As the demand for cellular telephones and a myriad of other wireless applications has burgeoned over the last few years, it has become clear that the limited supply of radio spectrum is painfully inadequate to meet the increasing demands placed upon it. For example, one of the much-hyped new wireless applications is Third Generation (3G) cellular telephone service, the “next generation” of wireless communication. 3G is an interoperable system that will allow the user to move between service providers while still enjoying features such as high bit rates for circuit and packet data, broadband access at up to 2 Mbps, and multimedia services. Yet when a federal study was conducted to identify several spectrum ranges for 3G use, two of the ranges identified as optimal for 3G use were already occupied: the 1755–1850 MHz band, used by the Department of Defense, and the 2500–2690 MHz band, currently allocated for educational use for the Instructional Television Fixed Service (ITFS).

The Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA) jointly manage the use of radio spectrum, which is divided into bands and designated for specific uses and, in some cases, for specific users. The ITFS spectrum was set aside in the 1950s for educational broadcasting. Currently, more than 2,000 educational institutions and non-profits serving these institutions are using this spectrum for continuing education, video programming, and teacher training. Of these, 331 colleges and universities hold licenses for 752 ITFS stations. In addition to the traditional one-way video service offered over ITFS channels, the FCC has permitted educational institutions to negotiate agreements with private telecommunications companies to provide two-way high-speed wireless Internet access over these channels as well, through Multichannel Multipoint Distribution Service (MMDS). This has resulted in a win-win situation: educational institutions are able to take advantage of the expertise and resources of industry; and businesses are able to lease the extra channel capacity they need to make MMDS possible.

ITFS has proven to be a valuable asset for higher education both directly through the services provided and indirectly as a leasable asset. Educational institutions are using the spectrum in distance education and have the opportunity of using this spectrum for collaborating with vendors to provide broadband wireless services, through MMDS, to the community. Unfortunately for the schools, most of these agreements are contingent on the continuance of ITFS in the 2.5 GHz range, making it even more critical for education to retain access to this spectrum.

On January 5, 2001, the FCC released a Notice of Public Rulemaking (NPRM) requesting opinions on which spectrum to use for 3G services and identifying the 2.5 GHz band as one of the principal candidates for this technology. Comments were due by February 22 and reply comments by March 9, 2001. The response to the NPRM on behalf of education was dramatic. More than one hundred higher education associations, including EDUCAUSE, have joined the WEB NOW campaign, jointly sponsored by the ITFS Spectrum Development Alliance and the National ITFS Association, in an attempt to prevent the ITFS spectrum from being reallocated in whole or in part from educational use. EDUCAUSE also submitted additional comments supporting higher education’s rights to this resource. Also in January, the NTIA began a study of the 1.7 GHz band held by the Department of Defense.

Final reports from both the NTIA and the FCC were issued on March 30, 2001. The FCC report emphasized the good use to which the 2.5 GHz band is being put and the considerable costs involved in either segmenting or reallocating the current license-holders to another

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band. The NTIA report concluded that the Department of Defense will not be able to relinquish the 1.7 GHz band. For the time being, it seems likely that the ITFS spectrum will not be reallocated.

Yet the debate is far from over. As wireless applications proliferate and the radio spectrum becomes increasingly crowded, wrangling over spectrum rights will become more common unless the United States develops a new method of managing the finite supply of spectrum. In the ITFS case, the spectrum is a valuable resource for schools and may prove to be a significant asset for providing broadband access in areas where wired access is simply not feasible. ITFS is indispensable to education in its present format, and with the many possibilities of MMDS, it is of immense future value as well.

Notes
2. On October 13, 2000, President Bill Clinton signed an executive order directing the federal agencies to study the spectrum identified at the 2000 World Radiocommunication Conference and to evaluate which of these ranges could be reallocated or shared for 3G use in the United States. Spectrum for 3G systems must be allocated by July 2001 in time for the spectrum license auction scheduled for September 30, 2002.
3. For further information on this campaign, see <http://www.itfs.org>.
4. These comments can be found on the EDUCAUSE Web site at <http://www.educause.edu/policy/policy.html>.

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