

The term 'broadband' resists a single, straightforward definition. In any case, a technical approach is of little value to policy discussions. It is more appropriate to consider the ways in which the term is interpreted.

In the context of electronic service delivery, the general understanding of 'broadband' is that it refers to the capacity for data-delivery at an end-point of network. The capacity is adaptive over time. The term implies capacity that is substantially greater than the 'narrow-band' services available at the time. Narrow-band has been understood c. 2000-2010 as being the capacity provided by modem over dial-up connections, but gradually drifting up across a larger range.

Capacity is popularly measured in megabits per second (Mbps) into and out of the end-point device. Dial-up is capped at 56Kbps (or about 0.05Mbps), but narrowband is beginning to encompass legacy ISDN (64Kbps or 128Kbps), and increasingly low-end ADSL (256 Kbps in and 64Kbps out). Broadband expectations have increased from 256/64 up into the multi-Mb range during the early years of the new century, originally under the pressures of ill-designed image-rich web-sites, then audio and video transfers, and increasingly audio and video streaming, and the (as yet undeliverable) entertainment nirvana of on-demand new feature-length movies. During 2007, the OECD continued to use its longstanding definition of broadband as "download speeds equal to or faster than 256 kbit/s"; but pressure was building for the threshold to be increased.

A more consumer-oriented measure of data-delivery capacity at the end-point device might switch from mega bits per second (Mbps) to mega bytes per second (MBps). Alternatively, it may be more meaningful to choose some semi-standardised file-size, and express capacity as the time taken to download it. A 3-minute audio-file, assuming a medium-intensity sound such as pop music, at say a 'near CD-quality' sampling rate (e.g. MP3 at 192 Kbps) would be one possibility. (A video-file equivalent would be challenging to standardise).

Another approach would be to indicate the delivered-bandwidth-to-the-user necessary to support various services. The following are indicative, and not intended as being in any way authoritative:

- VoIP at adequate quality - 28 Kbps
- Streamed Internet Radio - 48 Kbps
- Videophone at adequate quality - 64 Kbps
- Audio-Streaming at 'approaching CD-quality' - 128 Kbps
- Audio-Streaming at 'near CD-quality' - 192 Kbps
- iPod Video - 256 Kbps
- Video-Streaming - small window, modest quality / Video-conferencing - 512 Kbps
- Standard Definition TV - adequate quality - 1Mbps
- 'VHS video-tape quality' - 1.5 Mbps
- Standard Definition TV - good quality / 'DVD quality' - 6 Mbps
- High Definition TV - 10 Mbps
- Wall Size TV - 100 Mbps
- Virtual Reality / 3D - 1 Gbps
- Maximal Workstation Experience - 1 Tbps

For the purposes of the analysis and scenarios, a working definition of broadband is capacity for data-delivery at an end-point of a network of, in 2008, in excess of 512Kbps in either direction, growing progressively to in excess of 10 Mbps by the end of the study's planning horizon in 2015.

By that time, all-fibre connections (FTTH or FTTP) capable of delivering 100 Mbps will exist in various places, probably including within Australia. This will inevitably spawn a new array of applications and services that exploit such performance. As a result, it is realistic to expect the definition of broadband to remain an upward moving target for the foreseeable future.