



Interoperability and Freedom of Choice in Digital and Interactive Television

A perspective from the Digital Interoperability Forum

The 19 members of the Digital Interoperability Forum (DIF)* include some of the foremost players in Europe's world-leading digital television industry. Thanks to their innovation and investments, tens of millions of European households enjoy access to an unprecedented choice of digital television channels and interactive services.

In the context of the European Commission's review of interoperability in interactive television, DIF members believe that industry-led solutions are the most effective means of delivering sustained progress towards greater interoperability while supporting the continuing innovation and investments that are required to deliver the benefits of digital and interactive TV to more EU citizens. In this document, DIF members put forward some alternative views to those of the industry players who claim that regulatory intervention is required to promote one or more technical standards in interactive television.

Some say:

Freedom of choice for consumers in the European Union would be enhanced if it was mandatory to use a single Application Programme Interface (API).

DIF believes:

Differentiation is preferable to uniformity: a single API risks stifling innovation and thereby restricting the content choices available to consumers.

Debate about consumer choice in digital TV focuses too frequently on issues of reception equipment to the exclusion of what matters most to consumers themselves: the extra choice of programmes and new services offered by digital TV platforms. In Europe's most developed digital TV territories, consumers are free to choose between the varied content propositions of providers who use their chosen technical solutions to develop innovative and distinctive services. There is little evidence that viewers have a significant interest in the sophisticated technologies that support the delivery of these innovative services.

A single API would work to the detriment of consumer choice in TV content. Any intervention that undermines service providers' ability to differentiate their propositions risks stifling innovation and restricting the content choices that have the greatest influence over consumer adoption and appreciation of digital TV.

Some say:

Listing multiple standards that are similar in scope in the European Commission's Official Journal will undermine interoperability and fragment in the European interactive digital tv market.

DIF believes:

The existence of multiple standards has not hampered the growth of digital tv in Europe nor undermined investments by those who are committed to deploying such services.

Article 17 of the Framework Directive states that the Commission in the Official Journal of the European Communities (OJ), "a list of standards and/or specifications to serve as a basis for encouraging the harmonised provision of electronic communications networks, electronic communications services and associated facilities". Furthermore, the use of these standards are to be encouraged by member states "to the extent strictly necessary to ensure interoperability of services and to improve freedom of choice for users".

There is no mention of any desire by the EU to limit the number of standards that can appear in the OJ, rather emphasis is on the need to promote open and interoperable standards that facilitate the deployment of digital tv services in Europe.

Some say:

Mandating the use of MHP will encourage consumers to use the interactive services that are available.

DIF believes:

Engaging consumers with interactive TV demands creativity not regulatory intervention.

Growth in usage of interactive services is best achieved by the provision of attractive content that consumers find useful, informative or entertaining, rather than by requiring the use of any particular technology. In its March 2004 report "Interactive Digital TV Spreads Its European Wings", Forrester Research notes that take-up of interactive services is highest in the UK, where 56% of digital viewers had used interactive TV services in the previous three months. None of the services available in the UK are based on MHP.

In comparison, Forrester finds that the equivalent figure for use of interactive services was 28% in Germany, 27% in Italy and 24% in Spain. Some of these services were based on MHP, some on other specifications. The environment most likely to foster the development of compelling interactive content is one in which broadcasters and platform operators are free to innovate and compete for audiences without regulatory intervention.

Some say:

Lack of interoperability has led to fragmentation of European digital TV and has halted the development of pan-European services.

DIF believes:

The underlying causes of fragmentation in European broadcasting have nothing to do with the API.

Television markets in Europe are intrinsically national for many reasons including linguistic, cultural, copyright and contractual factors. Terrestrial and cable networks tend to be national or regional by their physical nature. Even satellite pay TV services are not generally marketed across borders; either for the analogue services of the past or for the digital services of today. More than 1,100 television services are available in Europe via satellite but less than a quarter of these have chosen to broadcast on a pan-European basis.

A key cause of fragmentation of the Single Market in respect of TV services is that the economy of the audiovisual sector is built on a model of the exploitation of rights on a national basis. This reality, which has been recognised by EU law (e.g. in the Coditel¹ decision), goes far beyond the question of interactive TV.

Some say:

The uptake of digital TV in Europe is lagging behind the U.S.

DIF believes:

Europe continues to lead the world in digital TV.

The DVB suite of standards developed within Europe have been voluntarily adopted in most other parts of the world. By contrast, the digital TV standards developed in the US have had virtually no acceptance outside of North America.

There are many examples of Europe's success in digital TV. The UK is the first country in the world to have passed the threshold of over 50% of households receiving digital TV. Unlike in the US, all digital households in the UK have access to interactive services. Meanwhile, Berlin is the first city in the world to have achieved analogue terrestrial switch-off.

Some say:

Mandating the use of MHP would speed up consumer adoption of digital TV and facilitate analogue switch-off.

DIF believes:

Consumer demand is driven by compelling service propositions - not by uniformity of technology.

The most rapid adoption of digital TV in Europe has occurred in the UK, where the regulatory framework has allowed vigorous competition between cable, satellite and terrestrial platforms. The result is that the consumer has a real choice of attractive and differentiated service offerings in both free-to-air (FTA) and pay TV. At the end of 2003, just five years after the launch of digital TV, a total of 50.2% of UK households received digital TV (source: Ofcom):

- 28.0% Pay TV via Satellite with OpenTV
- 0.9% FTA via Satellite with OpenTV
- 9.1% Pay TV via Cable with Liberate
- 12.2% FTA via Terrestrial with MHEG-5

There is no evidence therefore that the co-existence of multiple APIs, or of FTA and Pay-TV business models, has a detrimental effect on the successful roll-out of digital TV services. An important factor in the decisions by platform operators to risk the billions of euros of continuing investments required to launch and develop these services is the legitimate expectation that they will be able to recover these costs and make a reasonable return on their investments. Disproportionate regulatory intervention, such as the mandating of a single API, would damage the climate for the continued investments in infrastructure that are required to achieve analogue switch-off.

By denying platform operators the ability to choose the most appropriate technology for their deployments, mandating would inhibit industry's freedom to develop innovative new services to drive continued consumer adoption of digital TV and impede progress towards analogue switch-off.

¹ Case 62/79

Some say:

Mandating the use of MHP is necessary to prevent free-to-air broadcasters being dominated by vertically integrated Pay-TV operators who have closed platforms.

DIF believes:

Choice of business model, like access to platforms, is a commercial matter, underpinned by competition law and access regulation.

Access to broadcasting networks is primarily a commercial rather than a technical issue. This is acknowledged explicitly by the European Commission's Staff Working Paper on the interoperability of digital interactive television services, which states "the new regulatory framework ensures media pluralism by ensuring that broadcasters have rights of access²".

It is in the interests of platform operators to make attractive content available to customers and, therefore, to take the necessary steps to provide access to third-party content providers. EU law, in the form of the Access Directive and EU competition law, provides safeguards to ensure that broadcasters have rights of access to digital platforms and mechanisms to address any problems that may arise.

Some say:

The use of proprietary technologies by existing digital television platforms means that public service broadcasters are subsidising pay TV operators.

DIF believes:

Fair terms of access to digital platforms is guaranteed by EU law.

The Access and Universal Service Directives ensure that public service broadcasters have access to digital platforms on regulated terms. It should not be forgotten that public service broadcasters derive significant benefits from the considerable investments in infrastructure undertaken by pay-TV operators. For example, the BBC's portfolio of six digital-only television channels is now available to 50.2% of all UK households. Without distribution on satellite and cable platforms, these public service channels would be received by just 12.2% of households.

Some say:

Mandating the use of MHP is necessary to allow the horizontal free-to-air (FTA) market to develop.

DIF believes:

The co-existence of multiple APIs is proven to be compatible with successful horizontal markets.

Experience in the UK has shown that the FTA segment will develop rapidly, as soon an attractive content proposition is marketed effectively and receivers are made available at an attractive price. During the fourth quarter of 2003 the price of an entry-level MHEG-5 terrestrial STB in the UK fell to around €100. As a result more than one million FTA terrestrial receivers were sold in the final three months of the year (source: Ofcom).

Data from i.d.TV, the independent receiver website, highlights the wide range of reception equipment currently available from multiple manufacturers in the UK:

- 46 models of digital terrestrial STB
- 6 models of digital terrestrial Personal Video Recorder
- 7 models of digital terrestrial PC cards
- 58 models of integrated digital terrestrial TV set.

² Section 3.1.8., Commission Staff Working Paper on the interoperability of digital interactive television services.

Although the vast majority of these units offer interactive services via MHEG-5; there are also a small number of “zapper” boxes (which contain very basic functionality). None of them support MHP.

In Germany there are over 20 different receiver manufacturers offering digital satellite boxes in a ‘horizontal’ market.

Some say:

A consumer would be able to use digital TV reception equipment on any network, in any city and in any country as a result of the mandation of a single API throughout Europe.

DIF believes:

Universal portability of reception equipment is a myth that ignores the realities of digital television and consumer behaviour..

The API is only one of a large number of technical features which would have to be the same for this to be achieved. Other features that contribute to differentiation of services and equipment include:

- The varying bandwidths available from different transmission systems
- The different forms of return channel (or none at all)
- The different modulation schemes used for satellite, cable and terrestrial transmission

Equipment would only become portable between networks, etc., if all of the above features and several other characteristics were made identical. Even if this was possible in practice, it would result either in extremely expensive equipment or in a lowest common denominator approach to digital television, thereby weakening the ability of service providers to differentiate their offerings through innovations in content and technology.

Some say:

MHP was developed by DVB as the intended sole API for the provision of interactive digital television in Europe.

DIF believes:

DVB designed MHP from the outset as an optional component of the DVB suite of specifications.

On 4 November 2003, Theo Peek, the Chairman of DVB, made this clear in a letter to Fabio Colasanti, Director General of DG Information Society. The use of bold and underlined text in this extract is the same as in the original document:

*“It is important for me to emphasise that the work done by DVB in this area has been built on a number of market assumptions. These are fundamental to the consensus we’ve built around MHP and the way in which broadcasters, manufacturers and regulators would implement MHP in specific markets. The key issue is that MHP is a **non-mandatory** part of the DVB family of specifications and, unlike the basic DVB transmission standards, it was not designed to become a mandatory requirement for inclusion in DVB receivers within the EU.”*

Some say:

MHP is an open standard and its use is therefore free of royalty payments.

DIF believes:

Open-standard technologies do not mean free-to-use technologies.

Carter Eltzroth, Legal Director of DVB, has stated that some 10 companies have - so far - been found to hold patents essential to MHP. These companies are working on forming a patent pool but at the present time there has been no statement on the size of the eventual royalty fee for MHP. This uncertainty means that platform operators could be forced effectively into writing a blank cheque if

MHP was be mandated. In addition, there would also be no commercial pressure to keep MHP royalty fee down to competitive market levels. A further risk is that an organisation outside of the original patent pool subsequently appears and demands royalty payments.

The only obligation on MHP IPR holders under ETSI rules is to make IPR available under fair, reasonable and non-discriminatory terms. Most alternative means of providing interactive digital TV services also meet this requirement.

Some say:

The EU or Member States should provide financial incentives and funding opportunities that solely promote MHP.

DIF believes:

Competitive markets are much more efficient than Governments or regulators in picking winning technologies.

As the Commission's Staff Working Paper notes, "There is ... no industrial policy dimension to the standards provisions in the EU regulatory framework".³

Historical evidence questions the efficacy of investing EU and Member State funds to promote any particular technology in the face of market opposition, as in the case of HD-MAC/D2-MAC. Intervention of this kind smacks more of industrial policy than it does of promoting any consumer-focused objective.

Furthermore, care needs to be taken to ensure that service-focussed initiatives, e.g. in the field of eGovernment, are not used in an inappropriate way to favour a particular technical solution. Both the Commission and Member States should invest money in these areas with the intention of securing the most widespread use of eGovernment services in a technology-neutral way, not as a means of promoting a particular technology.

Some say:

MHP is particularly suitable for "greenfield" platforms.

DIF believes:

Any form of mandation will distort competition and discourage investment.

Even in so-called "greenfield" platforms, the enforced adoption of any particular technical standard could chill the incentive to make the significant investments required to roll out digital television services. As with other commercial decisions, industry players require the freedom to select the most appropriate technical solution to provide consumers with the services they want at an attractive price. In some situations the most appropriate solution may be MHP, while alternative solutions will be more suitable in other situations.

It should not be forgotten that today's greenfield platforms represent tomorrow's investments. If investors such as commercial TV operators are faced with a situation whereby they cannot select their equipment of choice, there is a risk that they will simply decline to invest. In the absence of sustained commercial investment, digital TV deployment may stagnate and greenfields may never evolve to being anything other than that.

The current debate on interoperability of interactive TV services should focus on the measures required to maximise availability of interactive services to the greatest number of consumers on the widest variety of platforms and devices.

³ Section 3.3., Commission Staff Working Paper on the interoperability of digital interactive television services.

Some say:

The Digital Interoperability Forum (DIF) is “anti-MHP”.

DIF believes:

DIF supports MHP as a voluntary standard but opposes mandation of any technical standard.

As leading participants in the roll-out of interactive digital TV services in Europe, DIF members have been active in the development of MHP specification. Several member organisations have chosen to implement MHP themselves and all DIF members support its development as a standard for voluntary adoption in market situations where it is deemed to be the most appropriate technical solution.

However, DIF members are united in the strong belief that unnecessary regulatory intervention in favour of one or more technical standards risks impeding the roll-out of digital television. The imposition of MHP or other technical standards could deter investment and inhibit innovation, thereby limiting the next generation of services and devices available to citizens in the EU. In the diverse and dynamic environment of Europe’s digital TV sector; any attempt to impose a “one size fits all” solution risks distorting competition and stifling the spirit of innovation which remains essential to the sustained growth of digital TV in Europe and progress towards eventual switch-off of analogue broadcasts.

Some say:

A single API is the only way to reduce re-authoring costs for interactive content.

DIF believes:

Industry is already developing techniques to cut costs while optimising content for all platforms.

A more practical way to reduce re-authoring costs while maintaining the freedom to innovate is to define content once at a high level and then publish it multiple times in a manner optimised for the capabilities of the various target platforms. For example, in France, identical interactive betting services are deployed on both Canal Satellite and TPS as well as Noos (cable). This approach has become established practice for many leading content authors over the past few years and numerous companies have created businesses as ‘tool vendors’ to support this. It has recently gained further impetus through the work on the DVB Portable Content Format (PCF), which is actively supported by many industry players including members of the Digital Interoperability Forum.

At the International Broadcasting Conference in Amsterdam in September 2003, the British Broadcasting Corporation (BBC) demonstrated how “high-level authoring” enables it to produce interactive content for the three UK digital television platforms. Each of these platforms uses a different API: OpenTV for satellite, Liberate for cable and MHEG-5 for terrestrial. The content has the same core look-and-feel on the three different platforms but is deliberately not identical, in order to exploit the maximum potential of each platform.

Some say:

The DVB Portable Content Format (PCF) can cover only the lowest common denominator of all platforms considered.

DIF believes:

PCF will optimise the delivery of most interactive services for the capabilities of each platform.

In line with other common portable formats (e.g. Adobe PDF for electronic documents), the PCF describes the intended user experience in a generic manner. The generic description is then translated into content optimised for the particular capabilities of each target platform. This approach is designed precisely to avoid a consumer experience that is limited to the lowest common denominator of all platforms. In some cases, the intended user experience may be beyond the capabilities of a particular target platform, just as PDF can describe colour information in a document although a particular target printer may be capable only of monochrome printing.

It is expected that PCF will be suitable for use with approximately 80% of interactive services; the likely exceptions will be applications such as video games which need to be platform-specific to optimise the consumer experience. The 20% of applications not addressed by the PCF are predominantly commercial ones, where the revenue gained will cover re-authoring costs.

Some say:

Existing platforms can adopt MHP within a reasonable migration period.

DIF believes:

Migration to MHP would impose more costs on consumers and slow down digital tv take-up.

Existing platform operators who were required to migrate to MHP would be faced with additional costs due to the need to support the existing populations of receiving equipment as well as MHP equipment for the duration of the life of deployed equipment. This could be for ten years or more. In the more extreme case the value of the legacy boxes would have to be written-off if mandatory migration required that they had to be replaced by a certain date.

Interactive content providers would also have to procure additional bandwidth to simulcast their applications for an extended period. Having already invested substantially in digital television it is unlikely that platform operators or interactive service providers would want to bear these costs themselves. Ultimately the cost of regulatory intervention will be borne by the consumer.

The Digital Interoperability Forum

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About the Digital Interoperability Forum

The Digital Interoperability Forum (DIF) was created in November 2003 to promote industry-led solutions that make digital and interactive television services available on the widest choice of platforms and devices. DIF represents nineteen companies from Europe's world leading digital television industry, including some of the foremost players in the delivery of digital and interactive television through European satellite, cable and digital terrestrial platforms: Advanced Digital Broadcast, BSkyB, CANAL+, Espial, Flextech, Liberate, Microsoft TV, NagraVision, NDS, ntl, Numéricable, OpenTV, Pace Micro Technology, Sky Italia, Telewest, TF1, TPS, UPC/chellomedia and ZetaCast.