

Prominence Framework

Submission to the Australian Communications and Media Authority on Implementing Australia's TV prominence framework

Service List Registry

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Executive summary

This document provides responses to questions raised in consideration of the prominence framework for Australian television and in conclusion offers key recommendations for implementation.

The Service List Registry welcomes the introduction of legislation intended to provide prominence to regulated television services and provides a technical solution to support the implementation of this through regulated service lists.

Our recommendations are based on international experience, particularly in the European market, where regulators are addressing similar concerns.

1. **Consideration should be given to the regulation of the prominence and availability to scheduled channels as well as apps.**
2. **Regulation should account for the distribution of scheduled channels over online networks in addition to broadcast bands.**
3. **Relevant regulation should apply to all devices or displays that access any regulated television service.**
4. **Regulation should consider the role of remote controls and voice control as user interfaces.**
5. **Prominence should be determined with respect to the actions required by a user to access a service.**
6. **The user interface through which a service is accessed should be considered in objective technical terms rather than its visual organisation or representation.**
7. **Prominence should be based on objective technical specifications, such as an ordered list of services.**
8. **The offer of a regulated television service should be indicated by its inclusion and order in a regulated service list.**
9. **Consideration should be given to the adoption of open standards such as DVB-I to support service discovery.**
10. **Consistency of access across services and devices is desirable for media providers and consumers.**
11. **Regulation should not discriminate against users with cognitive or physical impairments.**
12. **Users should be able to customise their experience, but access to regulated television services must always be ensured.**

The Service List Registry would be pleased to work with the ACMA to explore these recommendations further.

Preface

As Chief Executive of the Service List Registry, I appreciate this opportunity to contribute to the consideration of the implementation of the prominence framework to television in Australia.

The Service List Registry welcomes the proposed provisions of the prominence framework for regulated television services.

These are issues that the Service List Registry aims to address and for which it offers a technical solution. We also have extensive international experience and expertise in the relevant regulatory issues.

Based on internationally implemented open web standards, the Service List Registry provides a federated global platform to enable audiovisual media service providers to announce services and support service discovery by any compatible device or display. It also provides consultancy services on how best to implement service discovery for audiovisual media services.

The Service List Registry supports the open DVB-I industry standard developed by the DVB Project, an industry-led consortium of the world's leading media and technology companies working together to design open technical specifications for digital media delivery.

Central to this specification is the concept of a Service List that allows media providers to announce services and devices and displays to discover them. The DVB-I specification also includes provision for a national or regional Regulated Service List, enabling national regulatory authorities to authorise ordered lists of services with logical channel numbers and ensure appropriate prominence for public service media. In the context of Australia, the relevant competent authority is the Australian Communications and Media Authority.

Beyond compliance with relevant regulations and competition requirements, our primary concern lies with the interests of the consumer. We seek to enable an open market for compatible devices and displays, allowing viewers to access a wide range of services in a way that offers them choice, convenience, and control.

There is therefore the opportunity to create a coherent, consistent, compatible, and above all logical channel numbering scheme that serves the interests of media providers and their viewers.

I trust that the government, policy makers, regulators, and other readers will find this response to be a constructive contribution to the issues around the regulation of audiovisual media services and how they are discovered, selected, and accessed by users.

The Service List Registry would be pleased to work with representatives of the Australian Communications and Media Authority to discuss further how the ideas presented in this response could be readily implemented in practice.

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About the author

Dr William Cooper is Chief Executive of the Service List Registry and is responsible for its development.

As the founder of the independent consultancy informitv, William has since advised on broadcast and broadband convergence around the world, including advising Freeview in Australia for over a decade. He has also advised the European Commission on matters of transfrontier television and advised other leading management consultancies on television and video services.

Previously, as Head of New Media Operations at the BBC, William helped to enable the launch of the Freeview digital terrestrial television platform and operationally supported numerous online and interactive service across multiple channels and platforms.

With a background as a broadcast journalist, William gained a doctorate for his research on video literacy and how audiences appreciate television. He has a particular interest in viewer experience and user interface design. William has presented peer-reviewed papers at industry conferences including NAB, IBC, and SMPTE. His weekly *Connected Vision* newsletter has been a regular read for thousands of executives around the world for almost two decades. He has chaired or produced over a hundred international conferences and is a regular judge of industry awards.

Service List Registry

The Service List Registry is an online service discovery platform based on open standards, providing a federated directory of audiovisual media services. Registered regulators, media providers, and distributors can manage lists of offerings available online and through traditional broadcast networks. This enables compatible devices, displays and applications with different capabilities to discover and access relevant services from multiple sources, offering users choice, convenience and control, on any screen.

Supporting the open DVB-I specification for service discovery, developed by the international DVB Project that is responsible for standards used to deliver television services across Europe and around the world, the Service List Registry is committed to enabling a competitive market that supports the requirements of users, media providers, manufacturers of devices and displays, and national regulators.

Our mission is to simplify television and video viewing. Our purpose is to make it easy for anyone to discover and access audiovisual media services over any network, on any screen.

Values

- **Open** — We use open standards, freely available to all participants.
- **Equitable** — We are fair, reasonable and non-discriminatory.
- **Accessible** — Our services are accessible to anyone.
- **Available** — Our platform provides the highest level of availability.
- **Transparent** — We always operate with clarity and integrity.

Further information about the Service List Registry is available on our web site.

slrdb.org

Introduction

In January 2024, we submitted our response to the Australian Senate Environment and Communications Legislation Committee Inquiry into Communications Legislation Amendment (Prominence and Anti-siphoning) Bill.

In July, the Australian Parliament passed this legislation, amending the Broadcasting Services Act 1992 to include a 'must-carry' prominence framework to ensure that local free-to-air television services can easily be found on connected television devices in Australia.

The Australian Government has published draft regulations relating to these minimum prominence requirements. These draft regulations define minimum prominence requirements for an application providing a broadcasting video on demand service. They also define additional minimum prominence requirements for devices capable of receiving a television broadcasting service.

The Australian Communications and Media Authority has now called for submissions on Implementing Australia's TV prominence framework and has invited the Service List Registry to contribute.

We welcome the proposed provisions of the prominence framework and this opportunity to contribute our experience and expertise in this field to the successful implementation of these policies.

This document provides responses to the questions raised by the ACMA and offers recommendations based on our experience and best practice on how the issues involved can best be addressed.

Definitions

The Australian Broadcasting Services Act 1992 as amended sets up a framework to regulate the accessibility and prominent display of regulated television services on regulated television devices in Australia.

When the provisions come into force, a manufacturer of a regulated television device must not supply the device in Australia if the device does not comply with the minimum prominence requirements for a regulated television service. The manufacturer must ensure that the device continues to comply with those requirements after the device is supplied, must not charge a regulated service provider in relation to the device complying with those requirements, and must take reasonable steps to ensure that the audiovisual content provided by a regulated television service is not altered or interfered with.

Non-compliance with these provisions carries civil penalty provisions of up to 2% of the annual turnover of a contravening company.

Regulated television services are defined as the national television broadcasting services provided by the ABC and SBS, commercial television broadcasting services, community television broadcasting services, and a broadcasting video on demand service provided by any of these except for community television broadcasting services. The minister may also determine that a specified service is or is not a regulated television service on the advice of the ACMA.

A television broadcasting service is currently defined as using the broadcasting services bands, which refer to ranges of the radiofrequency spectrum that are designated for broadcasting purposes.

A broadcasting video on demand service means a service that makes audiovisual content available on demand using a listed carriage service and is made available free to the public using an application designed for this purpose.

A listed carriage service is essentially a licenced telecommunications service over a fixed or wireless network.

Regulated television devices are defined as domestic reception equipment that can connect to the internet and provide access to broadcasting video on demand services and designed for the primary purpose of facilitating the viewing of audiovisual content. The ACMA may determine whether domestic reception equipment is a regulated television device.

Regulations may prescribe minimum prominence requirements in relation to access to regulated television services, the display, location or positioning on the device or its primary user interface of regulated television services, applications or anything else used to access regulated television services, including the installation, availability and updating of such applications, and any electronic program guide on the device that provides information about or access to regulated television services.

The Act defines the primary user interface as either the home screen or main screen of the device or the main interface commonly used to provide access to applications that make audio visual content available on demand. It does not include any ancillary hardware or equipment for the device. The ACMA may describe and interface or determine requirements relating to an interface and these may differ for different regulated television devices, kinds of regulated devices, or different kinds of things or circumstances.

Approach

Question 1.

Do you have any views on the ACMA's proposed approach?

The Service List Registry approves of the proposed approach by the Australian Communications and Media Authority to the implementation of the prominence framework.

The indicative timeline seems reasonable, although we suggest that there should be at least 12 months from the publication of definitive regulations before they come into force.

General support for proposed approach

We support the clear logic of the framework that if a **regulated television service provider** offers a **regulated television service**, then the manufacturer of a **regulated television device** must comply with the **minimum prominence requirements** when supplying that device in Australia.

We support the application of this framework to the free-to-air broadcast services and broadcasting video on demand services of national broadcasters and commercial television broadcasting services.

Access to scheduled channels

While the legislation applies to both broadcast television and broadcaster video on demand, much of the current focus appears to be on the prominence of broadcaster video on demand apps.

For any specific programme, the broadcaster video on demand audience is typically only a fraction of the total audience for the programme, even among younger adults. Most television viewing is still to scheduled channels.

In the first week of October 2024, OzTAM reports that the total reach of television viewing was 73% of the population. Over half of this was exclusively from broadcast television viewing of scheduled channels. The reach of broadcast television only was 39%, while the reach of broadcaster video on demand only was 12%, with 23% viewing both.

Currently, the reliance on separate applications to deliver broadcaster video services and the separation of these from scheduled services in user interfaces presents an undesirable barrier between them that impedes usability. There is a risk that such separation is reinforced by regulation, which would be an unfortunate unintended consequence.

Ideally, it should be possible for a viewer to transition seamlessly between scheduled and on-demand services.

Modes of distribution

The current assumption of the legislation and proposed regulation is that scheduled channels are defined by devices capable of receiving television broadcasting services using the broadcasting services bands such as the VHF and UHF frequencies allocated and licensed for this purpose.

This definition is limited as licensed broadcasters in many markets also deliver their scheduled channels online using internet protocols without the use of broadcast radio frequency spectrum. This has been the case in some territories for over two decades.

There is a general trend towards the delivery of audiovisual media services over internet protocols. There is no clear agreement among experts on the timescale over which this will take place. It is likely that there will be a mixed economy of hybrid services for many years.

We recommend that this prominence framework should apply to the scheduled channels of the relevant broadcasters however these services are delivered.

In the United Kingdom, for instance, viewers can access the scheduled channels of public service broadcasters such as the BBC in many ways: through traditional satellite, cable, and terrestrial television broadcasts, and online through services such as Sky Glass or Sky Stream, Virgin Media Stream, or the recently launched Freely platform. These online streams, delivered over internet protocols, through either managed networks or the open internet, are generally indistinguishable to viewers to conventionally broadcast channels and are accessed and navigated in a similar way. This is in addition to the availability of scheduled channels available within the apps of broadcasters, such as the BBC iPlayer.

In France, 70% of households receive their television online through their internet service provider. Yet there is continuing investment in satellite and terrestrial television transmission, with the recent addition of ultra-high-definition services nationwide.

It is possible that the scheduled channels of national and commercial broadcasters in Australia will be made available to viewers by other means other than traditional broadcast transmissions. The legal and regulatory definition of a regulated television service and regulated television service provider may be by reference to broadcasting licences, but the means of delivery may not necessarily involve traditional broadcast networks.

Devices and displays

The distribution of regulated television services is not limited to broadcast transmission. This has implications for the definition of a regulated television device, which may not be a receiver in the conventional sense and may not have a traditional tuner either fitted or connected to an antenna. Any device or display that can connect to an online service could be used to access or view the channel. This also has implications for the definition of the primary purpose of a device, since many devices or displays are multipurpose, for instance personal computers, games consoles, media players, tablets, and mobile phones, which do not have a traditional television tuner.

We submit that the regulation should include any hardware device or software application that makes available to the user a regulated television service of a regulated television service provider.

User interfaces

The proposed minimum prominence requirements are largely based on visibility, in terms of an icon or visual representation, being visible on the primary user interface of the device, being a similar size and shape, and in the same location, as other comparable applications. This is inherently subjective and therefore subject to potential challenge. This presents a risk of regulatory uncertainty for the regulator and those subject to compliance.

The current prominence framework considers the interface as a visual or graphical user interface, rather than an interface that can be defined in technical terms or by reference to user actions.

The legislation allows ACMA to determine and define the primary user interface of different types of devices.

Regulated service lists

We strongly recommend that a formal technical definition is required for the offering of a regulated television service.

The DVB-I Service Discovery and Programme Metadata specification was developed by the DVB Project to address this problem and is being adopted in several European countries.

Pilot services have been running in Germany and Italy for over a year. The Italian regulator AGCOM is actively evaluating the DVB-I specification in relation to the prominence of services of public service media.

DVB-I effectively provides an application programming interface for the delivery of audiovisual media services over any transport network to any screen, together with a metadata schema for associated programme information for use in electronic programme guides.

The DVB-I specification provides a machine-readable service list that announces the availability of services and how to access them. There is provision within the standard for regulated lists that can be authorised or administered by a national regulator such as the ACMA.

The presence of a service in an ordered list of regulated services provides definitive evidence that the service is intended to be presented with appropriate priority and prominence.

The service list provides an industry standard representation of services that can be discovered and accessed by a compatible device, display, or application.

International standards

DVB-I is supported by the latest version of the HbbTV specification for hybrid broadcast broadband television. HbbTV defines an application environment based on HTML and JavaScript that allows web applications to run on compatible televisions and access features and functions in the television context, including DVB-I service lists.

The combination of DVB-I and HbbTV offer an open standards approach to the discovery and presentation of online services and applications in the television environment.

Almost all televisions sold in Europe support HbbTV and nearly 100 million households in Europe can be reached through HbbTV.

It should not be the role of a regulator to pick technology winners, but regulation can play a part in creating an open competitive market in which open standards can succeed.

We strongly recommend the promotion of international open standards to support an open ecosystem of interoperable devices and displays.

It is not necessary for a device to support or use the DVB-I standard to comply with the intent of the service list. The service list can be represented in other formats that can be used directly or indirectly by other and existing legacy devices and displays. It can also simply serve as a statement of intent to which other products should comply i to meet the regulatory requirements for minimum prominence.

Regulated television device

Question 2.

What are your views on the proposed considerations when applying the primary purpose test? Is there anything else the ACMA should consider?

Defining the primary purpose of a device could be problematic. It may be more effective to focus on whether the device accesses regulated television services, regardless of the primary function it serves.

Challenges of defining devices by primary purpose

The definition of a regulated television device in this context is domestic reception equipment that can connect to the internet and provide access to broadcasting video on demand services and is designed for the primary purpose of facilitating the viewing of audiovisual content.

The intended scope is to include smart televisions, set-top boxes, and plug-in devices, while it is stated that mobile phones, tablets, video gaming consoles and laptops are unlikely to be captured by the primary purpose test.

However, the definition of the primary purpose of a device is necessarily imprecise. It can be argued that mobile phones or tablets are frequently used to facilitate the viewing of audiovisual content. Broadcasters make their services available on such devices specifically for this purpose.

Indeed, any definition of a device or display by its primary purpose is liable to be problematic. It is suggested that smart projectors would be in scope while smart monitors would be out of scope. This distinction seems to be rather arbitrary.

Screens in scope of regulation

What is the essential difference between a smart television and a smart monitor? It might be argued that the former has a tuner that can receive broadcast television signals while the latter does not. Yet there are many use cases for a television that do not involve or require receiving broadcast television signals.

Smart monitors are a growing product category. The two leading television manufacturers produce smart monitors that use the same operating system and environment as their televisions. They offer access to a similar range of online services. They are essentially televisions without a tuner. For the growing number of people that do not have or use a television antenna, these products represent an attractive multifunction alternative to a television.

The risk is that a manufacturer might seek to avoid the requirement for regulatory compliance by marketing a multifunctional product that has other substantially non-infringing uses.

It may be anticipated that manufacturers will in the future produce large screen displays that do not have the capability to receive broadcast services. An unintended consequence is that to avoid the risk of non-compliance, manufacturers to not enable access to certain applications, which does not ultimately benefit the consumer or the ability of providers of broadcast services to reach them.

If a regulated television service is accessed by a device and made available to a user, then it should comply with minimum prominence requirements.

Question 3.

Is there a device the ACMA has not mentioned in this paper that you think should be considered?

Yes, devices such as remote controls, mobile phones, tablets, and other devices, which may act as primary interfaces for accessing television services, should also be considered in this context.

Consideration of additional types of devices

There appears to be an assumption that the display or device connected to it will provide the visual user interface by which services are navigated. This may not necessarily be the case.

One can envisage products that enable access and selection of services or programmes using a separate screen or device that causes them to be rendered on another screen. For instance, an app on a phone, tablet, or a remote control with an interactive display could provide the primary means of navigation and allow viewing on a large living room screen.

Alternatively, a voice control system could be used to navigate, select, and access services without relying on the visibility or visual prominence of icons.

Role of remote controls in the user interface

The legislation states that the primary user interface of a regulated television device does not include any ancillary hardware or equipment for the device. This suggests that any form of remote control is out of scope.

One might argue that the primary user interface for a television is generally some form of remote control, typically, but not exclusively used in conjunction with some form of graphical user interface.

The role of any remote control in relation to the primary user interface of a regulated television device should be clarified in the regulations.

Question 4.

Do you consider there is a need for the ACMA to clarify whether certain specific domestic reception equipment is, or is not, a regulated television device?

Yes, there is a need to clarify the scope of a regulated television device. This should be with reference to any regulated television services that is used to access.

Regulated television devices

The legal definition of a regulated television device is adequate, but the application of regulation should be related to and defined by the services for which prominence is sought rather than by attempting to define the screen or display device.

We suggest that the solution is to define the services that are to be regulated and then apply the regulation to **any** device, display, or application that is used to access **any** of these services.

Linking regulation to services rather than devices

Any device providing access to any regulated television service should be considered as a regulated television device.

If a device, display or application offers access to any regulated television service, either at the time of sale or any time after, it is reasonable to consider it as a regulated television device.

If a device, display or application does not offer access to any regulated television service, it is reasonable to consider that it is not a regulated television device.

It should be as simple as that, ensuring regulatory clarity and avoiding the potential for dispute or unintended consequences.

Primary user interface

Question 5.

Should the ACMA exercise its discretion to make descriptions or requirements for a device's primary user interface? Should the descriptions or requirements refer to the primary user interface extending beyond the static landing page for access to VOD apps, to include scrolling (horizontally or vertically)? Do ribbon or row layouts require different consideration to grid layouts?

No, descriptions of the primary user interface should not be defined by the design or layout of items on screens. Instead, prominence should be determined by the user actions required to access services, which is a more objective measure than the layout of the interface.

User interface based on user actions

The legislation defines the primary user interface the home screen or main screen of the device or the main interface commonly used to provide access to applications that make audiovisual content available on demand using a listed carriage service and that meets any description or requirement determined by the ACMA.

The problem arises because the proposed approach to implementation appears to be based on a visual assessment rather than user actions. This is inherently problematic and liable to lead to questions of interpretation.

This results in the consideration of rows or columns of icons and whether they are visible on screen at a particular time. This impinges on many aspects of user interface design.

We suggest that layout issues, such as row, rails, or ribbons, or the relative sizes of icons, should be left as matters of implementation by user interface designers rather than be considered a matter of regulation.

In our experience, it is unusual for a regulator to specify access to audiovisual services in terms of icons on a display.

The approach adopted by the European Commission, which is in the process of being applied in European countries, is the concept of a list of services of public value, with a requirement that they are presented with appropriate prominence.

We strongly recommend that rather than considering visual presentation to prescribe prominence this should be determined with reference to the required actions of the user to select or access a service.

Accessibility to all users

The definition of an interface in terms of its visual appearance presents issues of accessibility and discrimination for the visually or cognitively impaired. There is also evidence that older viewers, who account for a substantial share of total television viewing, find many modern television user interfaces and navigation models confusing and difficult to use.

Prominence should be determined by the actions required by a user to access a regulated television service.

User actions can be more precisely defined in terms of discrete actions or steps, such as button presses. This is a typical metric for user experience. For instance, it might be determined that a user should require no more than a certain number of actions such as the number of button

presses required to access a service from any point. This could include actions such as scrolling through a list.

This is particularly relevant in the field of television user interfaces because of the varied design choices involved in remote controls.

Traditionally, television remote controls have offered dedicated number buttons to allow direct selection of channels. This remains a primary means of navigation for many users. It is particularly important in the Australian market, where commercial broadcaster brands are strongly associated with specific numbers, like 7, 9, and 10.

Some remote controls seek to provide a more minimal tactile interface, for instance using directional buttons. This generally involves navigating a visual interface. However, the ease of accessing and selecting a specific service can still be determined by counting the number of button presses required.

Increasingly, remote controls may offer dedicated buttons to directly access certain services. These may include services that are regulated television service as well as direct competitors to them. It will be determinable a matter of fact whether a product has one or more buttons providing access to such services. Some remotes have six or more such dedicated buttons labelled with specific services. It may be considered an acceptable solution if there is a button that provides direct access to the collective set of regulated television services where this button has equivalent prominence as similar buttons on the remote control.

Essentially, the regulatory focus should be on the actions required by the user to access and select a service, rather than attempting to adjudicate differences between visual representations of user interface. This is legally imprecise and potentially ambiguous, with the potential to limit innovation in user interface design.

Global product market

Every provider of a regulated television service is entirely dependent on third-party manufacturers of devices and displays to deliver their services. Most of these manufacturers are multinational if not global, providing products with user interfaces that must meet the consumer and regulatory requirements of multiple markets.

Consumer electronics manufacturers benefit from the existence of internationally adopted standards and specifications, which enable them to meet diverse market requirements. Australia represents a relatively small television market in global terms. It is enabled by conformance to international standards, such as those developed by the DVB in Europe, which are currently supported by every television receiver on sale in Australia.

There is a real risk that if national regulation imposes a significant burden on consumer electronics manufacturers through requirements are onerous or potentially ambiguous, they will simply not supply product to that market. The result could be a loss of consumer choice.

Question 6.

Do you support treating content aggregating interfaces differently from other regulated television devices when describing requirements for the primary user interface?

No, content aggregating interfaces should not be treated differently from other regulated television devices. Prominence should be determined by the user actions required to access services, regardless of whether the interface aggregates content.

Principles should apply to all user interfaces

User interfaces on television and video devices follow fashions and are likely to develop and evolve through product innovation and differentiation.

There is a real risk in defining and determining regulation based on current trends in user interface design that often do not offer an optimal user experience. Imposing certain requirements that could restrict user interface design may indeed reduce the user experience, interfere with existing contractual arrangements, or risk changing the market dynamics.

There is a balance to be struck in user interface design between promoting services and programmes that a provider wishes to promote and surfacing services and programmes that may be of particular interest to a user. This should not be a matter of legislation or regulation.

The optimal outcome for the consumer is likely to be achieved by defining and determining conformance and compliance with respect to the actions of a user required to achieve a desired outcome.

If the user can navigate to the programming of a regulated television service more easily, by virtue of aggregation, recommendation, personalisation, or some other process, that is a benefit to consumers and citizens generally.

Therefore, we suggest that content aggregating interfaces should not be considered any differently.

Irrespective of the user interface, the prominence of a regulated television service should be determined by the actions required of the user to access the service.

Question 7.

To what extent do existing contractual arrangements between device manufacturers (or operating systems) and content services providers (such as SVOD providers) affect the ability to provide prominence to BVOD apps on the primary user interface?

Yes, existing contractual arrangements between manufacturers and service providers can affect the prominence of regulated television services. A regulated service list can mitigate this, ensuring that access to regulated television services is not displaced due to such arrangements.

Impact of contractual arrangements on prominence

Existing and prospective contractual relationships between the provider of the primary user interface and other content service providers will inevitably have implications for the user experience, which should not necessarily be considered disadvantageous to the consumer.

Device manufacturers and providers of operating systems are and should be free to make contractual arrangements with third parties to promote their services, providing that this is not to the exclusion of a regulated television service provider offering a regulated television service.

The problem arises that there are many regulated television service providers and many potential competitors to them. This necessarily imposes constraints on how they can all be presented and offered to the user. It is simply not possible for them to all be equally prominent, or even visible at the same time.

There will be an inevitable tension between the offerings of the providers of regulated television services and those of new entrants. That is a consequence of an effectively operating competitive market.

The legislation requires that a regulated television device manufacturer not require the regulated television service provider to pay a fee, charge, or any other consideration for, or in connection with, the device complying with those requirements. This implies that a regulated television service provider may not pay for privileged positioning or prominence or provide any other consideration for this. It does not prevent the provider of a service that is not a regulated television service from entering into such a commercial relationship.

Ensuring regulated services are not displaced

The appropriate regulatory approach is to ensure that the offerings of regulated television service providers are not displaced by the positioning of competing services.

We submit that the solution to this, as being implemented in other markets, is to designate an ordered list of services that of public value and to ensure that these have appropriate priority and prominence.

In many cases, access to an ordered list of services can be made accessible through a single button on a remote control. Such a list of services can include any combination of traditional scheduled channels and applications that provide video on demand services. They can have logical channel numbers to facilitate numeric navigation or service selection through up and down buttons, with icons to enable easy brand identification. Regulated service lists provide assurance to consumers of the provenance and regulatory compliance of included services.

We also suggest that, as in other markets, the ordering of these services should be delegated to industry bodies that have for decades organised logical channel numbers, rather than relying on intervention from a regulator. The requirement should be that the principles for ordering services should be transparent, fair, reasonable, and non-discriminatory.

Offering services

Question 8.

Should the ACMA determine circumstances in which a regulated television service is, or is not, taken to be 'offered'? Is the ordinary meaning of 'offered' adequate?

Yes, the regulator should determine clear circumstances in which a regulated television service is considered to be 'offered'. The ordinary meaning of 'offered' may not be sufficient for regulatory clarity, and the use of a regulated service list would provide more precision in defining when a service is 'offered'.

Defining when a service is offered

Once the 'must carry' obligations come into effect, manufacturers must not supply a regulated television device if it does not comply with the minimum prominence requirements for a regulated television service that is 'offered' by a regulated television service provider.

In addressing this requirement, the ACMA appears to be primarily concerned with the provision of apps.

The assumption appears to be that a service is 'offered' through the provision of some sort of app to a manufacturer through a process of submission and acceptance.

A regulated television service also includes the scheduled channels of regulated television service providers. These include all the channels of the ABC, SBS, the commercial television networks, and licensed community television services.

Scheduled channels are currently offered over the air as broadcast services using DVB-T transmissions, which are supported by all televisions available in the Australian market. Many international markets now use the more spectrally efficient DVB-T2 transmission standard, which is also supported by most modern television models.

It is also possible that regulated television service providers will offer their scheduled channels over other networks, for instance using DVB-DASH over internet protocols. This is currently supported by some, but not all, televisions, either natively, or using HbbTV applications.

Consideration should therefore be given to the accessibility and prominence of scheduled services, the availability of these services in electronic programme guides, and the accessibility of these guides, either as native user interfaces provided by the manufacturer, or a branded application provided by a national service operator.

Role of open standards

The DVB-I specification is designed to support service discovery and programme metadata for televisions with an internet connection. It includes support for the announcement of applications that can be offered in parallel with scheduled services or as standalone services, optionally directly accessible through logical channel numbers.

DVB-I provides a robust schema by which services, including applications, are announced and through which they can be automatically discovered. It has the potential to become a de facto world standard. Discussions are ongoing with organisations such as the ATSC and GSM to enable interoperability across their standards.

Some applications, such as HbbTV apps, will launch and load automatically on a compatible television.

The availability of a DVB-I service list that specifies apps and the location from which they are served provides an unambiguous statement that a scheduled service or application is offered.

There should be a presumption in regulation that a service or application offered through a DVB-I service list should be made available to the user on a compatible device or display.

The Service List Registry provides a platform to enable service providers, device manufacturers, and regulators to view, manage, and configure service lists, including nationally regulated service lists.

A live proof of concept demonstration has been provided to key industry stakeholders to show how this could be deployed in the Australian market.

DVB-I is a relatively new standard that is not currently supported by all receivers, therefore there needs still to be provision for how applications are offered and accepted either for pre-installation as part of the operating environment of a television product or through a portal or store to enable installation by the user.

Operator applications

The regulator should be aware that there is a special type of application, known as an HbbTV Op App or operator application, that has a privileged role in the television environment and provides direct access to certain features and functions on the display to enable tight integration of services.

The installation and operation of an operator application requires a bilateral agreement between the application provider and the product manufacturer, typically in the form of a legal contract, although this may not necessarily involve any payment.

There can only be one operator application installed at one time, so it is typically provided by an operator that represents multiple service providers within a territory.

An example of such an HbbTV Op App is the Freely service in the United Kingdom provided by Everyone TV. This is available on products from several manufacturers, including Hisense, Toshiba, Panasonic, TCL, and Amazon Fire. Everyone TV is jointly owned by the public service broadcasters in the United Kingdom and performs a comparable function to Freeview Australia.

Specific consideration therefore needs to be given to the case where an HbbTV Op App is offered to a manufacturer and the terms by which this is accepted to be compliant with regulation.

Not all televisions support HbbTV, although most models sold in Europe do, and manufacturers may not be inclined to enter into the necessary bilateral agreement with service providers.

Question 9.

Is there sufficient transparency about which apps are currently offered to which manufacturers?

No, there is currently insufficient transparency about which apps are offered to which manufacturers. The regulator should ensure that a clear list of regulated television services and their technical requirements is available to manufacturers.

Transparent publication of offerings

There is currently little available information about which apps are offered to which manufacturers.

Unlike with broadcast frequencies, there has been no requirement for broadcasters to co-ordinate their activities with one another.

In a market with n broadcasters and m manufacturers, if each broadcaster were to produce a distinct app for each platform, that would result in $n \times m$ different applications to be developed, tested, validated, and accepted. In practice, it is likely to be many more than this, as manufacturers have multiple product lines and may support multiple operating systems. This is without considering applications on handheld screens and other devices.

Role of regulated service lists

As discussed above, there are mechanisms such as DVB-I that can make service information available as metadata in a standard machine-readable format.

The Service List Registry provides a platform for the management of service lists. This could potentially make such information available in a format suitable for publication on a web site, such as that of the ACMA.

We recommend that the regulations refer to regulated service lists to announce the availability of services and applications.

A regulated television service provider should also document the availability of an application, including any relevant technical requirements, and make this available to the ACMA.

We recommend that the ACMA publish a list of applications and their technical requirements on its web site to allow these to be easily inspected by any manufacturer.

Question 10.

What circumstances should the ACMA consider for a regulated television service to be, or not be, taken to be 'offered'?

Unambiguous definition of when, where, and how a regulated television service is offered is essential for effective regulation.

Mechanisms for offering regulated services

We submit that there are two mechanisms by which a regulated television service should be offered by a regulated television service provider.

The first mechanism is the announcement of a service in a DVB-I service list providing appropriate metadata to allow the service to be discovered by a compatible device. This should be an automatic process and any compatible device should be expected to access and launch the announced service. The Service List Registry provides a platform for the configuration and delivery of such service lists.

The second mechanism is the announcement of an application by a regulated television service provider, or a consortium representing a group of regulated television service providers, in a submission to the ACMA for publication with notice of its availability, technical requirements, with the expectation that it be supported by manufacturers of a regulated television device within an applicable timeframe.

Importance of discovery and transparency

It is essential that these mechanisms operate transparently, so that multinational manufacturers that may be developing and testing products in other countries, have access to this information.

It is unreasonable to expect manufacturers to have to negotiate separately with each regulated television service provider individually. There are over 12,000 audiovisual media services available in Europe alone, about three quarters of which are scheduled channels. It is clearly impractical for a manufacturer to track them all.

The expectation of most manufacturers is that if they develop and sell products that meet international standards designed to ensure interoperability then the relevant services will be available to users.

DVB-I provides a formal mechanism by which a regulated television service provider may announce the availability of a regulated television service, including scheduled channels and video on demand applications.

Question 11.

Under what circumstances might a manufacturer 'reject' an app that meets its quality and timeliness criteria?

Difference classes of applications used to deliver a regulated television service may have different technical requirements and acceptance criteria.

Acceptance of applications

If an app is developed based on freely available open standards, such as HbbTV, the onus is on the developer of the application to ensure that it operates acceptably on compatible devices and displays.

Generally, HbbTV applications will launch and load automatically on a compatible device. As with all software, it requires a process of iterative development, testing, validation, and verification to ensure that an application operates correctly.

Some platform operators have a rigorous conformance and certification regime to ensure that new products meet their platform specifications.

Many organisations have a 'zoo' of products, typically provided by manufacturers, for the purpose of testing. For instance, DTG Testing in the United Kingdom offers this as a commercial service. Freeview Australia has an in-house test centre.

These processes are designed to ensure that apps developed for a common platform will operate as expected on the products of various manufacturers.

Operator applications

An HbbTV Op App is a special class of HbbTV app that requires a bilateral agreement with a manufacturer to load, install and execute. This is enforced by technical mechanisms and certificates, which is a reasonable security measure to ensure that an application is legitimate. An operator app may be initially installed at the time of manufacture of a product, which allows it to be properly tested. It is also possible, in practice, to install an operator app on a compatible product after it has been sold at retail.

Since an operator application has privileged access to certain features and functions of the television environment that are not available to other applications, the manufacturer has a reasonable interest in ensuring that such an application performs appropriately on a particular product and does not have a negative impact on the usability of the product.

Native applications

Some applications use coding that is native to a particular platform, like Android TV. There are tools and software development kits available for such platforms to allow apps to be developed and tested.

Different platforms, portals, or app stores have different processes for compatibility and quality assurance, which normally have well-documented acceptance criteria. These should be fair,

reasonable, and non-discriminatory. There are nearly 14,000 apps available on the Google TV platform from nearly 9,000 publishers.

A distinction should be drawn between portal apps, which are available to install through an app store, and those that are pre-installed on the home screen of a product. This necessarily requires negotiation with the product manufacturer and given the limited screen area available can lead to issues of prominence, which appear to be the focus of current concerns.

If an app is appropriately coded and follows published standards and best practice principles, it should not be rejected and should be made available on a platform.

Lead times for integration

Consideration should be given to the product lifecycle of most manufacturers. They typically plan their products at least a year before they are released to the market. There are significant lead times involved. There may be hard deadlines that have to be met for certain launch windows that manufacturers may have to meet for marketing reasons, which are often annual.

The challenge of meeting these timing requirements can be considerably reduced by using open standards that are adopted internationally, significantly minimising the integration effort involved.

Question 12.

Are there different circumstances that the ACMA needs to consider for different kinds of regulated television services?

Yes, the regulator should consider different circumstances for various regulated television services. For instance, while broadcasters may offer their own apps, a single consolidated app for multiple regulated services would ensure ease of access and consistency.

Single point of entry

The prevailing assumption appears to be that each regulated television service provider will have its own app and that these should somehow have equivalent prominence.

While we expect regulated service providers to continue to provide their own broadcaster video on demand applications, consideration should be given to the need for a single application to provide a consolidated point of entry to the regulated television services of multiple regulated television service providers. This could be a platform app, provided by an organisation such as Freeview.

We submit that an app that provides consolidated access to the regulated television services of multiple regulated television service providers should be given appropriate primary prominence on regulated television devices.

Apps for separate services

The situation where multiple regulated television service providers might have multiple apps is less clear. While that should not provide grounds to reject an app, it is not unreasonable for there to be limitations in the available virtual shelf space that prevent all apps being presented with equal prominence. It is therefore inevitable that some will take priority. The question then arises of how this will be determined and whether this will be consistently applied. The solution to this for scheduled channels has been through the adoption of logical channel numbers, which provide ordering and organisation of services. An equivalent system is desirable for broadcaster video on demand applications.

Open market

An analogy may be drawn with a supermarket retail chain in ranging stock. A brand does not have an automatic right to be stocked in every store. Some may be stocked because of the strength of

their brand and consumer demand. Others may have to earn their space on the shelves. A retailer is also free to promote their own brand items in competition with them. The retailer has considerable investment in its real estate and should be free to market products as it wishes. Equally, the consumer benefits from a choice of brands available in a store and generally expects this to be available.

It may be argued that a regulated television service is different. There may be a public benefit and a consumer benefit in making such services easily available, particularly where they receive public investment and provide news, sport, information, and entertainment services of public value. There is also a benefit to the provider of a regulated television device in making such services available. They have traditionally formed part of the product proposition. People still buy a television to watch television programmes. There are other competing substitute uses for the screen that are increasingly available, but this has been the case since the first games consoles and videocassette recorders. It is difficult to legislate or regulate against this.

In the United Kingdom, since the successful launch of Freeview it was virtually impossible to sell a television that did not support the platform. This was not a result of legislation or regulation but of industry organisation and certification. The Freeview brand stood and still stands as mark of compatibility, providing assurance to retailers and consumers.

Everyone TV is now seeking to replicate this success with Freely, a hybrid platform that offers scheduled channels online, with access to the online applications of the major broadcasters. This uses an HbbTV Op App, installed by arrangement with an increasing number of television manufacturers. The technology used is a forerunner of DVB-I, which is now standardised and is being piloted in several European markets.

Open standards

To achieve an open, competitive, and successful market, which we would argue is the responsibility of regulation, requires the adoption of and adherence to technical standards.

The DVB-I standard provides an appropriate technical solution to many of the problems of prominence, availability, accessibility, and usability of services. The standard has been developed by a broadly-based industry consortium that includes leading broadcasters, major television manufacturers, organisations like Free TV Australia, and companies like Google.

There are competing solutions, like Android TV, that aim to solve similar problems in different ways.

The Service List Registry is based on freely available open standards and can support multiple players in the industry ecosystem.

Central to this capability is the concept of a regulated service list that is used to specify and order services for a particular territory or region to ensure universal availability, accessibility, provenance, and guarantee appropriate prominence of services of public value.

We strongly recommend that in preparing its proposed implementation of Australia's TV prominence framework the ACMA considers how the Service List Registry can address many of the issues raised.

Conclusion

We welcome and support the intent of the legislation recently introduced by the Australian Government to determine that if a **regulated television service provider** offers a **regulated television service**, then the manufacturer of a **regulated television device** must comply with the **minimum prominence requirements** when supplying that device in Australia.

While many of the definitions are provided in primary legislation, there is scope for clarifying these in regulations to reduce potential ambiguity.

We propose the following recommendations to facilitate the effective regulation of the prominence of regulated television services in a hybrid broadcast and online environment.

Prominence of scheduled channels and apps

1. **Consideration should be given to the regulation of the prominence and availability to scheduled channels as well as apps.** A long-term transition to the online delivery of scheduled channels is likely and it is essential that the prominence of scheduled services applies irrespective of those services are technically delivered.
2. **Regulation should account for the distribution of scheduled channels over online networks in addition to broadcast bands.** This will ensure that the regulatory framework is compatible with long-term trends towards online delivery.

Regulating devices and interfaces

3. **Relevant regulation should apply to all devices or displays that access any regulated television service.** If a device offers access to any regulated television service, then it should comply with the requirements for the prominence of all regulated television services.
4. **Regulation should consider the role of remote controls and voice control as user interfaces.** This includes dedicated remote controls and secondary devices that may be used to control access to services, with or without reference to a visual display on the main screen.
5. **Prominence should be determined with respect to the actions required by a user to access a service.** The number of presses of a button or voice commands required to access a service provide an objective measure of its prominence and accessibility that is both fair and user-friendly.
6. **The user interface through which a service is accessed should be considered in objective technical terms rather than its visual organisation or representation.** Technical specifications are less ambiguous than visual descriptions of the user interface.

Regulated service lists and open standards

7. **Prominence should be based on objective technical specifications, such as an ordered list of services.** This will support uniform implementation across manufacturers and reduce the potential for disputes about compliance.
8. **The offer of a regulated television service should be indicated by its inclusion and order in a regulated service list.** A consistent list of regulated television services accessible to all parties can facilitate implementation and ensure compliance with prominence requirements.
9. **Consideration should be given to the adoption of open standards such as DVB-I to support service discovery.** The DVB-I specification for service discovery and programme

metadata was developed specifically for this purpose. Adoption will support interoperability and reduce the regulatory burden.

Ensuring accessibility and ease of use

10. **Consistency of access across services and devices is desirable for media providers and consumers.** Regulation should encourage rather than impose consistency of user experience, for instance through the standard ordering of services.
11. **Regulation should not discriminate against users with cognitive or physical impairments.** Prominence should not rely simply on visual navigation as some users may require assistive technologies such as screen readers and other navigation aids or make use of voice control.
12. **Users should be able to customise their experience, but access to regulated television services must always be ensured.** This could be through a single service that can ideally be accessed through a single button press or user action.

The Service List Registry is intended to support the requirements of users, devices, providers, and regulators internationally. We would be pleased to share our experience and demonstrate how the system works in practice.

Appendix: SLR

We want to simplify television and video viewing. Our purpose is to make it easy for anyone to discover and access audiovisual media services over any network, on any screen.

The Service List Registry is an online service discovery platform based on open standards, providing a federated directory of audiovisual media services. Registered regulators, media providers, and distributors can manage lists of offerings available online and through traditional broadcast networks. This enables compatible devices, displays, and applications with different capabilities to discover and access relevant services from multiple sources, offering users choice, convenience and control, on any screen.

SLR provides an independent and neutral platform to support the ecosystem of multiple mutually competing players in the market by using freely available open industry standards.

We enable providers of audiovisual media to create virtual packages of services that for the first time are independent of any physical satellite, terrestrial, cable or telco network infrastructure. This offers an open alternative to powerful aggregators and gatekeepers that otherwise threaten to foreclose the open distribution of audiovisual media.

- **Users** can access audiovisual media services over any available network on any screen through compatible devices, displays and applications.
- **Devices**, displays and applications can discover and access relevant and compatible audiovisual media services through an open online platform.
- **Providers** of audiovisual media can announce channels and applications available across multiple distribution networks to compatible devices, displays and applications.
- **Regulators** and legislators can designate or approve national or regional service lists, ensuring the prominence, provenance, availability, and accessibility of public service media.

Values

- **Open** — We use open standards, freely available to all participants.
- **Equitable** — We are fair, reasonable, and non-discriminatory.
- **Accessible** — Our services are accessible to anyone.
- **Available** — Our platform provides the highest level of availability.
- **Transparent** — We always operate with clarity and integrity.

Problem

Television and video services are now too difficult to access and use. Navigating the rapidly evolving viewing environment is increasingly complex for both users and media providers, as competition for audience attention intensifies.

Service discovery

We have more viewing choices than ever and so many more ways to watch, but it is still difficult to discover how to access audiovisual media services on different devices and displays.

Finding a particular programme can be frustrating, as we are often forced to fight our way through multiple menus and similar but separate user interfaces on various screens.

As viewing moves from traditional broadcast channels to the online world, there has been no standard method for devices and displays to discover services or for media providers to promote them to users.

Consumers are no longer satisfied by traditional broadcast services. They expect to be able to access audiovisual media services on any screen, over any network.

With billions at stake, the ability to connect viewers with programmes that they want to watch is the key to unlocking the multiscreen experience.

- **Users** typically need to navigate multiple applications to access services from different providers, which limits usability, accessibility, and availability. Traditional channels and online services are not necessarily integrated. Users need to switch between different inputs and apps and there is no common system of navigation. This creates confusion and frustration for consumers. It also presents accessibility problems for those with various sensory, cognitive, or physical abilities.
- **Devices** and displays do not have a standard way to discover, offer, and access non-broadcast services. Television manufacturers need to provide products that do not depend on a conventional cable, satellite, or terrestrial antenna connection. Phones and tablets can only access online services. This is leading to market fragmentation.
- **Providers** of media services need to negotiate distribution of their applications across multiple platforms. The fragmented market is eroding the prominence of previously pre-eminent public service media providers. Traditional broadcast channels are facing increasing competition and are losing audience share as viewing moves online.
- **Regulators** are seeking to maintain the prominence of public media services and regulate services that are no longer restricted to licensed radio frequency spectrum. Regulators also have a policy objective or a legal requirement to ensure the prominence, availability, and accessibility of public media services, which is becoming more difficult as the viewing environment fragments.

Current solutions either involve dedicated devices and displays, which do not address the requirement for universal availability, or individual applications that need to be developed for multiple operating environments.

Solution

We want to make it easier for everyone to find media services, offering choice, convenience, and control on any screen. We enable viewers to select from relevant options using simple lists.

Simple service selection

Our open platform enables different devices, displays and applications to discover available audiovisual media services and access them across the most appropriate delivery networks.

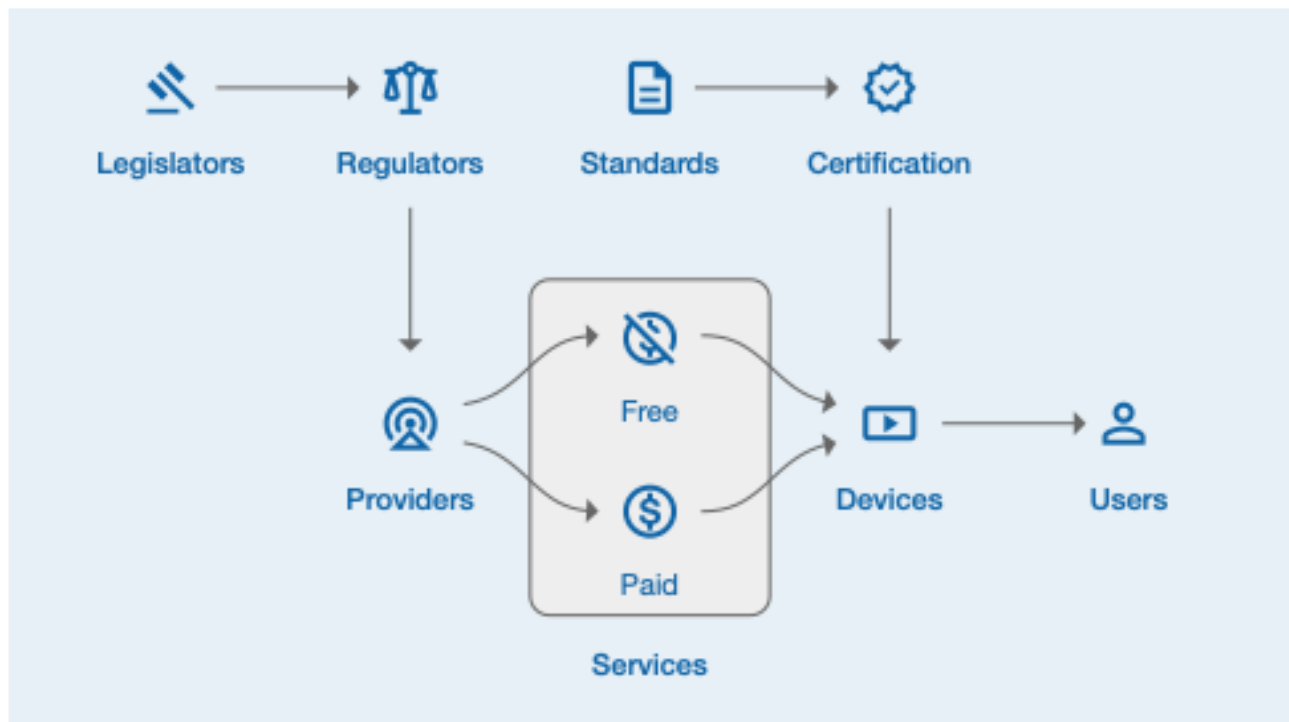
Imagine a machine-readable online directory that applications and products can use to look up lists of relevant services and offer them within their user interface.

- **Users** with compatible devices, displays or applications can simply select services from lists of familiar channels and online offerings in an integrated view, based on their location and the capabilities of their screen. All queries are anonymous, protecting personal privacy. The ordered service list responses facilitate simple accessible navigation, including numeric selection.
- **Devices**, displays and applications can use open web standards to request service lists and present the results in their own environment. Third parties retain the freedom to innovate and differentiate the user experience of their products in an open and competitive multinational market. This includes integration with intelligent systems, including personalised recommendations, voice control, and home automation.
- **Providers** of media services can publish lists of services available by region across various delivery networks. They can promote their brands and retain control of the distribution of their services, with the option to prioritise different modes of delivery and offer higher quality audio and video formats for compatible devices and displays.
- **Regulators** and legislators can designate and approve lists of services to maintain the prominence of public service media providers and ensure that they are universally available and easily accessible. This identifies the provenance of licenced services within their jurisdiction and facilitates the fulfilment of public policy objectives and plurality of media provision.

The solution is based on existing open standards and does not require any changes to current broadcast transmission systems. By using web technologies, the online service layer can be easily integrated with various client devices and displays, reducing barriers to adoption. This allows for a gradual migration as products are progressively upgraded or replaced. Employing a federated approach and distributed architecture, the system is designed to scale to serve a massive user base.

Encouraging collaboration between industry stakeholders across the ecosystem, our service discovery platform empowers media providers to extend the reach of their services efficiently and effectively. It simplifies the process of promoting and providing programming across different devices and displays, offering a smooth transition to delivery over any network to any screen.

Platform



The SLR service discovery platform connects media providers to devices and displays using service lists that reference available services and applications.

These metadata descriptions have traditionally been delivered over broadcast networks using service information embedded in the signal. Until now, there has been no industry standard equivalent for providing this information online.

The open DVB-I specification was developed to meet this requirement by the DVB Project, the member organization responsible for the development of digital broadcasting standards in use across Europe and around the world. This is in turn based on open web standards developed by the W3C World Wide Web Consortium.

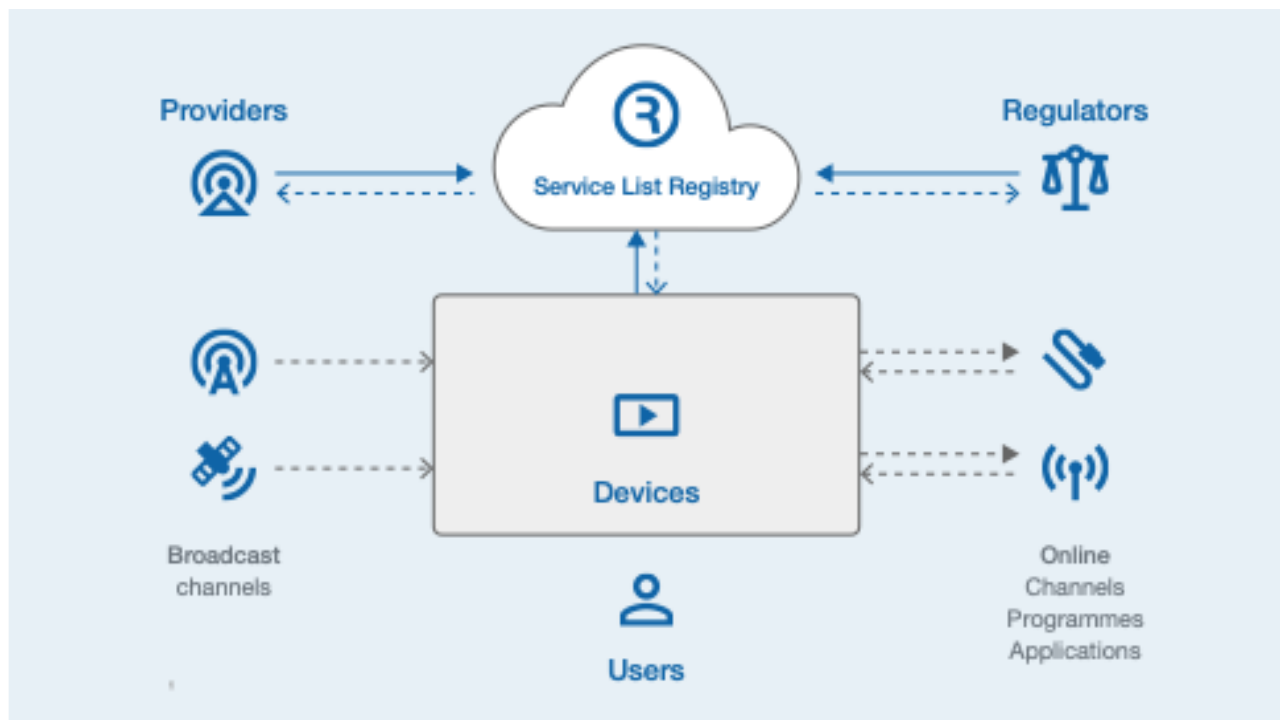
The specification builds on approaches that have been adopted in the development of the Freeview Play and Freely digital television platforms in the United Kingdom.

The significance of the DVB-I specification is that it will enable a much wider market, based on open standards that can be adopted globally. Successful pilots are in progress in Germany, Italy, and other countries.

The global SLR platform is based on a proof of concept originally developed for broadcasters in Australia. It is designed to provide an industrial-strength operational platform to support the international deployment of the standard and meet the requirements of users, devices, providers, and regulators worldwide.

The federated model delegates the administration of services to authorized audiovisual media service providers, service aggregators, and regulators. This avoids the need for a central service registry, which would be politically and commercially contentious.

The technical implementation involves numerous innovative features that enable the registry to meet the anticipated demand from devices, displays and applications. It is based on a scalable and highly available network computing architecture potentially capable of supporting billions of users.



The core concept of a service directory is well established in computer science and is widely used in desktop and enterprise computing systems. With the increasing use of devices and displays that are connected to the internet, it becomes practical to apply this model to service discovery for audiovisual media.

A comparison may be drawn to the DNS Domain Name System that allows any device to resolve a human readable domain name to an internet address. The distributed architecture allows third parties to register domain names and administer records without recourse to a central database. This system is fundamental to the operation of the internet and has successfully scaled to support billions of devices worldwide.

Just as the development of the World Wide Web applied a new protocol to an existing internet infrastructure, SLR has the potential to transform the way we access audio and video services.

The SLR platform is currently hosted on AWS global network infrastructure that provides high levels of availability, integrity, and security, necessary for supporting transmission critical services.

Providing an additional service layer to enable the discovery of services, applications, and programmes, SLR enables media providers and service aggregators to announce linear channels and on-demand applications without being limited to conventional cable, satellite, or terrestrial transmission infrastructure. It enables traditional channels and online-only services to co-exist. It enables legacy services to be maintained while enabling a migration to online distribution. This extends the reach of media services without requiring customers to change their existing distribution arrangements or make a step-change investment in infrastructure. The cost to media providers is marginal and the risk involved is low.

Further information is available at:

slrdb.org