



Bandwidth Abundance

Google Fiber ushers in a new era – one that challenges users not to conserve bandwidth but to find more uses for it.

Welcome to the era of bandwidth abundance.

I encountered this concept in 2006, in a speech by communications law professor Susan Crawford. Crawford said that broadband's economic benefits are so enormous – so far exceeding the costs of creating it – that rather than ration it, societies should use more of it.

For a recovering economist like me, accustomed to thinking in terms of allocating scarce resources, this was mind-boggling – something like a physicist's learning that a perpetual motion machine had been invented.

Abundant shouldn't be confused with free. Building a broadband network requires a large investment of resources. Nor does abundant mean unlimited; many of today's networks are congested. Clearly, network builders need to recoup their investments and manage congestion. However, the possibility of abundance suggests that new broadband networks should be designed to allow as much capacity as possible and should be managed and marketed to encourage use of that capacity.

There is only one way to do that: Build fiber to every endpoint, equip the network with up-to-date gear (and keep it up to date) and – most important – price the top speed to appeal to the mass market. That's what Google Fiber has just done.

IS GOOGLE FIBER REPLICABLE?

True, Google has advantages that include access to its own, highly efficient long-haul networks and the ability to design

its own equipment – and even so, not everyone is convinced it will return a profit. ("Larry Page should nip this bad idea in the bud," a Forbes columnist fulminated.) However, Google's vice president of access services, Milo Medin, makes a good case that the age of abundance has truly arrived, and not just for Google.

In a recent speech, Medin said the growth of optical capacity, the buildout of long-haul networks and improvements in network equipment have contributed to radical declines in bandwidth costs worldwide, and these trends are all likely to continue. Delivering a gigabit is commercially viable, he noted, not so much because FTTH equipment costs have declined as because of scaling across the entire Internet ecosystem.

Low-cost bandwidth to homes will encourage Internet content and service businesses (of which Google is one) to develop new products, which in turn will deliver more value to consumers. At first, Medin said, people will continue doing what they do with traditional broadband, just as dial-up users focused on email and e-commerce when broadband first arrived, but because gigabit connections make homes "effectively part of the cloud," new computing forms and new ways of delivering media will soon emerge.

Do any other Internet content businesses want to follow suit?

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