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Do We Really Need Broadband Everywhere Right Now?

Gary Breed
Editorial Director

Maybe this will sound like heresy, but I'm not sure everyone, everywhere needs a broadband connection. Sure, there are lots of people (myself included) who are getting big professional and personal benefits from e-mail and the Internet. My 1.25 MB/s ADSL connection is great, but faster data access would be even better!

My point is that the social aspects of our lives don't always require the latest communications technology. A story I heard explains the basic idea. I can't remember where I heard it and can't give proper credit, but with that apology, here goes:

"I've got a new high-speed Internet connection. So does my brother, but not my elderly Dad. I take pictures of the kids with my digital camera, attach them to an e-mail and send them to my brother. I print them out, write a note, put them in an envelope and mail them to my Dad.

"The e-mail reaches my brother's inbox in seconds. He sees that I've sent him something, but he's too busy to look at it now. A few days later, he opens the attachment and looks at the latest pictures of my kids. A couple days after that, he gets around to sending me a note, 'Cute kids!'

"The letter reaches my Dad's front porch mail box in about three days. He opens it immediately, admires the photographs and sits down to write a nice note, usually enclosing a few dollars for the kids. His reply reaches my mailbox in another three days—usually about the same time I get my brother's e-mail. Both methods seem to work the same."

Of course, business communications and online searching, banking and shopping is a different matter. But there are many times when a phone call, a handwritten note or an in-person meeting are the best choices. Sometimes we just want more than faceless e-mail—a handshake is still a good way to finalize a business deal, and I like to deal face-to-face with the people handling my money at the bank.

There are many needs waiting to be served by better wireless, fiber, cable, satellite or wireline communications. Broadband access is just one of those solutions. It will continue to develop, and if economic principles are valid, supply will grow to meet demand. There are already two options in many places—DSL and cable modem—with wireless alternatives like WiMax preparing to add a "third pipe" for broadband delivery.

But it seems that we are approaching what Alan Greenspan dubbed "irrational exuberance" in the push to develop broadband as fast as possible, including questionable technologies like broadband over powerline

(BPL). We hope that providers are using realistic data to guide their development efforts and protect their investors. Oversupply and too-early rollout of new services can create insurmountable financial obstacles. Getting it right is important.

Real Science, Real Innovation

Some of the pioneers in electronics have recently passed away. The latest is Jack Kilby, the soft-spoken inventor of the integrated circuit (and many other things) at Texas Instruments. These scientists and engineers did truly groundbreaking work, planting the seeds that have grown into today's communications, computing and related technologies.

There are some writers who think that such innovative work has declined in recent years; that the emphasis on commercial development has preempted more important work. Maybe these writers are my age or older, remembering the dramatic developments that were a big part of the Space Race and the Cold War. But if this is all they remember, they haven't been paying much attention to recent work.

Today we have micro electromechanical systems (MEMS), ultra wideband (UWB) systems, one-chip radios, ultra high speed fiber optic systems and many other technologies that could have the same kind of impact in the future that those groundbreaking discoveries of the 1950s and 1960s are having today.

I recently read a report on display technology that highlighted the fundamental physics research that was being done to make brighter, sharper, and cheaper displays—both big-screen and miniature. I can easily see the future impact of a technology that will allow the presentation of visual information with the same detail (bandwidth) as all the other data we exchange. And it's not just entertainment; medicine, instrumentation and public information are just a few areas that will also benefit from the revolution going on in display technology.

One other favorite electronic technology is artificial sight and hearing, using direct connection from sensors to the nervous system. This work will take years to reach maturity, but the fundamental research underway now shows that it is practical.

I've mentioned other interesting areas of development in past editorials—there always seems to be another idea to get excited about. I certainly can't see any decline in real science and real innovation!

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