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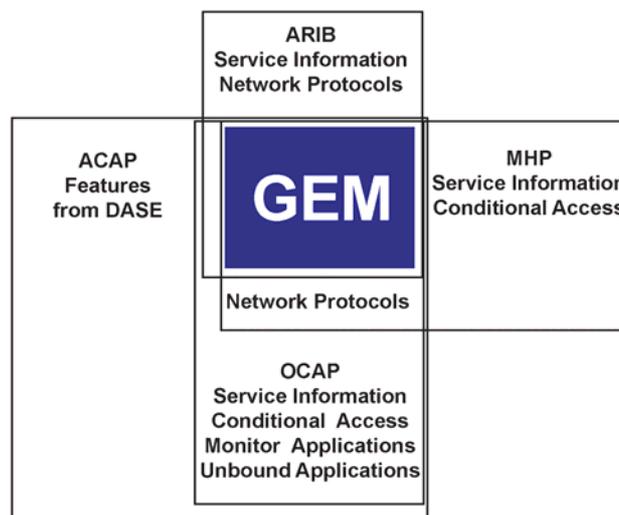
## STEERING THE FUTURE OF INTERACTIVE TV WITH MHP

### **GEM The Key To Common Platform For US iTV.**

**Las Vegas – 17th April 2004** – The recent publication of ACAP as a candidate ATSC standard marks the completion of the conversion of the world's API systems to MHP. ACAP and OCAP are derivatives of DVB's MHP by way of the GEM specification. The harmonisation of these two standards is a further step in bringing the US cable system operators and broadcasters together on one iTV platform. Furthermore, satellite operators are also interested in joining the ACAP initiative.

Up until now, the world has been dominated by a multitude of proprietary middleware systems and harmonisation has been driven by an industry that was keen to ensure that the advent of open middleware systems did not establish yet another platform for which to target applications. DVB, by developing GEM, and the set of measures around it, has ensured that those organisations wishing to adopt MHP for non-DVB environments could do so.

The following provides a summary of the relationship between MHP (Multimedia Home Platform), GEM (Globally Executable MHP) and the various specifications that standards bodies other than DVB are producing around GEM.



## **Steering The Future Of Interactive TV With MHP**

### **MHP (Multimedia Home Platform)**

MHP is the DVB specification for building interactivity into digital TV. It specifies all layers of the interactive component of a set-top box or digital TV. The target scope of the MHP specification is to define the interface between a digital TV receiver and the network it is to be connected to in order to support interactive services. This enables manufacturers to introduce products common to all DVB terrestrial, cable and satellite markets.

### **GEM (Globally Executable MHP)**

GEM was created to enable organisations such as CableLabs, ATSC and ARIB to define specifications based on MHP together with DVB in the following ways:

- where interoperability between GEM based specifications from different organisations can be maximised;
- where the maximisation of the presence of MHP components enables economies of scale for the whole interactive broadcast chain;
- and which takes into account local business and technical constraints;

GEM is not a standalone specification that can be directly implemented but a framework to be used by the organisations wishing to define specifications based on MHP. Additionally, the design rules of the GEM specification enable developers to write applications that can be directly interoperable across different GEM based receivers.

The GEM specification lists those parts of the MHP specification that have been found to be DVB technology or market specific. It allows these to be replaced where necessary as long as the replacement technology is functionally equivalent to the original – so called ‘functional equivalents’. The set of technologies where functional equivalents are allowed is negotiated as part of the technical dialogue between DVB and each of the organisations wishing to use GEM.

Additionally, the GEM specification contains a list of those other specifications with which it can be used.

### **OCAP (Open Cable Application Platform)**

CableLabs’ OCAP is a derivative of MHP designed to fit into the technical and business environment of the cable industry in the US. At a technical level, the various DVB technologies and specifications that are not used in the US cable environment are removed and replaced by their nearest equivalent. At a business level, OCAP extends MHP with support for a ‘monitor application’ which puts the Cable MSO (network operator) in charge of the policy of the receiver. It also adds support for ‘unbound applications’ which can run at any time and are essentially disconnected from whatever TV channel is currently being watched on the OCAP receiver. Examples of these unbound applications include email clients and video-on-demand client applications.

### **ACAP (Advanced Common Application Platform)**

ATSC’s ACAP is based on the same Java API set and application model found in MHP. ACAP has some differences from MHP, as allowed by GEM’s concept of functional equivalents, such as a slightly modified version of the same DSMCC Object Carousel used by MHP, a mandatory return channel, and support for unbound applications from OCAP.

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ACAP also adds optional support for a modified subset of the DASE Declarative Application Environment, which is based on HTML and ECMAScript, and is known as ACAP-X. Recent indications suggest that ACAP-X may be harmonised in the future with DVB-HTML and ARIB's BML.

ACAP has many advantages from being based on rapidly maturing standards such as GEM, MHP, and OCAP. The IPR protections of the nascent GEM and OCAP patent pool are important to potential ACAP implementers and cable system operators. In addition, the value of the current MHP conformance tests cannot be underestimated in terms of their technical value and potential impact on ACAP's time to market.

### **ARIB B23 – Application Engine Platform for Digital Broadcasting**

This specification adds GEM to the existing Japanese digital broadcast specifications from ARIB. ARIB existing data broadcast specifications are used e.g., a data carousel rather than the DVB object carousel.

#### **Background**

##### **The DVB Project**

The Digital Video Broadcasting Project (DVB) is an industry-led consortium of over 250 broadcasters, manufacturers, network operators, software developers, regulatory bodies and others in over 35 countries committed to designing global standards for the delivery of digital television and data services. The DVB standards cover all aspects of digital television from transmission through interfacing, conditional access and interactivity for digital video, audio and data. The consortium came together in 1993 to create unity in the march towards global standardisation, interoperability and future proofing.

To date, there are numerous broadcast services using DVB standards. There are hundreds of manufacturers offering DVB compliant equipment, which is already in use around the world. DVB dominates the digital broadcasting world. A host of other services is also on-air with DVB-T, DVB-S and DVB-C including data on the move and high-bandwidth Internet over the air. Further information about DVB can be found at: [www.dvb.org](http://www.dvb.org).

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**Note to Editors – The above diagram can be obtained by contacting [news@whdpr.com](mailto:news@whdpr.com).**