

How the tablet generation is pushing networks to the edge

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With Christmas expected to bring another leap in ownership of tablets, smartphones and other devices, new research from Bell Labs ([download the PDF](#)), the research arm of Alcatel-Lucent suggests that increasing consumption of video content on such devices will push the wired broadband networks that carry this traffic to their absolute limits over the next decade.

- Bell Labs projections suggest that, by 2020, consumers in the United States alone will access seven hours of [video](#) each day – as opposed to 4.8 hours today, and will increasingly consume this additional video on tablets, both at home and on the go.
- Significantly, the research also points to a dramatic shift in viewing habits, as consumers switch from broadcast content to video-on-demand services, which will grow to 70% of daily consumption compared with 33% today.
- The projections also suggest a twelve times increase in internet video content as cloud services, news sites and social networking applications become more video based, and continuously accessible anywhere, anytime on tablets.

Importantly, the study also highlighted how these trends will stretch the capabilities the residential broadband networks many service providers use today: as the delivery of video content rapidly moves from traditional broadcast TV to the 'unicast' delivery of personalized content to individuals, disproportionate pressure will be placed on the 'IP edge' of these networks. The IP – or Internet Protocol - edge is the part of the

network where most of the intelligence is needed to deliver sophisticated video and high-speed Internet services is located. Broadcast is a much more efficient way of delivering video services, so the move to unicast creates enormous bandwidth demands on networks.

Marcus Weldon, Chief Technology Officer, [Alcatel](#)-Lucent, said: "Delivery of video from the cloud and from content delivery networks to tablets, TVs and smartphones - with guaranteed quality -, presents an exciting new revenue opportunity for communications service providers, but only if they are prepared to take advantage of it. Left unmanaged, the rapid growth in video traffic can turn into a deluge and spell disaster. It is important to look at where service providers' investments can have the most impact, and this research makes clear that the IP edge of both wireline and wireless networks – which are increasingly becoming one and the same - offers the greatest opportunity to improve network performance. At the same time, it also presents the greatest source of risk if not managed appropriately."

[Bell Labs](#) found that on-demand video services, such as high definition premium movie services as well as video sharing sites, will become even more popular over the next five years. As a result, on-demand video will command an increased share of viewing hours, causing peak-hour traffic at the 'edge' of new IP-based networks to grow 2.5 times faster than the amount of traffic on the broadband connections reaching households. This challenge will need to be addressed, comprehensively, if communications service providers are to maintain their ability to deliver high-quality residential multimedia services to consumers.

Specific Findings

The study compared data about video usage and growth from 2012 to 2020 in 'triple-play' (video, data and voice) communications service providers, and identified the following trends:

- The total time spent watching video will grow from 4.8 hours to seven hours per-user, per-day. Much of this contribution will come from the latest generation of consumers who are more likely to multi-task – such as watching television while conducting a video call on their tablet - resulting in seven hours worth of video consumed in as little as five hours.
- The proportion of time spent watching managed video-on-demand services and web-based video (also known as over-the-top - 'OTT' - providers) will grow from 33% to 77%. This will come at the expense of traditional broadcast TV services, whose relative share of time will drop from 66% to 10%.
- Internet-based video consumption each year will grow twelvefold, from 90 Exabytes to 1.1 Zettabytes (an exabyte is equal to 1 billion gigabytes, a zettabyte is equal to 1,000 exabytes - see the [Wikipedia article](#) on units of information)
- Consumption of managed video-on-demand from services providers versus OTTs is expected grow at 28 percent annual rate, from 44 Exabytes to 244 Exabytes.
- 10.5% of managed video consumption and 8.5% of OTT video consumption will occur at the peak hour, 8:00 p.m.

Explore the study in more detail in this article in our online publication TechZine, or visit our website to learn more about how [service providers](#) can [Energize the Edge](#).

More information: [www2.alcatel-lucent.com/techzi ... e-video-to-the-edge/](http://www2.alcatel-lucent.com/techzi...e-video-to-the-edge/)

Provided by Alcatel Lucent

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