

Why Do People Care About Bandwidth?

An international broadband consultant lists his top 10 reasons why this is a stupid question – and throws in a few more reasons for good measure.

By Peter Cochrane ■ *Cochrane Associates*

Yesterday, someone asked me a variation on that same old question I have heard with increasing incredulity these past 40-plus years: “Why do people want 9.6, 56, 256 Kbps or 2, 10, 100 or 1,000 Mbps?”

Soon it will be 10 Gbps, and these people still won’t get it! My reply has been fairly consistent but has progressively expanded with the advance of technology.

I always start from recollections of having to wait for days for the output from early mainframe machines, with hours wasted waiting for batch processing and print runs, uploads and downloads. Life was sooo very sloooow, and productivity was low in those early days!

Then there was the online world lurching forward with dial-up modems at 2.4 Kbps, 9.6 Kbps and so on, with the cost of international connectivity often overtaking the cost of a hotel room.

So here is my personal short list of the benefits of bandwidth, in an attempt to head off at least some of the folks who keep asking me that same dumb question:

1. Delay kills all forms of human interaction and creativity. Less delay results in more effective interaction, innovation and output. Because the relationship is highly nonlinear, less delay translates into far more output.
2. Ubiquitous and symmetrical videoconferencing that actually works can dramatically reduce our need to travel.
3. Real-time, multiuser, collaborative environments can further accelerate global creativity and productivity by

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- making virtual teaming a working reality.
4. Imagine instantaneous access to information sources and resources in all kinds of forms and formats – uploads and downloads.
5. Cloud computing with all applications and data online would dramatically reduce hardware and software costs, improve security markedly and spawn new communities, business opportunities and industries.
6. Virtual and augmented reality would come alive and change absolutely everything from working to entertainment, education, training and health care – we can’t even hazard a guess at the scale of improvement.
7. All forms of modeling and prediction – scientific, industrial, social and so on – would be revolutionized by instant access to distributed resources worldwide.
8. 3-D prototyping and distributed production would become real and a

- part of the mainstream, and would ultimately be the new mainstream industry.
9. Real-time access to global radio, TV, movies and other forms of entertainment at our convenience.
10. Vast tracts of radio spectrum for high-speed wireless apps would become available as services delivered by fiber reduce the need for services delivered by radio.

There you have it: my very specific, personal top 10. I can imagine everyone has his or her own subsets and definitions, and if I were to extend the list, then number 11 would be multiplayer gaming, followed by distributed sensor networks, networked robotics and cybernetics, plus of course new interactive industries reliant on distributed creativity, production and delivery and much, much more.

If you get a spare moment, it is worth musing: Just what would you do with 1 Gbps symmetrical broadband? **BBP**

About the Author

Peter Cochrane directed research for British incumbent telco BT, cofounded a technology startup and now runs a virtualized global consulting firm, Cochrane Associates, that exploits the new business freedoms and opportunities afforded by the latest technologies. This article is reprinted from his blog, which appears regularly on silicon.com. You can reach Peter at peter@ca-global.org.