

# Online Journal of Space Communication

---

Volume 2  
Issue 5 *Satellites Address the Digital Divide*  
(Fall 2003)

Article 17

---

June 2021

## Bridge Over Troubled Skies: Satellite Broadband and the Digital Divide

Phillip L. Spector

Follow this and additional works at: <https://ohioopen.library.ohio.edu/spacejournal>



Part of the [Astrodynamics Commons](#), [Navigation, Guidance, Control and Dynamics Commons](#), [Space Vehicles Commons](#), [Systems and Communications Commons](#), and the [Systems Engineering and Multidisciplinary Design Optimization Commons](#)

---

### Recommended Citation

Spector, Phillip L. (2021) "Bridge Over Troubled Skies: Satellite Broadband and the Digital Divide," *Online Journal of Space Communication*: Vol. 2 : Iss. 5 , Article 17.

Available at: <https://ohioopen.library.ohio.edu/spacejournal/vol2/iss5/17>

This Critical Perspectives is brought to you for free and open access by the OHIO Open Library Journals at OHIO Open Library. It has been accepted for inclusion in Online Journal of Space Communication by an authorized editor of OHIO Open Library. For more information, please contact [deborded@ohio.edu](mailto:deborded@ohio.edu).

## Bridge Over Troubled Skies: Satellite Broadband and the Digital Divide

Phillip L. Spector  
Partner at Paul, Weiss, Rifkind, Wharton & Garrison LLP  
Washington, DC\*

---

A few years ago, at the height of the Internet boom, pundits often spoke of "Internet time." They meant many things by this reference, but certainly there was a recognition that a key strength of the Internet is the fast communications speeds involved. While the concept of "Internet time" has faded somewhat with the bloom on the Internet rose, it is still the case that ever-increasing numbers of Americans and others in the world have access to high-speed Internet services. Through this access, they are able to refer quickly to a myriad of resources that have made the Internet an essential part of all of our daily lives.

Virtually all of these high-speed Internet connections, at least in residences, are provided via one of two technologies: cable modem, or digital subscriber lines ("DSL"). For those in rural and remote areas, however, these two forms of wired Internet service are often not available. Thus, while there is a well-recognized "digital divide" along income lines -- with those who are better off generally receiving better, faster, cheaper Internet connections -- there is also a "digital divide" among those living in urban and rural areas. The obvious bridge for this latter divide is satellite technology, which is indifferent to the vast distances of rural areas.

Satellite delivery of high-speed Internet content, however, has lagged badly behind cable modem and DSL deployment. A survey completed in March 2003 concluded that, of the 31.4 million Americans with high-speed Internet access at home, 21 million receive such access via cable modem, 9 million via DSL, and just 1.4 million (or 4.5%) via satellite. The study also found that, among those who do not have access to high-speed cable modem and DSL options, interest in such services is high, with 61% stating they would subscribe to a high-speed service if it were available.

Three years ago, in April 2000 (an eternity in Internet time), the National Telecommunications and Information Administration of the Department of Commerce ("NTIA") issued a report on ""Advanced Telecommunications in Rural America." At that time, the authors of the report wrote:

Satellite broadband service has particular potential for rural areas as the geographic location of the customer has virtually no effect on the cost of providing service. Several broadband satellite services are planned. Their actual deployment remains uncertain...

Today, in May 2003, there is regrettably much less uncertainty about many of these new broadband satellite projects; it is now clear that most of them will never be built. There is simply not money available in the capital markets for hugely expensive satellite projects, often involving untested technology, with uncertain market potential, in two sectors (telecommunications and the Internet) that were once hot, but today clearly are not.

But expensive new satellite systems need not be launched in order to bring the benefits of broadband access to rural areas of the United States and elsewhere in the world. Much of the world's landmass is today covered by conventional satellite systems, and most of these systems have capacity available that could be dedicated to broadband services. The challenge for the satellite industry has been to develop effective, affordable earth station and other ground-based technologies that use existing satellites' capabilities to deliver two-way broadband to businesses and residences located in rural and remote areas.

Just over one year ago, the U.S. Federal Communications Commission ("FCC") issued a report resulting from its inquiry "concerning the deployment of advanced telecommunications capability to all Americans." This report expressed particular enthusiasm about the role of satellites, with the FCC stating that: Because satellite services are widely available in most, if not all of the United States, the successful deployment of the new generation of satellite service has the potential to extend the availability of advanced services to almost all Americans.

But the FCC has no authority to take any actions that would have a meaningful impact on the hoped-for "successful deployment" of satellite broadband services, and in fact the examples of "the new generation of satellite services" cited by the FCC -- StarBand and Hughes' DirecWay service -- are both widely regarded today as failures.

From the foregoing analysis, two conclusions are clear: that the Federal Government, along with many in the private sector, believe that satellites hold great potential for providing broadband services to rural areas; and that, despite the optimism of a few years ago, satellites are playing almost no role in the delivery of broadband services today. Thus the question is fairly raised: what can be done to encourage the development of high-speed, satellite-delivered broadband services -- services that operate as well as cable modem and DSL services, and that are universally available and affordable?

In the past, faced with somewhat analogous situations involving rural and remote areas, the Federal Government has stepped in with subsidies and other programs, such as, for example, with respect to rural electrification and rural telephone service. The current satellite broadband situation would seem an ideal one for similar Federal Government intervention, and a meaningful start could be made without having an impact on the deficit-ridden federal budget. The Federal Government collects today from all telecommunications carriers (who typically

pass the cost along to their users) an amount of funding designated for so-called "universal service."

While the Universal Service Fund was initially dedicated to the extension of telephone service into rural areas, more recently the program, sometimes known today as "e-rate," is supposed also to make funding available for broadband and Internet connectivity. But because the grant formulas are relatively complex, and because there is no governmental policy pushing for satellite broadband, those in the best position to develop new two-way broadband via satellite services -- satellite operators and satellite equipment vendors -- do not today have any incentive to seek Federal Government funding for such initiatives.

There have been, from time to time, efforts made in the U.S. Congress to create funding for broadband access in rural areas, including through the development of satellite services. But these efforts have been scattered and, despite the clout of the rural interests in the U.S. Congress, have not led to any meaningful grant programs, under the e-rate approach or any other. Hence it will take a new initiative, presumably pushed by the Administration, with the support of the Congress, to create the necessary "jumpstart" for the development and deployment of broadband via satellite in rural areas.

It is important to emphasize that no technological leaps of faith are necessary in the development of such an initiative. The satellite capabilities exist already, in orbit, with sufficient capacity. The ground technologies are well-known, but developing them in a way that allows for relatively inexpensive deployment, and with seamless connectivity with other networks, remains an elusive goal. The challenge, however, is far less daunting than the challenges that were associated with ubiquitous rural electrification and rural telephony, and yet our national objectives in those areas were achieved many decades ago.

In the past, when worthy goals had been agreed upon among key Members of Congress and key U.S. Government agencies, such as the FCC and the NTIA, there has been a basis for mobilizing resources to achieve the goals. There is no question that the goal of making broadband more available in rural and remote parts of the United States, and indeed the world, is widely shared, with broad consensus among those most influential in the United States. It will take a few determined advocates, including advocates from the satellite sector, to push the Congress and the Administration in the direction in which they are already inclined to move, to the great benefit of the satellite industry and ultimately to the benefit of all who live in rural and remote areas.