

REAL TIME STREAMED VIDEO OVER DVB-S AND DAB USING WINDOWS MEDIA 9™ SERIES

Also File Transfer and Caching of Content on PDA via DAB using Microsoft "Crystal" Sync and Go application

At NAB 2003, ntl:broadcast, TANDBERG Television and Microsoft are combining their technology resources to mount a demonstration of the delivery of live and cached video/audio content to DAB enabled fixed and portable devices.

The demonstration is showing ntl broadcast's ability to integrate systems to provide full motion video using Windows Media 9 Series technology at very low bit-rates, as well as compelling and attractive audio content via the DAB transport stream.

The broadcast content using the standard DVB-S and DAB platforms for the demonstration is delivered via PanAmSat's PAS 9 satellite transponder to a range of devices on the Microsoft stand (No. SL136) including Media Centre PC™ with DVB-S and RadioScape DAB PCI cards, MobileInvent DAB-enabled PDA's with Microsoft PocketPC Plus! Sync and Go application and plasma screens.

The content is provided from two sources – CNN International (video feeds) and Capital Radio Group (four audio feeds) – which are originated in the UK.

The Capital MPEG audio content (which includes Capital FM, Capital Gold London, XFM and Century 105) and WMV8 file content is routed from Capital's play-out centre in London to ntl's DAB multiplexing centre. They are IP-encapsulated and multiplexed together using RadioScape's DAB infrastructure technology with

the CNN International WM9S content. The EPG from Capital Radio is reformatted by Unique Interactive for inclusion in the DAB stream.

The CNN International news MPEG content is downlinked and decoded at ntl broadcast's Crawley Court earth station, then encoded using TANDBERG Television Windows Media 9 Series hardware into two live video streams. The first is live video content encoded @ 1.5 Mbps, encapsulated and fed into ntl's DVP-IP multiplexer, for transmission via DVB-S transport stream. The second is encoded @ 150 kpb/s, routed to the ntl DAB multiplexer to be combined with the Capital content and transmitted via the DAB transport stream.

All the content is uplinked from ntl at Crawley Court to one of the 24 high powered Ku-band transponders on PanAmSat Atlantic Ocean Region satellite PAS 9 with 2 carriers to modulate the DVB-S and DAB signals.

The satellite signals are downlinked at the Las Vegas Convention Centre: the DVB video feed is decoded by a satellite receiver card in the Media Centre PC and displayed on a large plasma screen; the DAB transport stream is first decoded by a satellite receiver (QPSK modem) before being re-transmitted by ntl from a low-power local DAB antenna. The CNN and Capital content will be displayed on a Media Centre PC with RadioScape DAB card, and in addition the Capital content will be displayed on a PDA using MobileInvent DAB adaptors. The Capital content is presented in categories such as *My Capital Travel*, *My Capital News*, *My Capital Entertainment*, *My Live Music*, *My Capital Interviews* and *My Capital Video*.

Both end-to-end systems are designed and integrated by ntl:broadcast.

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