



Advanced Networking and Broadband

Background

The terms *advanced networking* and *broadband* are often used interchangeably when referring to high-speed Internet connectivity in the higher education environment. Advanced networking is typically used when discussing advanced applications and other high-end research and development, while broadband is often used when referring to residential connectivity. Despite the rapid evolution in networking, the Federal Communications Commission (FCC) still defines high-speed lines as those providing services at speeds of 200 Kbps in one direction, whereas advanced service lines provide services at speeds exceeding 200 Kbps in both directions. This speed is insufficient to meet the burgeoning needs of educators, researchers, and students living on and off campus. While agreeing that networking speed definitions are in desperate need of updating, the FCC is leery that any new government-sanctioned networking speed parameters will soon be outdated as the power of the network continues to evolve. However, Congress may include a provision in any telecom update legislation that would require the Commission to update on an annual basis what speeds constitute broadband.

Compounding the speed dilemma, the FCC notes four challenges for evolving broadband:

- the infrastructure is not yet ubiquitous;
- the costs of deployment remain relatively high compared to narrowband;
- access is limited in undeserved areas; and
- adoption rates remain low relative to availability.

Under former FCC Chairman Michael Powell and his successor, Kevin Martin, the FCC has pursued a policy of deregulation as a means of spurring broadband deployment. Following the Supreme Court “Brand X” decision, which upheld the Commission’s ruling that cable modems are an information service, and therefore not subject to telecommunications regulations, the Commission soon ruled that wireline broadband Internet access service, commonly delivered by digital subscriber line (DSL) technology, should not be required to share its facilities with competitors. Despite requiring wireline providers to continue to share their facilities on a grandfathered basis to unaffiliated ISPs for one year, public and consumer groups have decried the decision as fostering a “duopoly” and severely hindering consumers’ broadband choices. In response to such concerns, Commissioner Michael Copps has promised to hold the Commission to task if broadband deployment in the United States lags behind the rest of the world by this time next year.

The Commission is also conducting public inquiries as to whether spectrum reform and wireless technologies might alleviate the broadband shortage in rural and underserved areas, while investigating broadband over power line and other nascent technologies. The Commission recently modified its advanced wireless service rules to provide greater flexibility and access to spectrum for small and rural wireless providers.

Congressional attempts to spur broadband deployment has not fared any better. Legislation introduced over the past three years, primarily tax incentives for businesses deploying high-speed connections in underserved areas, has not passed both chambers. Several broadband bills have been introduced in the 109th Congress to date, covering the right of local governments to provide broadband services, tax incentives, and streamline video franchising regulations for telcom providers. Provisions from these bills will most likely be negotiated into a more comprehensive telcom update bill as Congress moves forward. Final legislation is not expected for more than a year.

Significance for EDUCAUSE Members

Affordable access to high-speed Internet connectivity, regardless of the technology being employed, is essential for higher education to provide faculty, researchers, and students with the capacity to access information and collaborate via distance/distributed learning.

Current EDUCAUSE Position

Higher education has been in the forefront of the development and use of the Internet and can play an active role in helping the federal government develop balanced policies to overcome hurdles to broadband deployment. Besides providing technical expertise on the benefits of advanced networking and broadband, EDUCAUSE calls on the administration to provide a plan for the ubiquitous deployment of broadband networks in this country and views high-speed networks as an essential part of our national infrastructure. As an initial step in achieving these goals, EDUCAUSE recommends that the FCC:

- Ensure open access to applications and content over the Internet. Broadband providers should not be able to control which applications and content traverse their networks in favor of their own commercial offerings. Such control for short-term economic gain could severely impact free speech and the mission of the higher education community to promote the exchange of knowledge in and beyond the campus.
- Change the current definition of high-speed lines to at least 100 megabits per second (Mbps) in both directions, and consider updating this definition on a semiannual basis, according to the developments and rollout of newer, high-speed network technologies. We view a national goal of gigabit speeds to the home as being in our nation's best economic and social interest.
- Adopt a policy of regulatory neutrality for new technologies such as broadband over power lines, limiting or eliminating the unproductive debate that currently involves DSL and cable modem technologies.
- Support the right of community/municipalities to build their own fiber networks to serve the needs of their local communities in accordance with the Telecommunications Act of 1996, Section 253(a), which states that "no state or local statute or regulation, or other state or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service."

Lead Government Agencies

The Department of Commerce's National Telecommunications and Information Administration (NTIA) crafts broadband policy for the White House, <http://www.ntia.doc.gov/opadhome/opad_brbn.htm>.

The Federal Communication Commission's (FCC) stated mission is to "establish regulatory policies that promote competition, innovation, and investment in broadband services and facilities while monitoring progress toward the deployment of broadband services in the United States and abroad," <<http://www.fcc.gov/broadband/>>.

The House Committee on Energy and Commerce (<http://energycommerce.house.gov/>) and the Senate Committee on Commerce, Science, and Transportation (<http://commerce.senate.gov/>) typically take the lead on broadband-related legislation for Congress.

Resources

Net@EDU Broadband Policy Working Group (BPG), <<http://www.educause.edu/BroadbandPricingGroup/929>>.

Net@EDU BPG White Paper: "Broadband America: An Unrealized Vision," <<http://www.educause.edu/LibraryDetailPage/666?ID=NET0409>>

"EDUCAUSE and ACUTA Comments to the FCC in the Matter of Inquiry Regarding Carrier Current System, Including Broadband over Power Line Systems," <<http://www.educause.edu/asp/doclib/abstract.asp?ID=NET0314>>.

EDUCAUSE Amicus Brief Before the Supreme Court in Support of Community Networks, <<http://www.educause.edu/asp/doclib/abstract.asp?ID=NET0315>>.