OSS: Evolution or Revolution?

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Agenda

• Business drivers on Communications Providers
• OSS – An innovation partner
  – From Bottom Line to Top Line
  – Agility and Innovation
• Evolving the current OSS systems estate
• Service oriented Architecture
  – A near term Evolution Goal
  – Strategic revolution
• New paradigm for Managing and delivering NGN Services
  – Impact Convergence of Communications and Computing on OSS
  – Convergence of Management and Intelligence
• Summary
Business Drivers on SP

• **Bottom Line**
  – Reduce costs
  – Capital expenses (CAPEX)
  – Operating expenses (OPEX)

• **Top Line**
  – Bolster current revenue streams
  – Create new revenue streams

Moving OSS from a bottom line cost of doing business ⇝ Top Line Innovation Partner
OSS: An Innovation Partner
Innovation Revenue Growth

- New wave: + 5%
- Traditional: + 48%
- Underlying: + 31%

*adjusted for the impact of mobile termination cut  **excluding Albacom & Infonet
Innovation – what kinds

Q1 2004/5

Q1 2005/6

+ £118m
+ £128m
+ £12m
+ £33m

+ 19%
+ 69%
+ 28%
+ 45%

£936 m

£1,227 m

* excludes Albacom and Infonet
Innovation: Attacker’s advantage

When market and technologies change….

• Create opportunities for new players
• Threatens established players

At the heart of transformation is an INNOVATION that meets customer needs
OSS Evolution Drivers

• 21C NGN Converged Network
  – Less CAPEX
  – Lower OPEX
  – Greater agility

• Customer satisfaction
  – Improved processes
  – Bolster current Business
  – Gain credibility for new businesses

• New service and innovation
21C Converged Network

- Reducing complexity of our infrastructure
- Eliminating 100,000 network components and significant cost
- Establishing a single platform that is multi-service and future proof on IP
- Optimised for reliability and performance
- Closely aligned to PSTN transformation
- Phased roll-out begins this year
Three customer experiences

• **Lead to cash**
  - The time between the identification of a customer and getting revenue in the door

• **Trouble to resolve**
  - The time between the identification of a problem and its resolution

• **Concept to market**
  - The time it takes to get new technology and service concepts from the drawing board to the customer
Evolving the OSS Systems Estate
A Traditional OSS/BSS Environment

External data flow
Internal data flow
Pending data flow

NAME
System appears twice
Planned systems

Key:
- Internal data flow
- External data flow
- Pending data flow

CASES: Planned systems
From uncontrolled complexity...
Allocate legacy to platforms

Move function and data in line with platforms

Switch off legacy systems

**KEY:**
- Legacy System
- Target System
- Platform
- SoA Service Interface
Service Oriented Architecture
SOA Addresses?

• Legacy systems evolution
• Complexity of integration
• Reusability
• Improves agility with which systems are evolved and developed

BUT
• Only as good as the environment in which it is developed
Horizontal – Vertical SOA Standards Map

Telecom Vertical
- TMF NGOSS
- TMF SPLC
- ETSI
- TISPAN WG8
- ITU NGN Management Focus Group

Other Sectors:
- Auto
- Defence
- Government
...

Horizontal activities
- W3C
- OASIS
- RosettaNet
- OSS/J
- WS-I
Why SoA Matters

• A change of Architectural Paradigm
  – Facilitates Re-use
  – Allows evolution of Functionality

• Leads to an integrated Telecom and IT architectural model

• Allows SP to manage complexity in current systems estate

• Only practical model for achieving OSS Agility
SOA - Management Paradigm shift (2)

Traditional Static Architecture

SOA

Exposed functions
Relationship N:1 and dynamic
Example: Number Management

Normal Operations:
• Assign Number
• Query Status
• Release Number

Quarantine Operations
• Policy 1 number type A x days
• Policy 2 Number type B y Days

Porting Operations:
• Mark Number for porting
• Initiate Number porting
• Notify number porting
• Notify Number ported

Dependency on Network Time/Date Operations

Addresses versioning and evolution
New paradigm for Managing and delivering NGN Services
3GPP/TISPAN Converged IMS example
So where does Management fit in?

Management

NGN 3GPP/TISPAN

Customer Relationship Management

Service Management

Resources Management

Transport

Services
Management Requirements

• Separate management of Physical from Logical
  – Manage server and transport infrastructure separately from logical functions
  – Logical function can be anywhere and packaged differently from vendor to vendor
  – Current EMS models assume static deployment functionality
  – Applications and logical IMS functions could be moved dynamically on computing infrastructure (Virtualisation)
  – Think carefully before building specialised EMS systems for IMS logical functions
Management Requirements

• Management of Services
  – Static design time model prevalent for current Network don’t work
  – Need models that can be evolved at run time.
  – Key is a set of meta-models for defining management of NGN services
  – Implementation by Templates

• Service Assembly
  – Aka SCF
  – Creates increased agility
  – Template and data driven implementation models
  – Need to re think the governance models for standards
OSS Technology Drivers

3GPP
TISPAN
Subscription Management
XML
/SOAP/WS

Web 2.0

Parlay X
Web Services

TMF
MTOP
MTOSI
JMS
Web Services

SIP

Transport

Diameter

Web Services

Parlay X

Subscription Management
XML
/SOAP/WS

3GPP
TISPAN

Web Services

Parlay X

SIP
Management and Intelligence

Web 2.0

OSS Management

Configuration Subscription Management XML/SOAP/WS

HSS information Distributed by SIP

3rd Party Applications & Services

External Applications

BT
Possible management revolutions?

- SOAP over SIP
- Could this be the best way to build EM Functionality into an IMS?
- WS Distributed Management WS-DM
  - Planned use is for Application Services i.e. the physical software Platform
- Should WS-DM be used to manage IMS Logical Functions but over SIP?
- Could this be the management bridge between IMS, App Services, Content and Application industries?
Convergence of IT, Network Management and Intelligence?

- Content functions
- Applications
- Management Applications and Intelligence functions

Distributed IT Infrastructure inc Hardware

Web Services Distributed Management
Summary

Evolution and rationalisation

Service Orientated Architecture

Revolution: Agile Services based economy