<td>1 900 000 actively using services with increase in end user service usage.</td>
</tr>
</tbody>
</table>

**How to measure the change to gain results?**

**Reaching real improvements ($$$) !!!**
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What kind of applications do the operators want?

- **Positioning information**
  - Apps knows where you are
  - Traffic information delivered timely and where needed.

- **Voice Recognition**
  - Control call flow with your voice, enhanced VPN
  - Non known user leave voicemail before delivery

- **Access Corporate information**
  - Exchange servers..., enhancements to e-mail
  - Call server checks with Outlook database before call setup

- **Machine-to-machine communication**
  - Vendor machines, elevator repair, cargo location...
  - Elevator reports faulty automatically, call setup elevator-repairman

- **Entertainment**
  - Personal preferences
  - Dating service using personal preferences

- **Web Services**
  - Suitable for a ‘call-me’ button on a web page.

- **WEB & WAP control of Applications**
  - End-user controlled services, click-to-talk (0800), web phone Call routing towards many terminals, call setup to first answer
<table>
<thead>
<tr>
<th>Ideas for OSA/Parlay applications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Missed Call Message</strong></td>
</tr>
<tr>
<td><strong>Mobile Scotland Yard</strong></td>
</tr>
<tr>
<td><strong>Who is it?</strong></td>
</tr>
<tr>
<td><strong>Call Dad</strong></td>
</tr>
<tr>
<td><strong>Emergency-Call Closest Mobile</strong></td>
</tr>
<tr>
<td><strong>Televoting</strong></td>
</tr>
<tr>
<td><strong>Multi Party Meeting 123</strong></td>
</tr>
<tr>
<td><strong>Bonus Miles = Prepaid = Minutes</strong></td>
</tr>
<tr>
<td><strong>Walkie-talkie</strong></td>
</tr>
<tr>
<td><strong>Digi or Mobile Pet</strong></td>
</tr>
<tr>
<td><strong>I am here</strong></td>
</tr>
<tr>
<td><strong>All together now</strong></td>
</tr>
<tr>
<td><strong>Where am I</strong></td>
</tr>
<tr>
<td><strong>City trip guide</strong></td>
</tr>
<tr>
<td><strong>Buy a daily soap in TV</strong></td>
</tr>
<tr>
<td><strong>Travel assistant</strong></td>
</tr>
<tr>
<td><strong>Call Barring</strong></td>
</tr>
<tr>
<td><strong>Calendar Reminders</strong></td>
</tr>
<tr>
<td><strong>Reachable during Internetting</strong></td>
</tr>
<tr>
<td><strong>The Matchmaker</strong></td>
</tr>
<tr>
<td><strong>Role Play on mobile</strong></td>
</tr>
<tr>
<td><strong>Free to Call</strong></td>
</tr>
<tr>
<td><strong>Call Closest Service Engineer</strong></td>
</tr>
<tr>
<td><strong>Call a stolen GSM</strong></td>
</tr>
<tr>
<td><strong>Bar code with GSM</strong></td>
</tr>
<tr>
<td><strong>Breaking news alert</strong></td>
</tr>
<tr>
<td><strong>Last Incoming Call Barring</strong></td>
</tr>
<tr>
<td><strong>Find a number plate</strong></td>
</tr>
<tr>
<td><strong>Call-back on no answer</strong></td>
</tr>
<tr>
<td><strong>Call Chiffre</strong></td>
</tr>
<tr>
<td><strong>Catch the moment</strong></td>
</tr>
<tr>
<td><strong>Call Completion for congestions</strong></td>
</tr>
<tr>
<td><strong>Take you medicine reminder</strong></td>
</tr>
<tr>
<td><strong>The Matchmaker</strong></td>
</tr>
<tr>
<td><strong>Chat-and-talk</strong></td>
</tr>
<tr>
<td><strong>Start Application on Call</strong></td>
</tr>
<tr>
<td><strong>International Multiple Subscription Offer</strong></td>
</tr>
<tr>
<td><strong>Direct Call-Back From Voice Mailbox</strong></td>
</tr>
<tr>
<td><strong>Personalized music at ringtone/busy</strong></td>
</tr>
<tr>
<td><strong>Phone Pages</strong></td>
</tr>
<tr>
<td><strong>Call from hyperlink</strong></td>
</tr>
<tr>
<td><strong>Funny Voice Filter</strong></td>
</tr>
<tr>
<td><strong>Kid/Animal tracker</strong></td>
</tr>
<tr>
<td><strong>Bonus on Receiving Calls</strong></td>
</tr>
<tr>
<td><strong>ASAP – Advanced Stock Broker Alert</strong></td>
</tr>
<tr>
<td><strong>Remote machine management</strong></td>
</tr>
<tr>
<td><strong>Distribution lists for SMS/MMS/announcements</strong></td>
</tr>
<tr>
<td><strong>Do not Disturb - Call Filter (White list)</strong></td>
</tr>
<tr>
<td><strong>Calling minutes present</strong></td>
</tr>
<tr>
<td><strong>Mobile Personal Number</strong></td>
</tr>
</tbody>
</table>
Sprint Business Mobility Framework: Services Delivered Today

- **Presence** – provides a status indicating whether the device is on or off
- **Cell Sector Location** – provides the latitude & longitude of a device’s cell sector center, along with accuracy estimate
- **Precision Location** – provides the latitude & longitude of a device along with accuracy estimate; depending on conditions accuracy can be within 5 – 300 meters
- **SMS Alerts (Text Messages)** – enables application server to easily send a text message to a device
- **Voice Alerts** – enables application server to call a phone and play a message using Sprint text to speech technology or via an audio file
- **Presence Notifications** – allows application to be alerted when a device is turned on or off
- **Location Notifications** – allows application to be alerted when a device crosses a specified geo-fence boundary.
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• Conclusion
Service Layer technology maturity

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Growth</th>
<th>Maturity</th>
<th>Decline</th>
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</thead>
<tbody>
<tr>
<td>Limited commercial deployments</td>
<td>Growing commercial deployments</td>
<td>Commercial deployments</td>
<td>Mature technology Massive deployments</td>
</tr>
</tbody>
</table>

- IMS
- Web Services
- Open API's
- Call Control
- IN

<table>
<thead>
<tr>
<th>Miguel (P800 Mobile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonzalo</td>
</tr>
<tr>
<td>Felix</td>
</tr>
</tbody>
</table>

Add instant message
Add image
Add video
Add whiteboard
Add game

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Parlay and IMS

Parlay is one of the service environments defined in 3GPP/3GPP2 IMS
How to Evolve?

Where are your subscribers today?
How to Evolve?

Where are your applications today?
Whilst the basic SIP protocol is relatively straightforward, its extension for IMS (ISC) is far more complex. (As an evolving signaling protocol for the next generation networks it has been referred to as 'SS8'). For some value added applications SIP is inappropriate and a higher-level abstraction is needed. 

In the IT industry, Service-Oriented Architecture (SOA) is often implemented using the key web-services technologies (SOAP, WSDL and XML). The Parlay Group has created a similar set of web service interfaces to general telecom capabilities known as Parlay X. Parlay-X Web Services define a set of telecommunications oriented web-services, which are part of 3GPP Release 6.

Parlay-X in effect creates a bridge for the operator from the Service-Oriented Architecture used by developers and large enterprise customers, to the IMS. 
Parlay’s Opportunity

- Parlay is part of IMS specs through ETSI and 3GPP
- Parlay provides the ideal way to migrate existing applications to IMS
- SS7 and IN will be around for at least next 5 - 7 years before full phase out
- So Parlay gives operators an excellent migration tool
Future Considerations

• Wireless/Wireline Integration and Advanced Voice Services
  – Call Management
  – Call Centers
  – Virtual PBX

• IMS
  – Parlay as the Network Abstraction Layer
  – SIP Services exposed to third parties in a secure, controlled manner
  – Services bridging circuit switched and SIP networks

• Mobile Virtual Network Operators (MVNO)
  – Service Delivery Platforms provide a mechanism for MVNO to offer differentiated services
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Creating value

OSA/Parlay challenge is to integrate this critical link between users and services in a multi-vendor environment.
Summary

- There is a growing business opportunity !!!
- It brings a secure, standard & open environment
- It’s agnostic, device & network independent
- Unlimited Service Possibilities & combinations
- New Business Models & Opportunities
- A Global Marketplace for Services and Content

Parlay is building the new age in revenue value for business and personal communications...
16th Parlay Group Conference

Prague, Czech Republic
Theme: Parlay and IMS
April 25-28, 2006

Featured Keynote Speaker
Sean Baker, Chief Corporate Scientist and a Co-Founder of IONA will present "Applying SOA to IT and Network Convergence"


Education Track
Vendors Showcases
Business Summit
Finding out more about OSA/Parlay

- [http://www.parlay.org](http://www.parlay.org) (and become a member!)


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**Thank You!**

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BACK UPs
New Business Model

Operator as Retailer of Services

• What Operators have:
  ▶ Networks rich in Functionality
  ▶ A large customer base
  ▶ Efficient billing and customer management
  ▶ The ability to mass-market services

• What Operators need:
  ▶ To expand their value chain into new markets
  ▶ New services that expand their business offerings

• What Third Party Developers have:
  ▶ Ideas and creativity
  ▶ Huge numbers
  ▶ Vast knowledge of specialised IT and IP products and markets

• What Third Party Developers need:
  ▶ Help in marketing their services
  ▶ A business infrastructure to create a cash flow
Where to use Web Services?

• Use Web Services
  - New applications across multiple organizational domains, where requirements for availability are low and there is little customization of the provider service enablers.

• Use Traditional distributed programming
  - Where high levels of integration are required for high availability, multi-step transactions, ongoing shared state, or real-time performance.

• Hybrid Applications
  - Core telecom services may be exposed to external entities as web services. Web services can make available network information such as customer configuration or presence and location. They may provide service interfaces for internal applications like charging and messaging services to external application developers.
  - Web services may be used by core telecom applications to alter call processing (forward to voicemail when calendar shows callee is in a meeting) in so far as their limitations can be bounded by time-outs and default actions.

• Service Evolution
  - IMAP, Corba, EDI, LDAP and the like will all have web-services alternatives, usually to enable application blending across domains.
  - Applications requiring more complex authentication, transaction or session state, or complex data models are likely to remain with purpose-built protocols.