Course ID
MOBILETV
Course Duration
2 days

Course Title
Mobile TV: Technology and Market Trends

Aimed At

RF and data network designers and planners, transport engineers, application developers, IT personnel, executives responsible for investments, business strategy, services design, and marketing, and others focused on delivering enhanced data services and applications to the mobile subscriber community.

Related Courses

- Traffic Engineering Models for 3G Network Design (TRAFFIC3G, 2 days)
- IMS: The Technology, Applications, and Challenges (IMS, 2 days)
- 3G, IMS, and the Carrier Business Economics (3G-IMS-STRAT, 2 days)

Group Size

5-25

Course In a Nutshell

Service providers today are presented with an unprecedented opportunity to enhance their position along the value chain by offering differentiated services that are made possible by the rapidly advancing technologies. Mobile television is one such service that is generating a lot of interest. However, the newcomer to the Mobile TV arena is faced with a baffling array of technology choices -- including DVB-H, DVB-SH, MediaFlow, T-DBM, and TDtv -- as each vies to become the dominant global standard**.**

This course presents an overview of the mobile TV technologies and standards available in the market today in the context of various deployment scenarios. We will also discuss fixed and mobile convergence, which will allow the sharing of fixed television content across a mobile environment. Finally, we will compare and contrast the efficiency of the various broadcast mobile TV specifications to broadcast, and ultimately unicast, across a 3G network.

Customize It!

Did you know that we can customize this course to your organizational agenda at no to minimal cost? We can teach audience-specific versions of this course catering to groups such as hardware and software engineers, R&D, executives, marketing and sales, and operations/support, to name a few.

Learn How to

- List the major mobile TV technologies, players, and drivers
- Describe the codecs available and the importance of codec selection
- Summarize the spectrum considerations for the deployment of mobile TV
- Explain the architecture and operation of a mobile TV network
- Evaluate the traffic impact of various deployment scenarios
- Identify the evolving market trends in mobile television

- Summarize the contended resource management considerations that underlie the implementation of Mobile TV
- Describe DVB-H and DVB-SH technologies
- Describe the MediaFlow technology
- Compare and contrast the efficiency of the various broadcast mobile TV specifications
- Calculate capacity planning requirements and spectrum utilization for a 1xEV-DO carrier using VoIP and streaming video

Course Outline

- Market Landscape of Mobile Television
  - Overview of the market
  - Telephony, entertainment, and new services opportunities
  - Drivers for ARPU
  - Carrier strategies

- Technology Principles and Considerations
  - Unicast versus broadcast
  - Importance of codec selection
  - Available codecs and differences between them:
    - H.264 v1
    - H.264 v1b
    - H.264 v1.1
    - H.264 v1.2
    - H.263
    - MPEG-4
  - Spectrum utilization
    - Spectrum available for mobile television
    - Pros and cons of deployment in various bands
    - What is ERP and why does it matter
    - What is propagation and why does it matter

- Network Architecture, Operation, and Design
  - Streaming video server
  - Policy management
  - Admission control
  - Capacity engineering, overcoming delay, jitter and maintaining proper QoS
  - Design criteria: Tradeoff between network buffers and incremental latency versus additional capacity deployed over the air

- Traffic Engineering Issues and Considerations
  - Impact on capacity and capacity planning
  - Blended call models and usage profiles
  - Sensitivity analysis of busy-hour QoS characteristics in capacity on a 3G network

- ° Sensitivity analysis of busy-hour RF performance characteristics relative to interference on a 3G network
- ° Sensitivity analysis of tradeoffs relative to blended call models on a 3G network
- ° Network impacts of mobile TV versus mobile video conferencing on a 3G network
- ° Network impacts of broadcast versus unicast mobile TV on a 3G network

- Market Trends in Mobile Television
  - ° Third party networks
  - ° Impacts to UE
  - ° Impacts to a 3G network
  - ° Statistical analysis of user's proclivity to use broadcast versus unicast with n broadcast channel options
  - ° Estimated inflection to ARPU

- Contended Resource Management
  - ° Predictive modeling and sensitivity analysis for capacity, network, and capital planning
    - Impacts of codec selection and mix of codecs to busy hour
    - Buffer planning
    - Bandwidth dimensioning
    - Blended rich media call modeling including video
    - Traffic engineering by class of service
    - Predicting sensitivities to delay based on demand/class of service during busy hour
  - ° Sensitivities of services mix to network performance and quality of service
  - ° Impact to asset monetization driven by services mix
  - ° Importance of pricing and policy
  - ° Predictive modeling for overall user quality of experience
  - ° Issues over performance characterization and limitation of mixed media services in a 1xRTT/1xEV-DO environment
  - ° Issues over performance characterization and limitation of mixed media services in a GSM/UMTS/DPA environment
  - ° Impacts from Internet Multimedia Subsystem (IMS)
    - Overview of policies
    - Blended call models
    - Composite services
    - Composite video services, unicast, broadcast, video conferencing
    - VoIP
    - Background traffic
    - Buffers versus latency versus capacity
    - Quality of service management
    - DiffServ
    - MPLS
    - Fixed and mobile convergence
    - Challenges of mobile IPTV on a 3G network

- DVB-H Standards discussion
  - Frame structure
  - Physical layer
    - Signaling
    - Symbol interleaver
  - Link layer
    - Timeslicing
    - MPE-FEC
    - 4K mode & interleavers
  - DVB-H receiver structure
    - DVB-H demodulator
    - DVB-H terminal
  - IP-datacast
  - Frequencies for DVB-H
  - Satellite DVB-H (DVB-SH)

- MediaFlow
  - Frequencies
  - System architecture
  - Transmitters
  - Content acquisition
  - Power consumption
  - Frequency and time diversity
  - Modulation layers
  - Encoding
  - OFDM modulation
  - Frame structure
  - Bandwidth requirements
  - UE impacts
  - ERP

- Exercises
  - Calculation of capacity planning requirements and spectrum utilization for a 1xEV-DO carrier using VoIP and streaming video

- Course Wrap-up
  - Closing thoughts on fixed/mobile convergence and the future of Mobile TV
  - Recap, Q/A, and evaluations

How You Will Learn	- An experienced subject matter expert in fixed/mobile convergence who is also a good teacher will conduct this course in interactive lecture format. - Examples, exercises, activities, and discussion will elucidate the content and help apply it to your own situation.

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- The copy of the instructor presentation handed out in class will provide you with a structure to which you can add information and insight provided in real-time, turning it into a useful reference resource you can take back to your job.

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