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Background

Executive Summary

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BROADBAND TELECOMMUNICATIONS IN THE 21ST CENTURY: A LEGISLATIVE REPORT CARD

ADAM D. THIERER

Congress is currently considering five bills that address America's limited high-speed telecommunications (or "broadband") capability—especially in terms of the Internet and advanced communications services. This "broadband telecommunications crisis" is due in part to the tremendous increase in consumer demand for online access, but it is largely the result of the highly intrusive and complex system of federal, state, and local regulations governing telecommunications.

An alternative to this outdated framework—explained in more detail in a companion paper, "Broadband Telecommunications in the 21st Century: Five Principles for Reform"—is based on five key principles that enabled the small niche market of high-tech computers to become America's largest, most innovative, export-enhancing and job-producing industry within the past 20 years. Principles like deregulation and free markets, legal simplicity and stability, uniformity and regulatory parity, a single open market system, and regulatory agency constraint were crucial components of the government's "hands-off" approach to the computer industry. Simple, uniform, and time-tested standards, such as strict contract enforcement, patent and trademark protection, property rights, voluntary standard-setting and common-law

resolution of disputes, and a free and open market, were also applied.

Unfortunately, the broadband telecommunications bills now before Congress do not fully embrace these principles. For the most part, they promote an approach that merely tinkers with the current system. Worse, some propose new legal theories and regulatory regimes to micromanage desired market outcomes. However, two of these bills do hold some promise: the Internet Regulatory Freedom Act of 1999 (S. 1043) and the Internet Freedom and Broadband Deployment Act of 1999 (H.R. 2420). Both measures propose a fair degree of deregulation and build on the "hands-off" model of legal governance. But they are not comprehensive enough to ensure increased accessibility to broadband services and technologies in the short term.

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Congress should use the five core principles to determine how each bill would enhance the accessibility and functionality of the broadband market. Moreover, each bill should be evaluated based on the following industry-restrictive standards:

- Freedom from regulated boundaries;
- Freedom from mandatory access for incumbent carriers;
- Freedom from mandatory access for other carriers; and
- Freedom from state and local interference.

Bill	Sponsor	Grade
S. 1043	McCain	A
H.R. 2420	Tauzin-Dingell	B
S. 877	Brownback-Nickles-Craig	C
H.R. 1685/1686	Goodlatte-Boucher	D
H.R. 2637	Blumenauer	F

As the table shows, using these standards, the five bills before Congress would receive very different grades based on the amount of regulation they encourage. More can be done to improve these bills and ensure the development of a vibrant broadband telecommunications industry for the 21st century.

—Adam D. Thierer is the Alex C. Walker Fellow in Economic Policy in the Thomas A. Roe Institute for Economic Policy Studies at the Heritage Foundation.



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Backgrounder

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ADAM D. THIERER

Five bills currently before Congress attempt to address the shortage of high-speed telecommunications capacity, especially for accessing the Internet. The demand for such “broadband” services is skyrocketing, as Peter Huber, a Senior Fellow at the Manhattan Institute for Policy Research, explained to Congress last March: “Demand for digital bandwidth is increasing at annual rates in the range of 50 to 200 percent.” And that demand “will increase at least five-fold over the next few years.” Unfortunately, as Huber noted, the “existing phone, cable, broadcast, wireless, and satellite networks still rely on yesterday’s analog technology.” Already at capacity, they cannot handle an increase in demand.

This “broadband crisis” is generating concern that telecommunications firms will not roll out broadband services in a timely fashion to all Americans. But not all of the five proposals before Congress will help solve the problem or spur investment in new telecommunications technologies and services. Indeed, several policymakers advocate continuing today’s outdated and unworkable regulatory regime of price controls, entry barriers, line-of-business controls, geographically

divided markets, and restricted choice—practices that to a large extent created the very problem they seek to solve. The heavy-handed, highly intrusive complex system of telecommunications regulations is merely another example of a misguided industrial policy that will thwart investment, innovation, competition, and entrepreneurialism.

An alternative to this outdated framework¹ is based on five core principles of market-based economics that enabled the small niche market of high-tech computing to grow into America’s largest and most innovative export-enhancing and job-producing industry over a 20-year span. Principles such as deregulation and free markets, legal simplicity and stability, uniformity and regulatory parity, a single open market system, and reg-

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1. Explained in detail in Adam D. Thierer, “Broadband Telecommunications in the 21st Century: Five Principles for Reform,” Heritage Foundation *Background*er No. 1317, September 2, 1999.

ulatory agency constraint accompanied a generally “hands-off” approach to regulating the industry. Simple, uniform, and time-tested standards, such as strict contract enforcement, patent and trademark protection, property rights, voluntary standard-setting and common law resolution of disputes, and a free and open national market, greatly enhanced this approach.

The same approach can facilitate the rapid evolution and deployment of broadband technology and services across America. Change may well be the only constant in today’s communications industry. Markets once thought closed to competition are becoming highly competitive, and there is no longer an “essential facility” or “bottleneck monopoly” restraining telecommunications, let alone the broadband data sector.

Congress should ensure that any telecommunications legislation it considers incorporates the five time-tested principles listed above, as well as the hands-off approach that allowed today’s vibrant and consumer-friendly computer industry to evolve. By grading each bill based on the degree to which it promotes regulation or deregulation, Congress can discern the correct approach to telecommunications policy for the future.

THE FIVE PROPOSED LEGISLATIVE APPROACHES

Over the past year, the combination of the public’s desire for rapid broadband deployment and caustic criticism of the Telecommunications Act of 1996 and Federal Communications Commission (FCC) regulatory activities captured the attention of Congress. The five bills before Congress this session share several characteristics, such as their attempts to encourage through legislation the accelerated deployment of high-speed broadband and Internet access—especially in rural areas. They all focus on *wireline* broadband policy but do little to promote reforms that will encourage additional *wireless* broadband deployment. They also fail to address such broad issues as the overall powers of the FCC or the existence of various regulatory distinctions and asymmetrical legal treatment of the technologies. Essentially, these bills are

pragmatic attempts to keep the existing legal framework intact and deal with a comprehensive industry crisis in a limited and restrained fashion.

Grading the Bills

Despite such limitations, however, the Internet Regulatory Freedom Act of 1999 (S. 1043), sponsored by Senator John McCain (R-AZ), and the Internet Freedom and Broadband Deployment Act of 1999 (H.R. 2420), sponsored by Representatives Billy Tauzin (R-LA) and John Dingell (D-MI), do attempt to deregulate the broadband data market, offer greater freedom to communications carriers, and adopt a more hands-off approach to high-speed data transmission.

By comparison, the Broadband Internet Regulatory Relief Act of 1999 (S. 877) sponsored by Senators Sam Brownback (R-KS), Don Nickles (R-OK), and Larry Craig (R-ID); the Internet Freedom Act of 1999 (H.R. 1686) sponsored by Representatives Bob Goodlatte (R-VA) and Rick Boucher (D-VA); and the Consumer and Community Choice in Access Act of 1999 (H.R. 2637) sponsored by Representative Earl Blumenauer (D-OR) would allow the government to micromanage and further regulate the deployment process.

Congress should examine how each of these bills would enhance the accessibility and functionality of the broadband market. To do so, Congress should apply the following four standards that, at minimum, a telecommunications bill should meet:

- **Regulatory freedom.** The Bell operating companies, like all other carriers, should be free to transport data (or non-voice traffic) across long-distance boundaries.
- **Freedom from mandatory access for incumbent carriers.** Incumbent local exchange carriers should be free from mandatory forced access, unbundling, and resale requirements regarding the transmission of data (or any non-voice traffic).
- **Freedom from mandatory access for other carriers.** The cable industry or any other sector of the communications industry should be free

from mandatory forced access, unbundling, and resale requirements.

- **Freedom from state and local interference.** State and local actions that would interfere with the smooth rolling out of broadband services should be prohibited.

As Table 2 shows, using these restrictive, industry-specific criteria to evaluate the bills produces very different grades.

S. 1043: Internet Regulatory Freedom Act of 1999

S. 1043, introduced by Senator John McCain (R-AZ), takes the most straightforward and deregulatory approach to broadband telecommunications policy. It satisfies the first two criteria by offering Bell operating companies regulatory freedom to provide Internet and advanced telecommunications services across long-distance (or InterLATA) boundaries. And it ensures that mandatory open access, unbundling, and resale requirements are not imposed on communications companies seeking to develop and/or deploy broadband services. The McCain bill defines “Internet services” broadly as:

- 1) the transmission of writing, signs, pictures, or sounds by means of the Internet or any other network that includes Internet protocol-based or other packet-switched or equivalent technology, including the facilities and equipment exclusively used to provide those services; and, (2) the transmission of data between a user and the Internet or such other network.

The proposal would not interfere with the requirements of the Telecommunications Act to allow open access, unbundling, and resale activities in narrowband telephony; however, it would quarantine the Internet as well as broadband services and technologies from such burdensome regulations. Thus, claims that the bill represents a back-door attempt to “reopen the Telecom Act” have no merit.

By defining Internet services broadly, S. 1043 satisfies the third criterion and ensures that the FCC will not be able to impose forced access, unbundling, and resale requirements on communications carriers, including cable providers. It also satisfies the fourth criterion by keeping the national broadband market free of unnecessary state and local interference. In specifying that a “provider of Internet services may not be considered to be a carrier providing intrastate communication service,” it essentially preempts state and local regulation of broadband deployment and Internet transactions.

The McCain bill satisfies the minimum criteria, but it could be improved by expanding its deregulatory framework to cover all industry sectors. Of the bills currently before Congress, the McCain bill receives an “A” grade for its straightforward deregulatory approach to broadband policy.

H.R. 2420: Internet Freedom and Broadband Deployment Act of 1999

H.R. 2420, introduced by Representatives Billy Tauzin (R-LA), chairman of the House Commerce Committee’s Subcommittee on Telecommunications, Trade and Consumer Protection, and John Dingell (D-MI), the Commerce Committee’s ranking minority member, is another respectable attempt to provide additional freedoms to operate in the broadband market. However, it also has a few technical flaws.

Regarding long-distance restrictions on data services, H.R. 2420 would give the Bell operating companies complete freedom to offer broadband services across artificial boundaries, or local access and transport areas (LATA), as long as they do not carry voice-based traffic across those boundaries until other conditions are met.

Regarding the second and third criteria, H.R. 2420 limits the authority of the FCC and the states to regulate the “rates, charges, terms, or conditions for, or entry into the provision of, any high-speed data service or Internet-access service,” or the facilities used to provide such service. Resale and mandatory unbundling requirements will not be

Table 2

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A Comparison of the Current Broadband Bills Before Congress

	Freedom From Long-Distance (InterLATA) Restrictions on Bell Operating Companies	Freedom From Forced Access Mandates on Local Exchange Carriers (LECs)	Freedom From Forced Access Mandates on Other Carriers	Freedom From State and Local Interference	Grade
S. 1043 McCain	Complete InterLATA freedom to offer data (non-voice) services across LATA lines.	No resale or forced access mandates on LECs.	No resale or forced access mandates on cable companies or other providers.	No state and local regulation of Internet services allowed.	A
H.R. 2420 Tauzin-Dingell	InterLATA freedom to offer data (non-voice), <i>transmitted, "at a rate [of speed] that is generally not less than 384 kilobits per second (kbps) in at least one direction."</i>	No required resale or forced access for data transmission; <i>incumbent carrier must offer Internet service providers access to network and collocation of equipment.</i>	No resale or forced access requirements on cable companies or other broadband providers.	As bill states, "Internet access services are inherently interstate and international in nature, and should therefore not be subject to regulation by the States."	B
S. 877 Brownback-Nickles-Craig	<i>No freedom granted for Bell operating companies from InterLATA restraints.</i>	Advanced services (200 kbps downstream, 128 kbps upstream) of incumbent carriers not subject to resale or forced access <i>if 70% of network in a state is DSL-capable.</i>	No resale or forced access requirements on cable companies or other broadband providers.	Preempts regulation of incumbent carrier's advanced services outside territory. <i>Freedom from state regulation in incumbent territory only after satisfying other requirements.</i>	C
H.R. 1685/1686 Goodlatte-Boucher	Complete InterLATA freedom granted to Bell operating companies to offer data (non-voice) services across LATA lines.	<i>Incumbent LECs must file deployment plan with state. If approved, LEC gains regulatory relief. Plan no longer applies once another broadband provider exists or the ILEC offers capabilities over 70% of its network. Broadband defined as 200 kbps in at least one direction.</i>	<i>Requires broadband providers to open their networks to unaffiliated carriers on terms similar to those it would offer its own affiliates.</i>	Incumbent carriers granted freedom from state and local regulation <i>only after they satisfy a broadband deployment plan. Not clear whether other carriers will be granted freedom from state and local regulation.</i>	D
H.R. 2637 Blumenauer	<i>No freedom granted for Bell operating companies from InterLATA restraints</i>	<i>No provision.</i>	<i>Requires that FCC undertake a proceeding to treat broadband access to Internet services over cable systems as a form of communications service that should be subjected to open access rules.</i>	<i>Encourages local steps to require forced access.</i>	F

Note: Italicized text indicates areas in proposed legislation that could be improved.

imposed on high-speed data offerings by cable companies or other communications carriers.

However, H.R. 2420 has two important weaknesses. First, it defines “high speed data services” somewhat more narrowly than the McCain bill does by including “the offering of a capability to transmit, using a packet-switched or successor technology, information at a rate that is generally not less than 384 kilobits per second in at least one direction.” This 384 kilobit-per-second threshold may artificially limit the deployment of certain data services that do not initially offer greater capacity. This restriction should be eliminated to prevent an arbitrary threshold for data service deregulation.

Second, although it provides freedom from resale and unbundling requirements for data transmission, the Tauzin–Dingell bill would require incumbent local exchange carriers to provide Internet users with access to any Internet service provider (ISP) if need be. To do so, it requires incumbent carriers to provide ISPs with the “right to acquire the facilities and services necessary to interconnect with such carrier’s high speed data service for the provision of Internet access service; and...the ability to collocate equipment...to the extent necessary to achieve [these] objectives....” This provision would mean that incumbent local exchange carriers would have to take steps to provide ISPs with easy access to customers through their network without going so far as to demand that the local carriers provide full-blown open access or unbundled network elements to competitors at a discounted resale rate. This is not an overly burdensome requirement, but it does interfere unnecessarily with the free market.

The opening line of H.R. 2420 satisfies the fourth criterion on state and local interference in its opening line by stating that “Internet access services are inherently interstate and international in nature, and should therefore not be subject to regulation by the States.”

Compared with the other bills, the Tauzin–Dingell bill’s pro-deregulation approach deserves a “B” grade despite its minor flaws.

S. 877: Broadband Internet Regulatory Relief Act of 1999

The Brownback–Nickles–Craig bill, S. 877, takes a more cautious and less deregulatory approach to broadband deployment. First, it contains no provision to grant the Bells the freedom to transport data across long-distance (InterLATA) boundaries to their customers. This is significant. Second, it defines “advanced services” narrowly as

a communications service or combination of such services providing a digitally encoded signal downstream from a provider at a rated speed of 200 kilobits per second or above and upstream from a consumer to a provider at a rated speed of 128 kilobits per second or above for access to the Internet or other interstate information and data services.

Detailed definitions like this one are likely to create unnatural thresholds within the broadband marketplace that could delay deployment of service in certain areas.

S. 877 also creates a cumbersome process through which local exchange carriers can gain freedom from the forced access, unbundling, and mandatory resale requirements of the Telecommunications Act in order to provide advanced services. Local exchange carriers can escape infrastructure-sharing requirements for new broadband offerings only by making 70 percent of the system within a given state “digital subscriber line” (DSL) capable. This means that 70 percent of the incumbent telephone company’s network would have to be capable of carrying advanced services before deregulation could occur, as narrowly defined above.

It is unclear why such an artificial distinction or subjective threshold should be employed to determine when deregulation should occur, especially when the ILECs’ competitors do not face the same burdens. The Brownback bill would only add to the lack of parity in the communications market by giving cable competitors and others an advantage over incumbent phone carriers. This is ironic

because cable competitors have made significant gains already in the high-speed data market.

Although the sponsors of S. 877 may hope that this requirement encourages local exchange carriers to roll out advanced broadband services on a timely basis, it may in fact discourage them. They may fear falling short of the artificial 70 percent threshold. This could occur given the reluctance of the bill's sponsors to offer carriers full pricing flexibility for advanced services until they petition the FCC and receive relief from price regulation.

Deregulation should be unconditionally granted so that carriers can provide broadband services on whatever schedule and by whatever method they feel is most appropriate. Although the Brownback bill takes a cumbersome, micromanaged approach to data deregulation for local carriers, it does not include resale or forced access mandates for cable companies or other broadband providers.

S. 877 is somewhat unclear regarding state and local preemption of broadband services. Although regulation of advanced service offerings by ILECs *outside* their territory is preempted, incumbent carriers are granted freedom from state regulation in their territory only after other requirements are satisfied. Also, the bill does not make clear whether cable or other broadband providers can escape unjustifiable state and local regulatory efforts.

S. 877, then, takes a half-hearted approach to deregulation. Compared with the other bills, it earns a grade of "C."

H.R. 1686: Internet Freedom Act of 1999

H.R. 1686, sponsored by Representatives Bob Goodlatte (R-VA) and Rick Boucher (D-VA), was introduced in the House Commerce Committee. Its companion bill, the Internet Growth and Development Act of 1999 (H.R. 1685), was introduced in the Judiciary Committee.

These bills contain virtually identical language on broadband deployment policy. They essentially sanction regulatory blackmail in order to force telephone companies to roll out broadband services, defined as "transmission services in excess of

H.R. 1686's Conditions for Offering Broadband Services

Within 180 days after the effective date of this section, each local exchange carrier shall submit to the State commission in each State in which such carrier does business a plan to provide broadband telecommunications service in all local exchange areas in which such carrier has telephone exchange service customers as soon as such broadband telecommunications service is economically reasonably and technically feasible. The plan shall include all terms and conditions, including pricing, under which the services shall be provided. The test of economic reasonability and technical feasibility shall be made separately by the local exchange carrier for each local exchange, and the plan shall be considered certified 45 days after submission unless the State commission rejects the plan within such 45 days. Upon rejection of a plan, successive plans shall be submitted until approval is obtained. The plan shall be implemented within 180 days of the certification of the plan in each local exchange in which the provision of the service is both economically reasonable and technically feasible. Upon certification of its plan, the carrier shall be obligated by terms of the plan (including any modifications that it requests that are thereafter certified) but shall otherwise provide such services free of Federal and State price, rate, rate of return, and profit regulation. Upon a determination by the State commission that a local exchange is served by another provider of broadband telecommunications services, or any broadband Internet access transport provider, or upon a determination by such State commission that the local exchange carrier makes broadband telecommunications services available to 70 percent of the access lines in an exchange, a local exchange carrier shall no longer be obligated by the terms of any such plan in such local exchange.

200 kilobits per second in at least one direction.” Although they grant Bell operating companies the freedom to transmit data across InterLATA boundaries, H.R. 1685/1686 would allow local exchange carriers to offer broadband services only after they have met meticulously detailed conditions (see box on Page 5).

Worse, beyond demanding that the incumbent carriers satisfy hopelessly convoluted requirements before gaining regulatory relief, the Goodlatte–Boucher measures impose forced access on other broadband carriers such as cable companies. H.R. 1685/1686 states:

It shall be unlawful for a broadband access transport provider to engage in unfair methods of competition or unfair or deceptive acts or practices, the purpose or effect of which is to discriminate in favor of a service provider that is affiliated with a broadband access transport provider or to restrain unreasonably the ability of a service provider that is not affiliated with a broadband access transport provider from competing in its provision of any of the services provided by a service provider....

Although this stipulation may sound harmless, in practice it would be devastating since it essentially makes exclusive relationships in the broadband market impossible. In other words, no broadband provider could offer exclusive, bundled services. This could make risky and expensive investments up front less likely, for fear of the provider’s not being able to recoup the initial costs over time.

ILECs are granted freedom from state and local regulation, but only after they satisfy the meticulously detailed deployment plan outlined in the sidebar. Finally, the bills do not make clear whether other carriers would be granted freedom from state and local interference as well.

H.R. 1685 and H.R. 1686 represent heavy-handed efforts to micromanage specific market outcomes by providing minimal and conditional

deregulation of certain services and imposing regulatory burdens on new broadband carriers. Their only redeeming quality lies in the long-distance (InterLATA) freedoms they offer the Bell operating companies. Therefore, compared with the other four bills, the Goodlatte–Boucher bills’ pro-regulatory framework earns a “D.”

H.R. 2637: Consumer and Community Choice in Access Act of 1999

Although H.R. 2637, introduced by Representative Earl Blumenauer (D–OR), is not a comprehensive broadband telecommunications bill, it is important because it would impose new regulations on cable providers in the name of “broadband access.” The measure may well be the worst possible solution to the broadband crisis since it proposes more rather than fewer regulations. And although H.R. 2637 does not specify whether incumbent local exchange carriers will be subject to forced access, unbundling, or resale rules, it does demand that the FCC take steps to treat broadband access to the Internet over cable systems as a communications service subject to forced access rules:

The Commission may require cable operators that provide interconnection, using cable system facilities, with the Internet to offer such interconnection on terms and conditions that are fair, reasonable, and nondiscriminatory. Such requirements shall include the obligation to provide direct or indirect interconnection with the facilities and equipment of any Internet service provider on terms and conditions that are functionally and economically equivalent to the interconnection provided to any other Internet service provider, whether or not affiliated with the cable operator.²

The Blumenauer bill takes a step backward in its approach to jurisdictional matters by stating that “Nothing in this Act restricts or limits the authority of a State or local franchising authority.” In

2. H.R. 2637.

other words, H.R. 2637 encourages state and local regulators to take actions that overlap federal efforts. The bill's approach could be summarized as "When in doubt, impose more regulation." Although its argument for openness and non-discriminatory access will likely appeal to some policymakers, they are merely code words for additional industry regulation. Therefore, based on the criteria above and compared with the other bills before Congress, the pro-regulatory Blumenauer bill deserves a dismal "F"

CONCLUSION

Of the legislative approaches available to Congress at this time, only the proposals in Senator McCain's bill (S. 1043) offer unfettered deregulatory freedom that would encourage increased wireline broadband growth in the near term. The Tauzin–Dingell bill (H.R. 2420) provides a fair degree of deregulation and ensures an open market for broadband deployment. It therefore ranks a close second behind S. 1043. These bills are still not comprehensive enough, but they do build on the computer industry's hands-off model described in "Broadband Telecommunications Policy for the 21st Century: Five Principles of Reform."

Regrettably, the other bills reject this model in favor of the present system of managed competition, or deregulatory industrial policy. The Brownback–Nickles–Craig bill (S. 877) would merely tweak current regulations in an effort to provide incentives for broadband rollout. The Goodlatte–Boucher bills (H.R. 1685/1686) take the regulatory micromanagement approach to greater lengths, while the Blumenauer bill (H.R. 2637)

would impose new regulatory burdens and offer no relief from the current regulations. In sum, these measures are a stunning example of the "unbounded regulatory hubris" that critics argue pervades communications policymaking today.³

Although policymakers fear reopening the telecommunications debate just a few years after passage of the Telecommunications Act, they will be forced to do so as technologies advance and industries converge to erode traditional regulatory distinctions. The broadband bills they are now considering attempt to provide a limited amount of temporary relief from the regulatory burdens caused by the Telecommunications Act as well as other laws and regulations. Congress should not be content to apply the Act's outdated vision of industry regulation to the technologies of the 21st century when a superior, open-market model based on the experience of the vibrant computer industry is available.

Over the short term, the McCain and Tauzin–Dingell bills, in particular, could help to alleviate certain regulatory problems. But the broadband crisis should serve as a wake-up call that additional, far more comprehensive actions are needed—and soon—to correct the inefficiencies created by intrusive regulatory standards and illogical distinctions that are driving telecommunications policy today.

—Adam D. Thierer is the Alex C. Walker Fellow in Economic Policy in the Thomas A. Roe Institute for Economic Policy Studies at the Heritage Foundation.

3. See John C. Wohlstetter, "Packet Plutocracy, Data Democracy, and the Bureaucracy," *New Telecom Quarterly*, Vol. 6, No. 4 (Fourth Quarter, 1998), p. 17.

ACRONYMS IN THE BROADBAND TELECOM BILLS

BOCs: Bell Operating Companies. Seven major local exchange companies (LECs) created after the 1982 AT&T divestiture. Regional Bell operating companies (RBOCs) are prohibited from offering long-distance services over local access and transport area (LATA) boundaries. The Telecommunications Act of 1996 requires the RBOCs to offer interconnection to (and discounted resale of access to) their networks. The original Baby Bells included Ameritech, Bell Atlantic, Bell South, Nynex, Southwestern Bell, Pacific Telesis, and U.S. West. Mergers between the Bells resulted in four Baby Bell conglomerates—Ameritech-SBC-Pacific Telesis, Bell Atlantic-Nynex, U.S. West, and Bell South. RBOCs traditionally acted as holding companies for smaller LECs, but in recent years have moved to integrate business operations under the main company.

CLECs: Competitive Local Exchange Carriers. Following passage of the Telecommunications Act of 1996, these carriers rose up to compete with ILECs to provide local service. Some offer service over their own facilities; but most, under Section 251 of the Act, offer repackaged telephone access services purchased from other providers.

DSL: Digital Subscriber Lines. Services include a range of new telephone offerings, dramatically increasing the capacity of copper-based telephone lines through digital transmission techniques. RBOCs, in particular, look to DSL technologies as a way to offer increased high-speed data and Internet capacity in the home or office without requiring expensive new lines or technologies.

ILECs: Incumbent Local Exchange Carriers (see LEC).

ISP: Internet Service Provider. Offers Internet access to residential and business customers primarily through existing telephone exchange lines, but also over dedicated private, high-speed lines for faster, more reliable Internet access if available. Unlike traditional telephone service, ISP access is typically offered at a fixed, flat monthly rate.

IXC: Inter-Exchange Carriers handle long-distance (interLATA) traffic that RBOCs are not allowed to carry. Notable IXCs include AT&T, MCI, and Sprint, though hundreds of smaller IXCs exist.

LATA: Local Access and Transport Areas. The artificial geographic boundaries established after the AT&T divestiture that determine an RBOC's service area. Local Baby Bells are allowed to handle all *intra*LATA telephone traffic within their LATA. There are nearly 200 LATA regions in the United States. Under the terms of the divestiture, IXCs or long-distance companies (not RBOCs) handle *inter*LATA traffic. This requirement was intended to limit the RBOCs' supposed market power, although it also greatly limits service options available to consumers.

LECs: Local Exchange Carriers. Traditional providers of local telephone service for residential and many business customers. Carry the majority of wireline telephone traffic to residential Americans through a network of central switching offices and local loops to the home. The largest LECs are the RBOCs and GTE Corporation, but more than 1,000 smaller LECs exist to provide service to rural America.