

The ACMA has been consulting with industry and the community on possible paths for the technical evolution of digital terrestrial television broadcasting (DTTB) in the post-switchover, post-restack environment. In particular, the ACMA is exploring matters such as the drivers for change, the paths for implementing change and whether intervention by the regulator is necessary with regard to DTTB standards. Australia currently uses a standard known as Digital Video Broadcasting – Terrestrial (DVB-2) developed by a European consortium of industry and other organisations in the late 1990s.

The ACMA's research and findings would inform any future consideration of these matters by the Government. On 3 October 2013, Free TV Australia stated publicly that the sector is seeking a migration pathway to more spectrum-efficient DTTB standards such as DVB-T2, MPEG-4 and HEVC (high efficiency video coding). Free TV has previously made submissions to the ACMA technology review and to Government that spectrum should be made available for the transition to these technologies.

MPEG-4

The Motion Picture Experts Group (MPEG) group of technical standards relate to methods used to compress audio-visual digital data. Terrestrial digital television in Australia is currently broadcast using MPEG-2 video encoding. MPEG-4 is a superior, more efficient compression technology that has been evolving over a number of years. A number of jurisdictions have implemented digital television DVB-T services using MPEG-4 encoding, including New Zealand, Norway, Poland, Portugal, and South Africa, while others have deployed MPEG-4 as part of the new digital television standard, DVB-T2, including the United Kingdom. MPEG-4 can transmit current digital television broadcasts at a rate that is between 40 and 60 per cent more efficient than MPEG-2.

MPEG-4 technology is backwards compatible with MPEG-2, which means viewers with MPEG-4 enabled digital television receivers are able to receive all available digital television channels broadcast in MPEG-2. However, MPEG-4 encoded broadcasts cannot be viewed through MPEG-2 only digital television receivers. As such, MPEG-2 only legacy equipment remains an issue in the transition to MPEG-4 only broadcasts.

There have previously been proposals from broadcasters and local councils operating retransmission services to transmit broadcasting and datacasting services in MPEG-4 only. This includes requests from commercial broadcasters in smaller regional licence areas and remote licence areas, including [redacted] to commence transmission of multichannels in MPEG-4 which would have enabled them to use less transmission infrastructure.

[redacted] SATV

Local councils that provide digital self-help retransmission services are required by their retransmission licence to provide those services in MPEG-2. During the switchover process a number of local councils in remote Queensland attempted or proposed to retransmit the Viewer Access Satellite Television (VAST) service in MPEG-4. The ACMA investigated reports of MPEG-4 only transmissions and informed the local councils that they were required to transmit in MPEG-2 in accordance with their licence.

DVB-T2

DVB-T2 is the second generation of the DVB-T terrestrial television system. The DVB-T2 standard offers substantial transmission efficiencies of 30 to 50 per cent in its use of spectrum compared to DVB-T. If the MPEG-4 encoding is coupled with the a DVB-T2 platform, the increase in capacity is even more marked, enabling a multiplex to carry up to 12 standard definition services. However, DVB-T2 requires a whole multiplex to operate using the new standard (it is not possible to provide a mix of services using DVB-T and T2 from the same transmitter). This contrasts with MPEG-4 which can be introduced within a DVB-T multiplex to carry a mix of MPEG-2 and MPEG-4 encoded channels. The key issue for the introduction of DVB-T2 services in Australia would be legacy receiver sets, as there are very few TVB-T2 capable receivers in the market. However, DVB-T2 devices are in production internationally as a number of European countries have deployed DVB-T2 services (United Kingdom, Italy, Sweden and Finland), while others are undertaking trials or adopting the new standard with services yet to commence.

HEVC

High Efficiency Video Coding (HVEC) is the next generation of video encoding technology developed as a successor to MPEG-4. HVEC is expected to double the spectrum efficiency compared with MPEG-4, and it can also support the provision of ultra-high definition services. However, HEVC was only recently standardised as a stand-alone encoding technology (April 2013) and is yet to be added to the DVB family of television standards. Australian suppliers have indicated that they would not expect any HEVC-capable devices to be on the market in Australia until 2015-16.

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