Developing An End-To-End Architecture

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Agenda

• Matching Operator Requirements

• The SDP Alliance Participants

• The SDP Alliance Architecture

• Conclusions
Matching Operator Requirements

- No two operators have the same SDP requirements
  - Multi-vendor infrastructure & access networks
  - Heterogeneous mix of legacy & proprietary services
  - Different market conditions & business drivers

- To satisfy Operator requirements we need:
  - A flexible reference architecture
  - A broad portfolio of best-in-class products & partner strategies
  - Business Consultancy & System Integration

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Operator Challenges

- Declining voice revenues
- High customer churn
- Demand for innovative, convergent services
- Addressing “The Long Tail”
- Reducing CAPEX & OPEX

Operators require a customised service delivery platform to meet these challenges
Common SDP Requirements

- A complete ecosystem for the rapid rollout of voice & data services
- **Support for New Market Drivers & Business Models**
  - Mobile Advertising
  - MVNO
  - Adult Content
- **Capabilities to drive service discovery & adoption**
  - Recommendation
  - Promotion
  - Personalisation
- **Scalable, Reliable Architecture**
- **Future Proof Service Delivery**
Complete SDP Ecosystem

- Branded applications and content
- Non-branded applications and content
- Service Creation Environment
- OSS
- BSS
- Intelligent terminals
- Service Delivery Platform
- Delivery systems
- Network data
- Subscriber data & policy

Ref: IBM’s SDP “Gearbox”

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Mobile Advertising Requirements

Operator Strategic Assets

- Billing
- Device Management
- Location Information
- Presence Information
- Subscriber profile
- Barring
- Messaging

Multimedia content

Adult content

Advertising
Adult Content Requirements

- Drive data usage and adoption of new services using adult content
  - Mobile adult content market predicted to grow from $1.4 billion in 2006 to over $3.3 billion by 2011 *

- Evolve with network capabilities
  - Text-based services > high quality graphics > video
  - Video based services will account for over 70% of mobile adult content market revenues by 2011 *

- Real-time charging for content – 3rd party revenue share

- Access to subscriber profile is critical!
  - Over 21 – full access
  - Over 18 – ‘soft’ content
  - Under 18 - blocked

* Source: Juniper Research
MVNO Requirements

- SDPs must support various MVNO categories
  - Discount MVNOs – cheap pricing plans with basic voice & SMS
  - Lifestyle MVNOs – target niche market demographics

- MVNO requirements include
  - “virtual” infrastructure
  - Multi country support
  - no CAPEX – low OPEX
  - Flexibility
  - Multi-level revenue share and settlement

Current SDP offerings, on the large, do not support these scenarios
New Business Models
Technology Requirements

• A complete set of Service Oriented APIs exposed on a common technology framework
  - Messaging
  - Charging
  - Location
  - Presence
  - Subscriber Profile
  - Terminal capability
  - Marketing preferences

• A single technology to provide a solution for all new external APIs
  - A single entry point for all 3rd party access and a single technology for all APIs
  - API capability
    • Security (login, authentication)
    • Policy control (e.g. throttling, load control)
    • Privacy control (eg. Location Based, Presence privacy preferences)
  - One Common Business Process framework including e.g.
    • Partner (Sales House) Sign-up
    • Partner Management
    • Service/Campaign Provisioning
Scalability & Reliability Requirements

- **Product-based SDPs solve scalability problems of monolithic bespoke solutions**
- **Individual products with highly scalable architectures**
- **Inbuilt scalability of SOA architecture**
  - Pinpoint overloaded service enablers and increase capacity by
    - upgrading hardware ONLY where needed
    - introducing simple IP based load balancing
- **Best-in-class products with proven reliability**
- **Product-based solution ensures specialisation and continual product improvement**
Operators must protect their SDP investment through a future proof SDP that supports:

- network evolution & future migration strategies
- evolving subscriber needs
- subscriber growth

Requirements of a Future Proof SDP

- Flexible service oriented architecture
- Choice of components and enablers to evolve with requirements
- Standard open interfaces for simple future integration

The Solution:

- Pre-integrated product based SDP with individual product and SDP architecture roadmaps

“Depth through specialisation, breadth through integration”
Pick & Mix Options to match Operator Requirements

- **Capabilities to support End-to-End Service Delivery**
  - Partner Management - rapid partner signup and policy enforcement
  - Capability Exposure
    - Messaging Gateways
    - Call control
    - Service Layer Enablers – Presence, Location
  - Service Provisioning – central provisioning
  - Service Execution Environment – standard app servers – Java, .NET
  - Service Promotion – intelligent recommendation, cross-sell & up-sell
  - Service Discovery – On Device Portals, Operator Portal
  - Service Delivery – multi-channel (voice, data, video)
  - Content Management – content acquisition, DRM
  - Device Management – OTA provisioning, device rendering
  - Convergent Charging – pre & post paid, rating, revenue share settlement
  - Personalisation - on portal, on device, in service
  - Common User Profile – consolidated access to service & subscriber data
The SDP Alliance Solution

AePONA

changingworlds

cibenix

discovering data services

mobilecohesion

Mobility Data Systems

PENET

Xiam

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• **Universal Services Platform**
Telecoms Web Services & OSA
Parlay/Parlay X Gateways

• Provides secure, open access to core network capabilities

• Telecoms Web services access for IT/Telecoms integrated environments

• Rapidly deploy new services across fixed-line, mobile and SIP/IMS networks
ChangingWorlds

- **ClixSmart Intelligent Portal Platform**

  - Live Dashboard with statistics & analysis
  - Increase subscriber awareness of services
  - Implicit personalization and profiling based on Artificial Intelligence
  - Rapidly edit and publish feature-rich mobile portals (multi-portals from 1 interface)
  - Ensure consistent branding & personalization of 3rd party content

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• FusionWorks ActiveCharge
  convergent charging gateway

• High performance
  transactional charging engine

• Real-time rating solution

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• **MPOS** Content Management System
• Market and sell to subscribers one-to-one basis
• Targeted push campaigns of mobile content
• Intelligent recommendations based on detailed subscriber profile
• **HYDRA** Partner Relationship Management
• Partner management of Value Added Service Providers
• Strengthens Operator Position in the Value Chain by allowing the implementation of a "smart pipe" strategy
• Reduce Cost of Partner Management and Integration
• Reduces time-to-market for new services
• Dramatically Reduces the Cost of Introducing New Services thought Self-Service Technology and Automation
• **Cibenix** On Device Portal
• Improves service discovery through customised mobile UI
• Improves service promotion with teaser content silently pushed to handset
• Ringtones, Wallpapers, Video, Mobile TV, RSS
A different configuration:

Mobile Advertising Architecture

Service Provider Network

Partner Management Marketing

Mobile Advertising Platform

Advertiser and Content Partner Management & Settlement

Ad Server & Campaign Manager
Dynamic User Profile Server
Charging, Rating & Revenue Share Settlement

On Portal Advertising
CS Video Ad Delivery
In-message P2P Advertising
3rd Party Call Click-To-Dial
ODP Server

On Device Portal Advertising

Subscriber

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Standard Open Interfaces for Simple Integration

- Telecoms Web Services Exposure (Parlay X)
  - 3rd Party Call Control
  - Multi-party Call Control
  - Presence
  - Location
  - Messaging

- Internal Web Services Integration
  - SOAP, XML/RPC, REST
  - NB: Loose coupling promotes flexible architecture

- Easy-to-use Web-based Self-Service interfaces
  - Partner signup, service provisioning, policy enforcement
  - Portal management
  - Retail content management

- Standard Network Interfaces
  - SMPP, MM7, PAP, MAP, CAMEL, SIP, MLP ...

- OSS / BSS Interfaces