Ennes Workshop: Mobile DTV & Beyond
Meet the Challenge of an Industry Opportunity
Mark Rushton, Roundbox

Mobile DTV: State of the Business

Reinvent Over-The-Air Television

  - Completely backward compatible to ATSC A/53 DTV Standard.
  - Broadcaster can use the available license without additional restrictions.
  - New ATSC Candidate Standard: Non-Real-Time Content Delivery
- (70+) Commercial call-letters on-air with MDTV today.
- (20+) PBS call-letters awarded CPB funding Mobile by June.

Some key tech features of Mobile DTV -
- IP-based – audio / video / data payloads
- Power management optimized battery
- Doppler compensation – ensures reception in moving cars, trains, etc.
- A/V signal ~500 kbps focuses on 10" & below
Mobile DTV: State of the Business

Four industry entities have emerged with MDTV focus:

- **Open Mobile Video Coalitions (OMVC)**
  - OMVC host a Broadcasters Technology, Broadcast Business and Manufacturers forums.
  - Model Stations
  - DC Showcase
  - Forums

- **Mobile Content Venture (MCV) & Pearl Mobile DTV, LLC (Pearl)**
  - MCV is joint-venture comprising 12 major broadcast groups dedicated to developing a national mobile content service that delivers live TV and on-demand video.
  - Established MDTV content distribution agreement in the affiliate contract.
  - Established business models based on Conditional Access technology requiring an opt-in from the MDTV viewer.
  - Connected devices.
  - By-passes Clear-To-Air for a Free-To-Air and Premium Subscription Model.
Mobile DTV: State of the Business

• The Mobile 500 Alliance
  – Business alliance of leading television broadcasters to develop strong partnerships to accelerate the nationwide availability of a commercial mobile DTV Service, infrastructure & MDTV content.

Mobile DTV: State of the Business

• CPB, NTIA PTPF & PBS
  – Open CPB invitation to PBS stations to apply for MDTV funding: April & June.
  – Open PTPF round – not for mobile – but it supports upgrades to adjacent infrastructure & MDTV content.
Mobile DTV: Challenges

• Content rights for MDTV distribution
  – Will “all” broadcast and cable networks come on-board?

• Devices – it comes down to a BOM cost.
  – OEM / vendor does not want to implement multi-CAS products on a device.
  – Can broadcast entities solidify on CTA/FTA/Premium play so device guys “hit go”? 
  – Is it big enough to become a check box when ordering a device?

• Education
  – Overcoming the opt-out: “Show me the business plan.” “Show me the content.”

• Fixed & MDTV NRT Applications
  – Browse and Download, Push, Portal
    • Develop EAS, Education, Interactivity, Coupons, PPV, VOD applications.

• Who shows up with the back-office?
  – How will Premium channel billing happen?
  – Can the service roll-out work across multiple go-to-market entities?

Mobile DTV: Opportunities

• Opportunity for Broadcast Industry to Cooperate
  – Agreed upon a set of services.
    • Does that mean support for FTA, CTA, Premium on Devices?
    • What is the right kind of user experience?
      – Does device support ATSC and ATSC MDTV?
    • Does this mean a “neutral” 3rd party for Key Management & Audience / Service Measurement metrics?

• Opportunity for Broadcasters really see the OEMs need to differentiate
  – User experience blends live broadcast with NRT Widgets and interactivity on a integrated receiver.
    • Device OEM embrace broadcast model.
    • Device supports 3G, 4G, Bluetooth, WIFI and MDTV.
    • Device OS supports middleware and middleware supports applications.
FAQ: Won’t 3G / 4G provide ubiquitous, mass market mobile broadband video?

Answer: No - 3G / 4G is still too expensive

- 3G = $1 Over the Air (OTA) cost to deliver 5 min of 15fps QVGA video to a single user
- 4G = ~$0.10 for 5 min of 15fps video
- By contrast, Internet CDN = $0.002 for 5 min of video – and decreasing 30-50% / year!
- Mobile DTV = zero marginal cost, unlimited consumption of very high quality video

3G /4G has other strengths vs. Mobile DTV
- Mobile DTV = zero cost, mass market, limited # of broadcast channels
- 3G/4G = theoretically unlimited #, niche, personalized, on-demand, 2-way content

Therefore, ideal mobile video strategy embraces a “Long Tail” approach
- Build an audience = use Mobile DTV for low margin, high volume, mass market content
- Upsell the audience = use 3G/4G for higher margin, personalized, on-demand content

MediaFLO = nationwide Mobile TV network
- Like Mobile DTV, it is an “out of band” broadcast distribution network to mobile devices
- Built by Qualcomm & MediaFLO USA, Inc (MUI)
- Currently covers > 100 markets

Mobile DTV and MediaFLO are complimentary
- Similar tech... But different biz models
- Future, dual mode devices?
- Free, Mobile DTV can build the market “base” that could be up sold to MediaFLO in the future?
Mobile DTV: Japan & Korea Examples

- Mobile DTV follows a pattern established by similar systems in Japan & Korea
  - Both launched in 2005 & generated massive penetration within just a few years
  - Both anchored by Free To Air services
  - Both support diverse devices including phones, car nav, game consoles, etc.
  - Both countries are blanketed by high quality 3G / 4G networks

- Japan - ISDB-T
  - 40 M devices vs. 125M population (2008)
  - All 3 mobile operators have embraced & provide “connected ISDB-T” experiences
    - Custom service guide + interactivity
    - Softbank forced Apple to support an ISDB-T receiver accessory for their iPhone launch
  - 62 min / day avg viewing
  - Started with simulcast TV, added data + special, mobile-only video afterwards

- Korea – S/T-DMB
  - 27M viewers vs. 50M population (2010)
  - Satellite (pay) & terrestrial (free) distribution
  - Up to 2 hrs / day viewing

For the US to achieve a similar penetration rate to either Japan or Korea it would have to sell over 100 million broadcast Mobile TV devices in the next 3 years... we expect [ATSC] to rocket to half a million customers in its first full year. – ARC chart, Feb 2009

Mobile DTV: User Experience

Announcement-Enabled Broadcast

- Announcement = A Richer User Experience
  - Announcement is based on OMA-BCAST’s extensible, XML-based metadata model
  - More metadata = graphically-rich, branded representation within aggregated guide
  - Springboard for advanced services
Mobile DTV: NRT Widgets

Taking Broadcast Beyond TV...

- ATSC Mobile DTV currently focuses on Television services...
- “Mobile DTV Widgets” add Non Real Time (NRT) data services to the mix
- Potential NRT content services include news, weather, sports, video clips, and/or web pages which are consumed by the viewer on demand

Mobile DTV: NRT Widgets – User Experience

When a user tunes to a supporting station, ATSC-M/H announcement data informs the receiver that a catalog of “widgets” are also available. The widget catalog provides widget icons and descriptions for the UI.
When a user selects the Headline News widget, the user interface displays a list of currently available article headlines.

Selecting a headline brings up a detailed view of the associated news article with a full-size image and article text.
Mobile DTV: NRT Widgets – Large Opportunity for Broadcast

- Mobile DTV Widgets bring together the best of web + broadcast + wireless
  - Uniquely combines web-like on-demand user experience with broadcast-based content distribution
  - Establishes a new data service within the Broadcasters' home turf; Google can't distribute widgets
- Provides broadcaster a new, powerful mechanism to touch viewers
  - Creates a new, station-centric, "portal"-like experience driving brand awareness & stickiness
  - Reach consumers outside of 24 hr linear TV constraints with random access, on-demand consumption
- Drive new distribution, eyeballs & ad revenue from existing TV and web assets

Mobile DTV: Broadcasters Possess Widget-Ready Content

- Just as Mobile DTV easily leverages existing broadcaster DTV video...
- Mobile DTV Widgets easily leverages existing broadcaster web content
  - Assures immediate synergies between widgets & existing content production operations
- Content available through broadcaster web sites is often already in suitable format for distribution
  - RSS / ATOM new feeds
  - Video clips
  - Traffic images
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March 10, 2011