



MHP/OCAP/GEM Update April 2005



MHP (Multimedia Home Platform) was developed by the DVB Project as the world's first open standard for interactive television. It is a Java-based environment which defines a generic interface between interactive digital applications and the terminals on which those applications execute. MHP was designed to run on DVB platforms but there was a demand to extend the interoperability it offers to other digital television platforms. This demand gave rise to **GEM**, or **Globally Executable MHP**, a framework which allows other organisations to define specifications based on MHP.

One such specification is **OCAP™**, the **Open Cable Application Platform** which has been adopted by the US cable industry. In OCAP the various DVB technologies and specifications that are not used in the US cable environment are removed and replaced by their functional equivalents, as specified in GEM. Trials and interoperability events took place throughout 2004 and announcements of service launches are expected this year. (For more information see DVB-Scene, Issue 13.) On the terrestrial broadcast side, Cablelabs® and ATSC have worked together to define a common GEM-based specification, **ACAP**, which will ensure maximum compatibility between cable and over-the-air broadcast receivers. ACAP has recently been elevated to the status of "ATSC Proposed Standard" and cooperation with DVB is on-going. There is particularly strong interest in ACAP from Korea.

Where are MHP services currently on air?

- Italy:** As of January 2005, 1.5 million MHP-enabled receivers for digital terrestrial television had been sold in Italy. A government subsidy (€110 million for 2004) accelerated the deployment of MHP boxes, although 200,000 were sold without subsidy. In October 2004, MHP set-top boxes were available for €151 in store, or just €1 with the subsidy. The subsidy for 2005 is €70 and the retail price is down to around €99. The success of the project has been attributed to factors such as the presence of free interactive content from the beginning with effective marketing. The wide range of services on air include news, weather, audience polling, the ability to send and receive text and multimedia messages through the set-top box, and travel booking services.
- South Korea:** As of March 2005, there were just over 1 million MHP boxes deployed for SkyLife, Korea's leading digital satellite operator, with a projected total of 1.5 million by the end of the year. SkyLife offers a suite of MHP services, including various language education applications, games, a children's education application, and several informational applications (weather, news, horoscopes, traffic, etc). The service began in 2001. The leading cable company in Korea, CJ CableNet, in February launched a range of services based on the OCAP standard. Figures are unavailable as yet, however the response from subscribers has been described as excellent.
- Finland:** A number of MHP services are available from the main TV channels in two countrywide multiplexes on the terrestrial network and also on cable networks. The MHP services of YLE, the public broadcaster, have also been available on satellite since the beginning of 2005. Common services to all channels are digital teletext, channel portal and a seven-day EPG. YLE and MTV3 have also developed channel and programme specific applications such as banking and t-commerce. Regional MHP services are available in some cities: Tampere has an MHP portal providing a range of local information whilst Helsinki will begin regional MHP services this year. Commercial launches of various new MHP services are waiting for DVB-T or DVB-C based MHP terminals with an ethernet-to-dsl port. There are about 30,000 MHP boxes in Finnish homes. This number is expected to grow rapidly when PVR and/or broadband-IP enabled MHP products are available in the retail market.
- Germany:** MHP-based iTV is well-established in Germany with services offered by a number of broadcasters. ARD, ZDF, RTL and ProSiebenSat1 all have a range of interactive offerings based on MHP technology. The number of boxes deployed is quite small at present, but developments combining DSL and digital television in one box are expected to stimulate the MHP market.
- Spain:** Free-to-air DTT has been on air in Catalonia since July 2004. 170,000 homes can receive Televisió de Catalunya's four digital channels as well as an interactive MHP data service channel. The MHP services on offer include news tickers, weather forecasts, chat and text messaging and interactive advertising. The Government of Catalonia plans to launch T-Government services this year. RTVE, the Spanish public broadcaster, launched some MHP applications on a trial basis in November 2004.

Sweden: The public service broadcaster (SVT) initiated broadcasting of MHP services on all digital platforms in 2004. These services consist of advanced text information services. A 500 user trial will soon begin in Gävle using the DVB-T platform to trial an MHP-based community information service.

Where can we expect to see MHP services starting in the near future?

Trials of MHP services are either on-going or planned for a number of other countries in Europe and beyond.

- Austria** DVB-T trials with MHP services have been taking place in the city of Graz since April 2004.
- Australia** Free-to-air broadcasters have indicated that, as a minimum, set-top boxes for the Australian market should be manufactured to the MHP 1.0.2 standard. ABC is broadcasting three MHP applications - mini launcher, EPG and Election 2004 - Australia-wide 24/7 on channel ABC2.
- Belgium** A trial of MHP services by Flemish cable companies was successfully completed in December 2004. Telenet is expected to launch a full service in Summer 2005.
- Czech Rep.** The government has granted licenses for three DVB-T trials that will include MHP services.
- Denmark** The Danish DTT network will be launched this year with programmes from DR and TV2, with MHP services included in the offering. DR began offering MHP services on satellite in December 2004.
- Hungary** Antenna Hungaria is operating a DVB-T network with MHP services on a trial basis. A commercial starting date has not yet been decided.
- Malta** 2005 will see the launch of a terrestrial Pay TV service from Multiplus incorporating MHP services.
- Norway** The rollout and switchover from analogue to digital in the Norwegian terrestrial market should begin this year. Interactive services using MHP will be included. An MHP-based news application has been available from NRK via satellite since September 2004.

What is the situation regarding MHP functionality in Personal Video Recorders (PVRs)?

DVB has just published its specification for interactive PVRs. The MHP-PVR specification works as an extension module with MHP 1.0.3 and up, as promised. Following the successful collaboration with CableLabs on OCAP, the specification has been split into two parts. One part is common with OCAP-DVR, allowing content creators to target both MHP & OCAP, and the other part contains the MHP specific parts. This specification is available initially as DVB Blue Book A087 for the MHP specific parts, and as Blue Book A088 for the common parts with OCAP. This means that some additional API calls will be available to the application developers in MHP-PVR-compliant products. These new functions will, for the first time, allow broadcasters to make use of the PVR functionality in a product. The first products based on these specifications are expected in 2005.

What potential role is there for MHP in the context of video-over-broadband offerings from the telecom industry?

Any network operator wanting to offer or just carry IPTV services in a market where MHP is already deployed on traditional television platforms would almost certainly choose MHP. This would therefore enable a combined DTT plus IPTV box to be offered at marginally more cost than a pure DTT box. (DSAT plus IPTV would also make lots of sense). MHP is an ideal solution for both network operator applications and applications offering enhancements to TV programmes. MHP allows enormous cost savings and solves problems of complexity and usability for the hybrid (dual network) solutions that most telcos are likely to consider offering, versus having to put two separate software / middleware stacks into a set-top box. The DVB-TAM group is just starting work on an appropriate extension to the MHP specification for this type of device.

Are we going to see iTV applications on future generations of DVD?

As PVRs become more prevalent, and indeed integrated DVD/PVR solutions become more popular, the question of the storage of iTV applications becomes more important. In addition to the work on PVRs, DVB is working closely with the Blu-ray Disc Association to define a GEM profile appropriate for recorded media such as DVDs. Future generations of Blu-ray Disc players will have GEM stacks incorporated which promise to greatly enhance the HDTV experience.

How is it possible to ensure the security of content and applications running in an MHP environment?

The MHP standard requires all MHP receivers to include a pre-installed root certificate and all MHP broadcasters to have their own identity certificate. When a broadcaster transmits an MHP application, the device authenticates it as coming from a recognised source, with permissions to execute on the original network to which it is attached. This security system is designed to protect new digital networks from the kind of attacks that have plagued the internet. A Swiss company, DVB Services Sàrl, was formed by the DVB Project to administer this public key infrastructure and can be contacted via www.dvbservices.org.