Agenda

• Recap
  – Goals of IMS
  – Key Elements of Architecture
  – Applications
  – Relevance for the Enterprise
  – Best Practices

• Resources

• Your Takeaways

• Q & A
What is IMS...

- IP Multimedia Subsystem (IMS) is an architecture that enables wireline, wireless and cable operators to offer a new generation of rich multimedia services
  - Across both circuit switched and packet switched networking infrastructures

- IMS defines a architecture of logical elements using SIP for call signaling between network elements
  - Provides a layered approach with defined service, control, and transport planes
IMS – Simplified View

Key Elements:

- AS – Application Server
- SCIM - Service Capability Interaction Manager
- MRFC - Multimedia Resource Function Controller
- MRFP - Multimedia Resource Function Processor
- MRF – Media Resource Function
- CSCF - Call Session Control Function
- BGCF - Breakout Gateway Control Function
- MGCF - Media Gateway Control Function
- MGW - Media Gateway
- HSS - Home Subscription Server
- HLR - Home Location Register
Other Key IMS Concepts

• Multiple Plane Architecture
  – Makes use of separate planes:
    • Application, Transport and Session Control

• Common Security and Login functions
  – Makes use of Diameter protocol and HSS (Home Subscriber Server) to validate users

• Applications and Services are independent of Access Method
  – Enables support for 3G mobile, WiFi, DSL, etc.
IMS Benefits

Converged Applications
- Across Networks
- Reduced development costs and time
- Voice, Video and data services
- Write once / use many

Shared Resources
- Media server resources
- Common user data
- Single user profile across applications
- Integrated applications

Session Control
- Common Session Control (SIP)
- Provides common service policies
- Leverages investments across multiple applications

Access Network Agnostic
- Eliminates multiple service solutions
- Network transparency
- Consistent services across networks

Applications
- Video
- Data
- Voice
- Hosted Services

Control
- SIP

Transport
- DSL
- CMTS
- Mobile
- PSTN

Web Content
- Win Media
- MP3
- Text
Why IMS?

- Need a better environment for creating and deploying high value multimedia services
  - Transform business models from voice-driven to service-driven businesses
  - Fixed-Mobile Convergence on a common IP application and service delivery architecture
- Grow and protect subscriber base, increase ARPU (Average Revenue Per User)
  - Deliver a differentiated portfolio of value-added services
  - Provide more subscriber focused offerings
- Controlling CAPEX and OPEX
  - Maturity and adoption of SIP and XML
  - Web model development model shortens the required investment of a programmer to develop new applications
  - Enables best-of-breed solutions with focus on new IP application services
- Faster time to market with new services
  - Develop on standards-based technology
  - Reduce time to market for new applications with web development model
Other Likely IMS Applications

- FMC – Fixed Mobile Convergence
- IP Centrex Hosting for Businesses
- Audio and Video combined with other services
  - For example, conferencing, push-to-communicate, Multimedia over Broadband, Multimedia IM
- Legacy Migration
  - Voice mail, conferencing, SMS, Prepaid Services
IMS and the Enterprise

How will IMS affect the Enterprise?

1. IMS will be the preferred hosted services environment for carriers

2. Enterprises can borrow “best practices” from IMS for its own services

3. Service orientation of IMS echoes and complements Enterprise driven approaches such as SOA (Service Oriented Architecture)
IMS Best Practices

• IMS includes “lessons learned” from many predecessor architectures

• Best Practices include:
  – Separation of signaling from media
  – Separation of Applications from underlying sessions and transport
  – Services provided are independent of underlying transport
  – Common mechanisms for authenticating users and securing sessions

• Review Call Center Example
Local Campus (Traditional)

- All Agents in single location
- Uses all-in-one system to handle all calls
- Signaling and Media combined in one system
Application of IMS Best Practices
Contact Center Example

• Separate the application server apart from the Media
• Use a separate Media Resource Function
  – Single MRF can support multiple applications
• Use XML + markup languages for fast development and flexible, mid-call agent interactions
• Use SIP as the protocol which ties the pieces together
Case Study: Distributed Contact Center

- Improved Scalability: Separate Application from Media
- Ability to add new media such as video as needs evolve
- Fast development using SIP + XML
Resources

• IMS Forum – www.imsforum.org
• 3GPP – www.3GPP.org
• Internet Engineering Task Force – www.ietf.org
• ETSI TISPAN - http://portal.etsi.org/portal_common/home.asp?tbkey1=TISPAN
Workshop

• What are your “Takeaways” from this course?
• Is there other material you would have liked to have been covered?
• Any other comments
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Thank You