

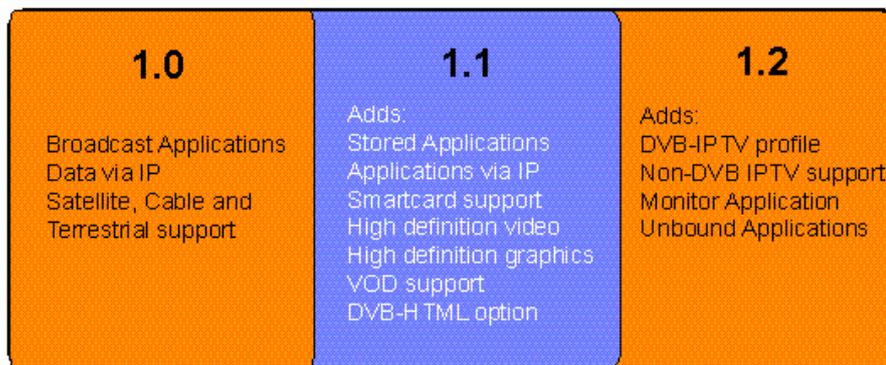
# Multimedia Home Platform

## Open Middleware for Interactive TV



### What is DVB-MHP?

MHP, or the Multimedia Home Platform, is the collective name for a compatible set of middleware specifications developed by the DVB Project. MHP was designed to work across all DVB transmission technologies. The use of an open standard for interactive TV middleware means that receiver manufacturers can target multiple markets rather than developing products to the specification of a particular broadcaster. Equally applications based on MHP can be developed by multiple service providers, enabling a horizontal market in that area. Three versions of MHP have now been published; each adding new features useful in a broadband world. In all versions, a broadcast-only profile can be supported, although most modern deployments include broadband connectivity.



An extension providing interactive PVR (personal video recorder) capabilities was created in 2004 and can be combined with any of the MHP versions above. February 2008 saw the approval of a Conditional Access extension facilitating complex PayTV services. The core of MHP has also been adopted in a compatible manner by non-DVB systems (i.e. ATSC, ARIB, CABLELABS, Blu-ray Disc Association) through the development of GEM (Globally Executable MHP) - see separate Fact Sheet. In June 2009 GEM and MHP have been refactored (version 1.2.2). GEM is now a self-contained primary DVB specification, including the relevant parts from MHP.

### Background

One of the benefits of migrating from analogue to digital TV is the opportunity to deliver interactive applications to viewers. In the early years of digital TV the only solutions available for the APIs necessary to run such applications on set-top boxes were proprietary systems, and therefore not conducive to the development of horizontal markets. The DVB Project saw that it would be a natural progression to build on its success in the area of pure broadcast standards by starting work, in 1997, on a set of specifications that would result in an open standardised middleware solution with a core based on Java technology. The first over-the-air demonstrations of MHP applications and decoders took place at the IFA show in Germany in 1999, with the very first version of MHP published by ETSI in July 2000. Early technical issues were addressed in subsequent versions released over the following two years. The first MHP services were launched on the DVB-T platform in Finland in 2002.

### How does it work?

At its simplest, MHP can be described as a set of instructions that tells the operating system on a digital TV receiver how to deal with an interactive TV application it has received. MHP also defines the form in which the applications are delivered at the receiver, including the service information that signals that interactive applications are present in the transport stream.

MHP has a core based around a Java virtual machine. MHP does not compete with the different HTML or MHEG flavours, since in MHP, each of these declarative content engines is just another MHP application. If new requirements emerge, updating and deploying an MHP application is much simpler and cheaper than re-defining and updating native HTML or MHEG engines particularly if there are many different native engines in the market. MHP provides a sophisticated application deployment engine for operators, giving the power and robustness of downloadable applications, while maintaining a zero-administration television experience for the end-users. The end result is an easy way to deploy sophisticated television services that can be enjoyed by all viewers.

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## Market Deployment

Initial deployments of MHP were in broadcast markets, over satellite (DVB-S) by Skylife in Korea, and terrestrially (DVB-T) by MTV3 Oy in Finland. Since then, the uptake of broadband has meant that many recent MHP deployments have been in hybrid broadcast/broadband networks, where the broadcast network is using the broadband network for complementary information, applications and, recently, video. Other key markets for MHP include Italy (DVB-T), Austria (DVB-T/DVB-C), Spain (DVB-T), Belgium (DVB-C), Poland (DVB-S2/DVB-C), Norway (DVB-T), Saudi Arabia (DVB-S), Switzerland (DVB-C), Germany (DVB-S) and Taiwan (DVB-T).

MHP is by far the most mature, capable and useful interactive television specification available. The proven capability to use PVR, VOD (video-on-demand), network PVR and internet video (appearing seamlessly for the viewer) is very powerful and is leading to new business models and co-operations between broadcasters and network operators. As of April 2010, approximately 14.5 million MHP compatible receivers had been deployed in networks using DVB-S, DVB-T, DVB-C, DVB-S2 and IPTV technologies. MHP receiver prices have fallen greatly in recent years. For example, in the Italian terrestrial market MHP set-top boxes are retailing for as little as EUR 70.

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## MHP: The Key Advantages

- an open standard with multiple suppliers at all points in the value chain
- a mature standard with many commercial and trial deployments
- allows true interactivity with actual television content, not just text and graphics
- works with all CA and DRM systems
- a flexible standard which is proven to evolve with internet technologies
- specified for use in conjunction with all DVB transmission system specifications
- comes from the DVB Project, a tried and trusted source of DTV standards

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## Next Steps for DVB-MHP

The MHP specification is fully standardised and published and since June 2009 references GEM. Fundamentally the MHP core middleware is now stable. Any more work on this specification will come explicitly from interoperability requests from market implementers and collaboration with other standards bodies or organisations using GEM. (e.g. Blu-ray Disc Association or CableLabs).

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## Links

<a href="http://www.dvb.org">www.dvb.org</a>	The main website of the DVB Project
<a href="http://www.dvbservices.com">www.dvbservices.com</a>	Register here to download all the DVB and DVB sub-brand logos. Please note that there is a special regime for the MHP logo.
<a href="http://www.mhp.org">www.mhp.org</a>	Follow MHP news and specifications here.