

## **‘UMTS’ : DVB’s Work on the Inter-working of Broadcast and Mobile Telecomms Networks**

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### **1 INTRODUCTION**

DVB is undertaking new work directions that are taking its mission outside its original heartland technology of broadcasting. The focus of this new work will be to ensure that content is able to move from source providers, across various national, local and in-home networks, to reach a variety of consumer devices - and this will necessarily include aspects of local storage and re-formatting of content for different platforms and receivers. To deliver this mission, DVB has identified a framework of strategic work areas, with new commercial requirements flowing from the Commercial Module providing the input for this framework.

One strategic work area is concerned with the inter-working of broadcast systems and services with 3<sup>rd</sup> generation (‘3G’) and future mobile cellular networks. In Europe, the 3G mobile standard is known as the Universal Mobile Telecommunications System, and the Technical Module ad hoc Group ‘UMTS’ has been tasked with developing technical standards and guidelines for business opportunities and services in this new arena.

### **2. BACKGROUND**

Value for money is a key requirement for new services from consumers who are conditioned by “free” Internet services, cheap voice telephony and free-to-air radio and TV broadcasting. Cellular 3G systems will be capable of delivering many of the interactive and personalised services that consumers will want; but the cellular approach does not provide a low cost delivery mechanism for large quantities of data to large numbers of customers. Conversely broadcast systems can deliver large quantities of data at relatively low cost, but with limited interactivity or personalisation of content.

Co-operative services which jointly utilise DVB broadcast and UMTS mobile systems, matching data and application requirements to the best platform, could meet consumer demands for more powerful interactive and personalised services at low cost.

### **3. PROGRESS**

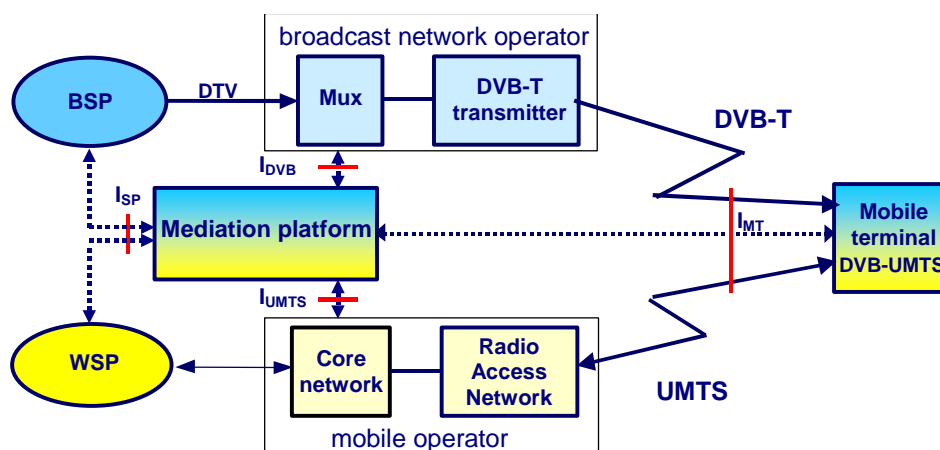
DVB ad hoc Group UMTS is identifying the development path for co-operative services utilising UMTS and DVB platforms.

The first specifications that are being written refer to the use of UMTS as a return and interaction channel, with no real inter-working between the networks. These have many commonalities with terrestrial broadcasting return channel specifications

previously developed within the DVB Project (eg. RCT-GSM), and cover the needs of applications such as voting, interactive camera shot selection and electronic ordering of video and audio content for down-loading off-line.

The second series of specifications will cater for the scenario of fixed/portable (nomadic) terminals running both MHP (for DVB-T) and Java-based execution environments (for UMTS), and working as the processing centre for co-operative applications between the two platforms. This work will support applications such as carouselled Web pages transmitted via the broadcast platform but complemented by always-on Internet access via UMTS, enabling interaction and hyperlink jumps to new Web content, plus multi-user game scenarios etc.

Finally, the specifications required for fully converged applications for integrated mobile handsets and for terminals in vehicles, will be derived in concert with the work of other Groups, such as 'DVB-Mobile' and 'MHP-Automotive'.



**Figure 1:** Generalised Scenario for Co-operative Platforms

A generalised network model used to define the interfaces for co-operation between platforms is given in Figure 1. The upper path shows the 'broadcasting' path for audio/visual content, transported via a multiplex and high power transmitter to the user terminal. The lower path represents the bi-directional telecomms network over which users can interact with content (eg. Web pages, IP data) using the 'UMTS' functionality of the combined service terminal. A 'Mediation Platform' function will exist between these two paths to allow the sharing and re-directing of data. Content can be re-purposed and transferred between platforms (eg. DVB content delivered via UMTS), and opportunities for exciting new applications exist.

The final specifications will include sections on metadata 'handshaking' for the setting up of the co-operation protocols, the identification of billing and charge sharing mechanisms, and some measurable parameters for Quality of Service requirements. The specifications will also define the interfaces and processes for the network 'Mediation Platform'.

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