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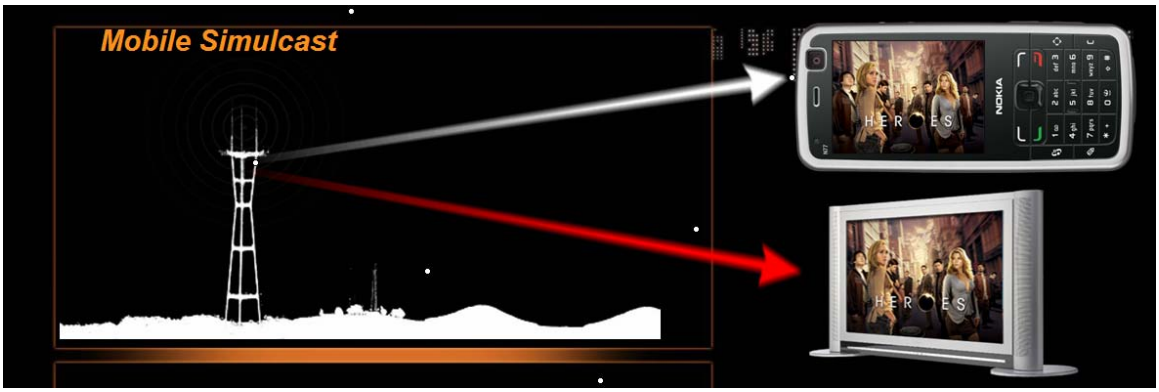
ATSC-M/H: The Promise of Free to Air Mobile Simulcast

Mobile Simulcast

The largest obstacles for today's mobile broadcast systems are the lack of available high-quality broadcast spectrum, acquiring content delivery rights for mobile broadcasting as well as the high content fees for mobile broadcast programming.

The Mobile Simulcast model solves these above problems by providing a mobile simulcast of current broadcast content using existing broadcast spectrum. This model greatly reduces the overall cost of building a mobile broadcast network as the broadcast spectrum and high-power broadcast equipment are already available and operating in a similar manner. Furthermore, the CAPEX spend on constructing the mobile broadcast solution is greatly reduced as virtually all aspects of the delivery infrastructure can be reused with the addition of a mobile audio/video encoder. Customers benefit from this spectrum and content reuse as large portions of the mobile content delivered is free to air. Broadcasters benefit from such an arrangement as their advertising sponsored viewing audience grows. Such a system has been deployed in Japan, selling over 20 million devices in 18 months of service.



The emerging Mobile/Handheld standard from the Advanced Television Systems Committee (ATSC-M/H) is posed to provide the United States with such a mobile simulcast solution. The goal of the ATSC-M/H standard is to use a portion of the 19.39 mb/s 8-VSB HDTV transmission for mobile broadcasting. The initial service plans to be a simple mobile simulcast of the primary HDTV channel. Given the infrastructure reuse the expected cost for a broadcast station to add a mobile simulcast is estimated at $70,000.

Through mobile simulcast, the television broadcaster will also have the option to transition additional spectrum from the HDTV broadcast to the mobile broadcast enabling additional programming. Services such as news, sports, weather, traffic, public interest and of course premium pay content have all been proposed as additional services that can be carried over the ATSC-M/H channel.

Abundance of Devices

A nationally supported mobile broadcast standard will open a new ecosystem of receiving devices. As proven in Japan and Korea when a (all/mostly) free to air mobile broadcast system is introduced an entire new device ecosystem is created.

The highest volume devices have proven to be mobile handsets where ATSC-M/H could become a pervasive feature in a short time. In a study coordinated by the National

Association of Broadcasters ASTC-M/H handsets were predicted to be as high as 130 million by the end of 2012[1].

Penetration in such devices as portable media player, DVD players, portable media players, laptop computers and navigation systems could also be significant. Rear seat entertainment systems of automobiles which have longer lead times for deployment are expected to contribute to a significant deployment volume as well. If the ATSC-M/H standard is well supported by the broadcast community its adoption could affect all consumer electronics device segments.

ATSC-M/H & Streaming Delivery: A Winning Combination

With the advent of a nationwide standard for mobile broadcasting the necessity for the unicast streaming delivery model is reinforced. In any given geographic market between 5 and 15 broadcasters may be transmitting ATSC-M/H mobile services. This could correspond to between 5 and 40 mobile services. The great diversity of television viewing habits has proven that the entertainment needs of the consumer are extremely large and will exceed that which can only be provided by ATSC-M/H. Thus a streaming solution which can deliver an all content options in a personalized manner to the viewer is an obvious complement to the mobile broadcast. Services such as video on demand and premium content services could be delivered via a 3G streaming channel.

[1] *Study of the Impact of Multiple Systems for Mobile/Handheld Digital Television* Richard V. Ducey, Ph.D., Mark Fratrik, Ph.D., (BIA Financial Network, Washington, D.C. 2008)

Interactivity the Next Frontier

MobiTV believes that a rich and ubiquitous interactive application framework will provide an unrivaled user experience for the ATSC-M/H system. In conjunction with Nokia, MobiTV has proposed the ATSC adopt the Open Mobile Alliance's Rich Media Environment (OMA-RME)[2]. Based on Scalable Vector Graphics Tiny (SVGT) 1.2[3] the OMA-RME allows for the creation of elegant user experiences in conjunction with the broadcast video stream. This standard is its final steps of standardization and posed for worldwide market adoption.

With an application framework layer such as OMA-RME and a connected device such as a mobile handset or PC, voting, polling, participation television, audience measurement and many other enhancements can be added to the ATSC-M/H broadcast. These enhancements will become indispensable for advanced user experiences and business models.

Conclusion

MobiTV has strongly embraced the ATSC-M/H standard since its inception. We believe the combination of mobile simulcast, streaming delivery and rich broadcast interactivity will propel mobile television to the forefront of entertainment in the 21st Century.

For more information about MobiTV's technology, please email technology@mobitv.com

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[2] *Rich Media Environment (RME)* Open Mobile Alliance™, OMA-RD-Rich-Media-Environment-V1_0-20050923-C, URL:http://www.openmobilealliance.org/

[3] *W3C Scalable Vector Graphics (SVG) Tiny 1.2 Specification,* URL: http://www.w3.org/TR/SVGMobile12/