

Developing Strategies for Affordable Bandwidth

What can your institution do to develop a good partnership with a broadband vendor to negotiate affordable pricing for increased bandwidth?

by **Net@EDU Broadband Pricing Working Group**

The educational vision for the next century may be based largely on the tools of the digital age, but its philosophical premises and moral commitments are the same ones that have nourished American democracy from the beginning: Education is the chief determinant of economic and social mobility, access should be universal, and costs should be low. One challenge for technology leaders in education is to develop the robust networking capabilities necessary to serve the full range of program needs and requirements of the entire education and research community. To achieve this goal, however, higher education needs access to high-speed national networks such as Abilene in order to conduct advanced research, implement sophisticated instructional applications, and provide faculty and students the tools necessary to collaborate and learn anytime, anywhere. Such access would enable campus technology administrators to concentrate on supporting bandwidth-intensive research and education applications rather than working to find ways to limit bandwidth consumption.

Unfortunately, gaining affordable access to a national network backbone has been a costly challenge for American consumers, including higher education. Inequitable distribution of networking

capabilities by geographic regions and apparent arbitrary industry pricing models have kept broadband beyond the reach of students and researchers residing in rural and less wealthy regions. Despite federal studies citing increased deployment of advanced networks to rural and underserved areas,¹ the high costs involved in obtaining long-haul, high-bandwidth service (OC-3 and above) have slowed research and education institutions from gaining access to local, regional, and national networking arenas. The promise of the Telecommunications Act of 1996—that a deregulated telecommunications marketplace would spur competition and deployment of advanced networks and hence lower prices—has not borne fruit as rapidly as needed. Inequities in the marketplace have pushed higher education institutions to reexamine their advanced network options and to craft alternative strategies for gaining broadband access.

Broadband price discrepancies that appear to be related to distance or geographic location compound the frustrations of campus chief information officers (CIOs). Such discrepancies have left many CIOs concerned that they are not getting the best deals for providing broadband access to their community and wondering whether broadband provider pricing models truly reflect the

deployment and maintenance costs associated with laying the necessary fiber. Lack of information is a problem. The higher education community is typically unaware of the inherent costs incurred by the broadband providers while broadband vendors are unwilling to share their pricing models, citing fears that proprietary information will end up in competitors' hands.

Broadband pricing for businesses located in urban areas has been declining. However, this trend has not applied to all economic sectors of the country, including the higher education community.² Some prohibitive factors that have hindered higher education access have been out of our community's control, in particular, lack of competition in the local access market. Traditional broadband vendors—cable and telephone companies—have not been willing to assume risk of deployment to rural and underserved areas, and newer companies are still building their networks.

While heartened by the potential for broadband alternatives, higher education institutions cannot wait for the marketplace to meet their needs. Some colleges and universities have already taken different approaches to leveraging resources to gain access to existing national advanced networks (for example, Abilene) at affordable rates. Some

have partnered with state agencies to utilize state resources as a negotiating tool. The University and Community College System of Nevada worked with the Nevada Department of Transportation and the Department of Information Technology to solicit proposals to provide interstate connectivity between Reno/Carson City and Las Vegas as well as connectivity from Reno and Las Vegas to major research network gigaPoPs (gigabit points of presence) in northern and southern California. In exchange for the use of the Interstate 80 right-of-way corridor across the entire state of Nevada, Williams Communications agreed to provide free high-capacity connections between Reno and Las Vegas and from Reno to Sacramento and Las Vegas to Anaheim.

The University of Alaska took the approach of forming a bandwidth consortium. Pooling the resources of the federal research agencies that did business with it, the university prepared a request for proposals (RFP) for bandwidth. The need for the RFP was negated, however, when two new fiber installations made contributions of bandwidth for education and research. While admittedly any bid to the consortium would not have approached an OC-3 for the money available, this process showed broadband vendors that higher education is willing to lay the groundwork necessary to make our community a more attractive market. In the meantime, the consortium will need to discuss cost sharing once the contribution period ends.

While many higher education leaders concentrate on gaining access to Abilene, others have already started considering what will be the best alternative organizational strategies for gaining access to the future, post-Abilene environment of advanced networks. What is missing is an overall organizational strategy and mechanism that would enable the broader research and education community to act

as one to develop a working relationship or partnership with broadband providers. Higher education and broadband vendor leaders have offered existing and untried strategies that may be successful on a local and regional level, but their scalability to a national organizational strategy is questionable.³

In the absence of such a national organizational strategy, most institutions are still alone in trying to meet their bandwidth needs and dealing with broadband

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vendors. Some points to consider in these circumstances include:

- Remember that the education and research community is a market worth investing in.

The broadband vendor community needs to be reminded that the education sector can be as profitable as the commercial sector, albeit in the long term. The size and scope alone of the higher education community, along with its ties to federal and state research initiatives, make it a viable market for broadband transport, equipment, and software vendors.

- Assume that higher education cannot rely solely on state and federal funding to meet its perceived needs.

While higher education has been able to leverage government grants to gain access to advanced networking, particularly those institutions involved with the National Science Foundation EPSCoR program, there is no guarantee that funding will continue indefinitely. Also, such

programs are competitive and can only help a fraction of the education sector.

- Exchange information with other education institutions and networks on network architecture, broadband pricing, access alternatives, and history of contracts.

Following the mantra "knowledge is power," education technology leaders can leverage their negotiations with broadband vendors if they know what other institutions are paying for similar services. This will become more important as more broadband vendors' networks become available.

- Work with the broadband vendor and other telecom-oriented communities to develop special relationships.

Many broadband vendors do not understand the needs of education and research networks. Explaining to vendors what your needs are and being willing to discuss strategies that may be unique to your institution is a potential first step to gaining long-term broadband access. *e*

Endnotes:

1. *Deployment of Advanced Telecommunications Capability: Second Report* (Washington: Federal Communications Commission, 2000). [http://www.fcc.gov/Bureaus/Common_Carrier/Orders/2000/fcc00290.pdf]
2. From a presentation by Robert Cohen of the Economic Strategies Institute, "Pricing for Advanced Network Connections," made to the Net@EDU membership, February 7, 2000. [<http://www.educause.edu/netatedu/groups/pricing/cohen.ppt>]
3. Net@EDU Broadband Pricing Working Group, "Alternative Organizational Strategies for Future Cost-Efficient Access to National Networking," October 1, 2000. [http://www.educause.edu/netatedu/groups/pricing/west_100600.doc]

The Net@EDU Broadband Pricing Working Group has been working with the broadband vendor community for over a year on this issue. We welcome your input and participation and invite you to view our progress at <http://www.educause.edu/netatedu/groups/pricing/>.