Operationalizing Seamless Mobility through Service Delivery Platforms

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Agenda

- Fixed Mobile Convergence / Seamless Mobility Introduction
- Market Drivers for FMC / Seamless Mobility
- Seamless Mobility Architecture, Solutions, Challenges
- Operationalizing Seamless Mobility
- Summary
What is Convergence?

‘Dismantling the barriers between Fixed and Mobile services, while increasing convenience, with greater personalized services, at lower costs.’
British Telecom

‘Seamless Mobility means you are connected anywhere, anytime, to anything, with any device. It’s not about the device or the technology. It’s about you and it is made simple by Motorola.’
Motorola’s Seamless Mobility Vision
Four Enablers of Seamless Mobility – Dual Mode Handset, VoIP network / Wireless Access Points, CDMA/GSM Wireless Network, Seamless Mobility Manager
Market Drivers
Shaping the Need for Seamless Mobility

Growth in Cellular
Proliferation of Hotspots
Growth in Broadband
Fixed-Mobile Substitution
Proliferation of VoIP services

Convergence
Voice/Data/Video
"Mobile"

Data Networks
"Fixed"

Seamless Mobility Enhances The Value Of Converged Networks And Services
**Seamless Mobility Drivers - North America**
*(Similar growth globally)*

**North America (NA)**
- **Cumulative Broadband Households**
  - 21% CAGR
  - Yearly Subscriptions (M)
    - 2002: 22
    - 2003: 26
    - 2004: 32
    - 2005: 40
    - 2006: 50
    - 2007: 60
    - 2008: 70
    - 2009: 80

- **Cumulative Hot Spots**
  - 45% CAGR
  - Yearly Hot Spots (000)
    - 2002: 12
    - 2003: 22
    - 2004: 36
    - 2005: 52
    - 2006: 66
    - 2007: 78

**Broadband, Hot Spot deployment, VoIP deployment and Cellular Growth Combine to Make Seamless Mobility/Fixed Mobile Convergence a viable market**
Key Indicators
Seamless Mobility Market

Worldwide Wi-Fi Handset Revenue Projections: $3 B+ by 2009

Source: Infonetics Research
Market Status
Service Providers

Wireless
- Shrinking Revenues
- Leveraging current customers /investments to evolve to FMC...reduce churn, increase revenue

Fixed
- Slower subscriber growth in North America
- FMC....market expansion into Residential, Enterprise markets
- Data, multimedia services to increase ARPU

Cable
- Major asset is data pipe
- Aggressively launching VoIP
- VoIP service will increase stickiness

Alternates
- Vonage is adding 15K new customers/month
- Cheap voice service, expanding to WiMax

Service Providers evolving to new Business Models  Quad Play  –Voice, Video, Data, Wireless
Motorola Seamless Mobility
Architecture/Solutions Address Needs Of All Service Providers

Enterprise Seamless Mobility (Wireless Services Manager)

Application & Content Servers

Communication Gateway

Cable/DSL/Fiber

Core IP Network

Communication Gateway

Cellular 3G

Communication Gateway

Cellular 2.5G

Softswitch/IMS

Service Delivery Platform

Mobile Broadband Wireless Access

Motorola Presence

Motorola Presence

Motorola Seamless Mobility

October 2005
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Customer Segments and Seamless Mobility Solutions

- Residential Seamless Mobility Solution – IMS
- Enterprise Seamless Mobility – Operator Hosted (IMS)
- Residential Seamless Mobility Solution – UMA (9+ Trials)
- Enterprise Seamless Mobility – Enterprise Hosted (Commercial)
Solution addresses Enterprise Hosted market segment
Deployed by a number of customers globally
Complex Multi Vendor Environment
Seamless Mobility / FMC Challenges

OSS Layer
- Service Provider OSS Network – Service activation, service management, billing, new services development/deployment

Application Layer
- Telephony Servers Res/Bus
- V+D+MM Messaging Servers
- Video Servers

Session Layer
- MOT IMS
- Non MOT IMSs
- IMS OSS
- Subscriber and Service Data
- Bandwidth and Policy Controls

Access Layer
- Cellular OSS
- BBN OSS
- PSTN OSS
- WiFi / Cable / HFC
- WiFi / DSL
- Multiple Access Technologies
- CDMA 1X, EV/DO
- GSM / GPRS / UMTS
- WiFi Hotspot
- BB Wireless 802.16e, EV/DO-A, HSDPA, etc.

Devices & Clients
- IADs, IP Phones
- Multiple Devices
- Home Network

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Service Layer is a Key Enabler of Seamless Mobility

- **End User and Network Services/Applications**
  - **Policy Management**
  - **Billing Integration through GAMA**
  - **Subscriber Management**
  - **Service Management GAMA**
  - **Mobility Management**
  - **Operations Management GAMA**

- **MPLS Core**
  - Border Gateway

- **Edge Routing**
  - BRAS

- **Access Networks**
  - DLC / Cable
  - ATM/DSLAM
  - IP DSLAM
  - OLT
  - Video Head-End

- **Converged**
  - IMS
  - SoftSwitch
  - Wireline
  - Wireless

- **Seamless Mobility**

- **Auto**
- **Out in the World**
- **Home**
- **Enterprise**
- **Public Safety**

- **Service Layer is a Key Enabler of Seamless Mobility**

- **4GUMTS 802.xx Canopy CDMA GSM**

- **Wireless Home Access**

- **Service Layer is a Key Enabler of Seamless Mobility**

- **Auto**
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- **Service Layer is a Key Enabler of Seamless Mobility**
7 Success Factors To Seamless Mobility

1. Mobility Management
2. Seamless Session Services
3. Network and Service Management
4. Device Management
5. Applications & Content Management
6. Partner Management
7. Integration (Services/Network/Devices) via Services!
Motorola Global Applications Management Architecture (GAMA)
Integrated Mobile Marketplace

Rapidly launch, deploy and manage content and services

- Games
- Tones
- Music Downloads
- Pictures
- Video Clips
- Streaming & More!

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Sample Revenue Sharing Business Model

User → GPRS Transport → Wireless Operator

- User pays for content download.
- Wireless Operator retains transport cost.
- MOTOROLA GAMA retains agreed revenue share.

Content Provider → Wireless Operator

- Content Provider charges for content.
- Wireless Operator retains agreed provider share.

Wireless Operator → Wireless Operator

- Both Wireless Operators share cost and revenue.

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Motorola Global Applications Management Architecture integrates these dimensions to deliver a seamless advanced mobile retailing marketplace.

Service Retail
- Product definition and Service Design capabilities
- Flexible and Personalized Service Discovery
- Flexible pricing
  - Preview, Pay-per-view
  - Subscription, Gifting, tokens
- Multiple Storefront support – WAP, Client based (Java, Symbian etc)
- Supports multiple retailer model with disparate content ontology
- Integrated with GAMA workflow for content submission, service creation, provisioning, testing etc

Service Supply Chain
- Mobile content acquisition
- Creation & management of a developer portal for Content Providers
- Content classification & mechanics
- Content testing & certification
- Service enablement for supporting advanced retail services
- End-to-end service testing
- Generating reports on content usage and revenues
- Association of a suggested price for services
- Protection of content against repeated free-usage
- Capability to bundle and cross-sell relevant content

Service Delivery
- Support for multiple delivery topologies
- Transport & operator billing integration for wide geographical reach
- Service fulfillment & charging awareness for service traceability & support
- Reporting for partners both on the supply & on demand side
- Digital rights management and content protection for supplier

Operations & Support
- Capability to fill supply, retail & delivery gaps
- World-class global network operations, support & testing capabilities.
- Unique "extended corporation" model
- Sophisticated support for settlement
- Aggregation & management of low value transactions
- L1 & L2 support for service retailers & consumers
- Source & refresh content- Ringtones, Games, Wallpapers
- Add promotions as a new service to existing user or new content to existing user of the service
- Manage a service through its life-cycle including retirement and withdrawal of
Motorola Seamless Mobility Services

Strategy - business impact, network evolution
Integration
Support
Applications – Seamless Experiences
Seamless Managed Services

Services are critical to make Seamless Mobility Operational
Summary

Motorola has invested 3+ years in research in enabling the converged services network/handset vision:

- Dual mode device integration
- Seamless Hand-offs and Mobility Management
- End-to-end Quality of Service and Security Management across different networks

Motorola has end to end Seamless Mobility product solutions

Motorola services help service providers operationalize and deliver seamless mobility to their customers

Motorola IMS Seamless Mobility Solutions will allow Service Providers to utilize current investments and provide a full seamless mobility offering across all user segments
Q&A

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