



KnowledgeDatabase
MHP-KDB



Information Society
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Proposal for EU action plan

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Abstract:

This deliverable provides some short background information on API standardisation and on the MHP Knowledge Project.

It lists some of the findings of this projects which may be relevant for regulatory action and draws conclusions on them. Finally it proposes regulatory actions which could be taken as a result.

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1. Introduction

This document is designed to provide assistance to the process of developing a regulatory strategy in the area of digital interactive television.

It gives in chapter 2 a short introduction into the DVB project and the reasons for creating an API standard. Additionally, chapter 3 introduces the MHP Knowledge Project which started in December 2003 as an EU funded project.

While the main task of the MHP Knowledge project is to provide and disseminate know-how at a technical detail level, some more general information can be extracted from the work in this project which may be relevant for regulatory decision making.

These findings are listed in chapter 4 and accompanied by conclusions which are seen as of interest for regulatory action.

Chapter 5 proposes a set of measures which seem to the MHP-KDB Project appropriate and helpful in order to support an open and interoperable market development.

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2. Background on the API standardisation

2.1. The DVB project

Since the official foundation of the DVB project in 1993, this initiative has successfully bundled all relevant technical developments in the area of digital television and created a series of ETSI standards. These standards are world-wide adopted and they provide the basis for hundreds of cable, satellite and terrestrial networks and the markets related to these networks.

Within Europe, the success of DVB has brought a degree of interoperability that is much wider than ever before in history. Today, no longer standards differ in sound parameters as well as colour coding hindering an open and community wide TV distribution and TV market.

2.2. The reasons for API standardisation

In the first phase of standardisation, DVB concentrated on the fundamentals like channel coding for cable, satellite and terrestrial transmission, service information, teletext transmission and the basic encryption mechanisms. This was very helpful to achieve an early start of the digital TV market in around 1995.

Soon, however, discussions in some markets came up concerning API systems. It became clear that the potential of digital TV could considerably be enhanced by interactivity but at the same time different API solutions appeared in the market which were proprietary and incompatible. Both aspects of these solutions, being proprietary as well as being incompatible caused many worries to most market partners and only in some vertically oriented markets different APIs were introduced. No broad market development took place.

Therefore, in 1999, the DVB project decided to develop a single API standard based on the universal programming language JAVA.

Since its availability in 2001, DVB-MHP (Multimedia Home Platform) is the standard to bring about full interoperability and a truly open market in the interactive digital television arena.

3. The MHP Knowledge Project

3.1. Goals of the MHP Knowledge Project

In order to actively support and accelerate MHP take-up throughout Europe, the MHP KNOWLEDGE PROJECT has been launched. Initiated by core members of the MHP Alliance, the EC co-funded research project combines the competence of some of the Alliance's key players with that of notable partners from technology research.

By establishing the MHP Knowledge Database (MHP-KDB), a dynamically updated single "point of call" for all MHP related issues, the project sets out to tackle one of the most pressing issues in the field of digital interactive television today: the interoperability of MHP implementations and applications. The knowledge database has been designed to store all questions and issues that arise during the process of implementing MHP decoders and MHP applications.

MHP-KDB does not only rely on internal expertise but encourages the whole MHP community to contribute to the project by sharing practical experience on interoperability issues. This guarantees that the most pressing problems are addressed. The project ensures that useful information is available on all components within the entire value chain. It provides know-how and best practice solutions to all companies and organisations active in this field. The use of knowledge generated in the project, which includes application code, ensures that MHP-KDB can provide sustainable solutions vital to the growth and competitiveness of the European media industry in the digital TV market, and contributes to the further evolvement standardisation of MHP.

3.2. Current status of the MHP Knowledge Project

By July 2005 the MHP Knowledge Project had made their MHP Knowledge Database available for online access to the whole MHP community.

The database is accessible via the project website <http://www.mhpkdb.org/> and is now open for registration. All interested users from companies and organisations active in the field of MHP are invited to benefit from the offered MHP knowledge and to actively make use of this new platform for information exchange.

For the relevant MHP issues, the database presents a continuously growing number of solutions including reference application modules as "OpenSource" code which is available for free usage by any MHP-developer. The know-how in the database addresses all components within the entire value chain of MHP-based applications.

The project website also gives access to a "virtual test centre" which presents the unique possibility to test MHP applications online on standard hardware MHP decoders, without the need for physical access to a testing laboratory.

The MHP Knowledge Project does not only make use of the expertise from the project partners but invites the entire MHP community to contribute to the database by sharing practical experience on interoperability issues and to optionally add relevant source code.

4. API market: findings and conclusions

Below a number of findings is listed as they have become obvious in the course of the project up to date. These are based on a market analysis which has been performed at the beginning of the project and updated in the course of 2005, technical development within the project and on feedback given via website or during trade shows.

Each finding is accompanied by an outline of possible conclusions.

Finding MHP is still the only API standard worldwide and no alternative API standardisation activities are known; even for non DVB countries MHP can be adopted via the GEM version (GEM = globally executable MHP).

There are standards for presentation engines such as MHEG-5 or WTVML. But as they represent no API they do by far not give the degree of flexibility to the service provider compared to an execution engine like MHP which includes the full potential of the JAVA programming language. They can rather be seen as a modern type of teletext.

Conclusion *The basic technical approach of the MHP standard is still up to date and no open alternatives are to be expected in order to reach the goal of interoperability.*

Finding During the project lifetime, the MHP standard has been further developed to include new functions such as an recording API, reading TV Anytime metadata and SmartCard reader interfaces.

Conclusion *The MHP standard has proved its potential to adopt and integrate new technical components showing up from new technological and market needs.*

It can thus be regarded as future proof.

Finding Further development of MHP standardisation combined with technical integration work has shown that MHP is ideally suited as a means to allow open access to all kinds of new decoder components like hard disc, SmartCard reader or broadband internet access.

One example to this effect is the creation of a new way of PayTV marketing in Italy (Pre-Paid-PayTV) by an integration of the SmartCard reader into an MHP application.

Conclusion *By integrating additional components and opening them to service providers, MHP is currently broadening its service potential far beyond the "classical" interactive services like EPGs, new tickers and quiz shows.*

Growing technical potential makes the demand for interoperability even more urgent and increases the demand for MHP as the universal interface.

Finding Within the last two years, technical development has further increased MHP application performance and lowered loading times. In parallel, the market development in Italy has proven that a decrease of MHP decoder prices below € 100 is possible.

Conclusion *The finding of earlier years that MHP would generally be slower and more expensive than other solutions is no longer valid.*

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Finding The MHP Knowledge Project has got into contact with a number of companies, in many cases smaller ones, which are very interested to participate in the market of interactive TV. Those mainly dedicated to interactive TV suffer from the poor overall market development.

Conclusion *Considerable interest and plurality in the market is blocked by the current situation of most markets being underdeveloped and in uncertainty or blocked by vertically integrated TV systems.*

Finding Towards the MHP Knowledge Project many companies have declared to be willing to contribute their ideas to the MHP Knowledge Database as freely available know-how.

Conclusion *An open standard tends to improve its quality by open discussion processes in the community which are otherwise blocked due to NDAs or information not being available at all in the case of proprietary API systems.*

Finding Technical migration options from proprietary APIs like OpenTV or presentation engines like MHEG-5 can be developed and have been described in documents of the MHP Knowledge Project. They support a simulcast phase of both systems which leads only to a minimised overhead of data rate while avoiding to exchange the existing decoder population. This approach has successfully guided the migration from OpenTV to MHP for the interactive services of ARD Digital in Germany.

Conclusion *MHP allows to support migration processes in a bandwidth and cost effective way as soon as the broadcasters are willing to migrate. Existing vertical markets cannot claim to be blocked in their development options towards an open technical infrastructure.*

Finding The “EU MHP Implementation Group” has been a very good opportunity for the MHP Knowledge Project to present its activities and to learn more about the situation and MHP implementation strategies all over Europe. Exchange of experiences and the establishment of an “MHP community” on an European level is very helpful to gain synergy and convince market partners that MHP is the optimum technical basis for interactive TV.

Conclusion *Fora like the “EU MHP Implementation Group” are regarded as helpful and should further be organised.*

5. Suggested actions

Considering that, on one hand, MHP is

- the only existing open and standardised API
- flexible and future proof
- of growing importance as universal tool for flexible access of new features in digital TV
- well performing and cost effective to implement
- supported by many companies today and potentially by many more in the future

but on the other hand MHP is

- blocked by the fact that interactive TV in open horizontal environments is facing a “chicken and egg” situation in many greenfield markets
- blocked by the fact that in other markets stakeholders are not willing to give up their pool positions
- not likely to be formally mandated as regulating of technology is generally not seen as a good policy and some market players are strictly opposing such regulation,

the partners of the MHP Knowledge Project suggest actions as follows:

- The EU should coordinate some exchange of know-how and the status of current MHP markets on the European level. This will help market players in the member states to make profit from the achievements in other states and to gain confidence in the suitability of MHP for their own needs. Coordination can be crucial for the success of open systems like MHP as, unlike in proprietary systems, a coordinator is not intrinsically given.
- The EU should clearly state their preference for open standardised APIs and that, in the moment, MHP is the only solution which fulfills this requirement. In this respect, the current situation justifies no step back compared to the clear statement which had been given by the EP on Sept. 26th 2002. Consequently, it does not seem appropriate and helpful to propose the addition of MHEG-5 Broadcast Profile as yet another API in the list of standards for interactive digital television (EC Working Document COCOM05-40). Whilst fully recognising that MHEG-5 is an ETSI standard and is used in digital television for delivering data services, it cannot be considered as an API for interactive digital television in line with Articles 17(1)(a) and 18(1)(a) of the Framework Directive. For that purpose, DVB has only identified MHP.
- The EU should evaluate how it could more concretely and actively stimulate markets for interactive TV. One option could be to create or fund services in the e-government/e-inclusion area that give access to e-services to homes without internet experience and in the same time strengthen the impact of open systems in that area.
- The EU should point out the responsibility of the member states, especially for greenfield markets. As many aspects of national TV markets are specific and unique for individual member states, optimised support can only be given specifically for each state.

- The EU should give clear assistance to member states in taking the right measures to stimulate the development of open market development for interactive TV: national coordination, funding, public MHP services, communication on national level, spectrum licensing policy, etc.. A good starting point for a catalogue of such measures could be provided by a compilation of those measures which are already today applied in various member states across the EU.