

The Future of the Regional Bells

By Judi Clark

Introduction

As soon as people developed ways of communicating, they needed ways to communicate over distances. Yelling and messengers worked for a long time, but were not destined to be a final solution.

The original Bell Telephone Company was formed in 1877, and was followed by the formation in 1885 of the American Telephone and Telegraph Co. (AT&T). Since that time, the communications industry has been engaged in a cycle of mergers and judicially enforced divestments.

The four remaining regional Bell telephone companies: SBC, Verizon, BellSouth, and Qwest Communications, emerged from one such cycle. It started in the mid 1980s when the first monopoly, AT&T, agreed to split into one long distance company and seven Regional Bell Operating Companies (called RBOCs) that would offer local phone service. The subsequent merger of those seven companies into the four that exist today was largely a result of regulatory changes implemented as a result of the Telecommunications Act of 1996¹ (the 1996 Act). In passing the 1996 Act, Congress was attempting to encourage additional competition in telecommunications services, including local phone service, thereby improving services and lowering prices. Under the 1996 Act, the Bells were deemed Incumbent Local Exchange Carriers, or ILECs), and the many competitors who were positioned to jump in to provide local phone services were deemed Competitive Local Exchange Carriers (CLECs). The CLECs included cable TV providers, utility companies and municipalities, as well as rival companies.

But six years after passage of the 1996 Act, true competition has yet to emerge and the Bells monopolistic abuses continue. The 1996 Act did not take into account the formidable monopolistic forces of incumbent telephone service providers, the ineffectiveness of the penalties for non-compliance, or the impact of relaxed governmental oversight on the industry.

Simply put, the Bells have flaunted government regulations to maintain their monopoly on local phone service, and their actions and interests are not likely to yield the best outcome for the public. However, the Internet arrived at their door as an unexpected guest, bringing sweeping changes to the telecommunications industry. These changes may well be the beginning of the end for the Bells.

The Last Mile

¹ Telecommunications Act of 1996. Pub. LA. No. 104-104, 110 Stat. 56. 1996. Codified at 47 U.S.C. §§ 151 et seq., West Supp. 1997. 11 Mar 2002 <<http://www.fcc.gov/telecom.html>>. This act also addressed other areas including deregulating cable TV networks, but we are concerned here with its impact on the telephone networks.

The connection between the telecommunications network and nearly all homes and businesses is referred to as the local loop, or the last mile. Typically, the wires run from a home or business to a neighborhood telephone box called a Central Office, or CO. This last mile is capital intensive, and has historically been constructed with copper phone lines controlled by the ILECs. Once installed, the ILECs have little incentive to allow competitors access to the facilities.

Most competitors in phone service (local and long distance) must use Bell access lines to reach their customers, and the ILECs' control of who can connect is a powerful means of promoting their own agenda. Their incumbent position and market power is a handicap to competitors. Complaints of the ILEC's excessive fees, slow deployment, and unnecessary access barriers have been consistent over time. They still have the monopoly death grip on the local loop and therefore control access to the customers.

Despite Congress's intention that the 1996 Act would make the marketplace for telecommunications services more competitive, it remains largely under monopoly control. This has been a costly lesson for CLECs and telephone customers alike.

Holding Back the Future

Currently, there are four basic technologies for connecting homes and businesses to the larger communications network:

- copper or "twisted pair" lines provided by the ILECs,
- wireless (including cellular telephone and satellite),
- coaxial cable (provided by cable TV operators), and
- fiber optical lines.

Twisted pair is the most widely deployed and controlled. Wireless is less dependable and more expensive, though it has managed to take a 2% share of the local telephone business. A viable alternative as a telephone service provider, most cable TV operators have not entered the local telephone business because of fears of increased regulation and the cost of upgrading the cable infrastructure, without which local phone services and broadband Internet aren't available through cable. Fiber optic lines (called Fiber to the Home), largely impractical now due to business and right-of-way issues, are in 80% of neighborhood phone boxes (COs) but mostly have not been extended the "last mile" to residential settings.

Alternative access is possible in some municipalities as local utility districts and publicly owned power companies take on the task of wiring and providing services to their own residents. Nine states have created barriers or have outlawed publicly owned telecommunications networks²:

- Arkansas prohibits municipal entities from providing local exchange services. (Ark. Code § 23-17-409)

² List from Eileen deArmon, Director of Marketing, World Wide Packets, American Public Power Association, provided to David Isenberg's [SMART Letter](http://www.isen.com/archives/020317.html). Online newsletter. No. 68. March 17, 2002. 17 March 2002 <<http://www.isen.com/archives/020317.html>>.

- Florida imposes various taxes to increase the prices of telecommunications services (as distinguished from other services) sold by public entities. (Florida Statutes §§ 125.421, 166.047, 196.012, 199.183 and 212.08)
- Missouri bars municipalities and municipal electric utilities from selling or leasing telecommunications services or telecommunications facilities, except services for internal uses; services for educational, emergency and health care uses; and "Internet-type" services. (Revised Statutes of Missouri § 392.410(7))
- Minnesota requires municipalities to obtain a super-majority of 65% of the voters before providing telecommunications services. (Minn Stat. Ann § 237.19)
- Nevada prohibits municipalities larger than 25,000 from providing "telecommunications services," as defined by federal law. (Nevada Statutes § 268.086)
- Tennessee bans municipal provision of paging and security service and allows provisions of cable, two-way video, video programming, Internet and other "like" services only upon satisfying various anti-competitive public disclosure, hearing and voting requirements that a private provider would not have to meet. (Tennessee Code Ann. § 7-52-601 et seq.)
- Texas bars municipalities and municipal electric utilities from offering telecommunications services to the public either directly or indirectly through a private telecommunications provider. (Texas Utilities Code. § 54.201 et seq.)
- Virginia prohibits all localities except the Town of Abingdon (the home of a prominent member of Congress) from offering telecommunications services or facilities, but allows localities to sell the telecommunications infrastructure that they had in place on September 1, 1998, and also allows localities to sell or lease "dark fiber"³ subject to several onerous conditions. (Virginia Code § 15.2-1500) [Note: Overturned in District Court, May 16, 2001]
- Utah Enacted H.B. 149 during the 2001 session establishing many onerous conditions ... upon any municipality seeking to provide telecommunications or cable services. Enacted 3/13/2001

Overall, the picture looks pretty bleak for competition in local, residential and business telephone service as CLECs go under and other alternative providers are being legislated away. The legislative left hand wants to promote competition, while the restrictive right hand says no, no, no. Despite the ILECs lack of cooperation, the FCC is slowly approving their applications to enter the long distance market.

³ Dark fiber is defined in The Telecom Glossary: An Opinionated Lexicon, 2nd Edition, Gilder Technology Group, Inc. 1999, as: 1) Fiber optic cable that has been installed, but is not presently connected to opto-electronic equipment. 2) Fiber that has been installed without opto-electronic equipment by one company, but is later fitted with the equipment by a second party that leases the fiber from the installing company. 6 Mar 2002
<<http://www.passig.com/pic/Telecosm%20Glossary.pdf>>.

Also, many bills are being introduced in the House and Senate⁴ with ILEC-influenced lobbying support.⁵ This does not bode well for a competitive market in telephone and telecommunications services. But as the Ferengi say on the television show *Star Trek: Deep Space Nine*, "Let others keep their reputation. You keep their money."⁶ Apparently some telephone executives have been watching TV.

The Many Networks

Meanwhile in the background, the Internet was slowly being developed by the US research community. Designed as an open-architecture communications network, the Internet was capable of operating on many different technologies, including but not limited to circuit switched telephone lines. From the early 1980's, the Internet grew from its infancy in research into today's global user network, carrying broad social and commercial communications and activities.

"The Internet has now become almost a "commodity" service, and much of the latest attention has been on the use of this global information infrastructure for support of other commercial services. This has been tremendously accelerated by the widespread and rapid adoption of browsers and the World Wide Web technology, allowing users easy access to information linked throughout the globe. Products are available to facilitate the provisioning of that information and many of the latest developments in technology have been aimed at providing increasingly sophisticated information services on top of the basic Internet data communications."⁷

The Internet continues to run on a wide range of interconnected networks, including telephone and cable lines, fiber optic cable, Ethernet cables, radio waves, wireless modems and routers, satellites, and more. The Internet is considered "dumb"⁸ or "stupid" in that the network is merely a transport mechanism that is not necessarily customized for a specific kind of content.⁹ In fact, an email sent from a person's home may very well travel over several kinds of networks in route to its destination. The tools used to communicate over the Internet: email, web browsing, instant messaging, streaming media, and more, were developed for use on such a stupid network.

The phone network is in stark contrast to the nature of the Internet. The telephone network is a significant part of public communications and access to the Internet. However, the controls or "intelligence" that is inherent in the telephone network are a hindrance rather than a help. The needs of an increasing and mobile Internet user base are not entirely compatible, and

⁴ Updates on telecommunications-related legislative activity is tracked on the Washington Internet Project's website. <<http://www.cybertelecom.org/legis/legis.htm#fcc>>.

⁵ More detailed information on how politics is funded by industry contributions is found on the Center for Responsive Politics' [opensecrets.org](http://www.opensecrets.org) website, in their Communications/Electronics sector. <<http://www.opensecrets.org/industries/background.asp?ind=B>>.

⁶ Behr, Ira Stephen, and Kevin Ryan. *The Ferengi Rules of Acquisition*. New York: Pocket Books, 1995. 66.

⁷ Leiner, Barry M., Cerf, Vinton G., Clark, David D., Kahn, Robert E., Kleinrock, Leonard, Lynch, Daniel C., Postel, Jon, Roberts, Larry G., Wolff, Stephen. "A Brief History of the Internet." 27 January 2002 <<http://www.isoc.org/internet/history/brief.shtml>>.

⁸ Dumb network, defined. 14 March 2002 <<http://www.commweb.com/encyclopedia/search?term=dumbnetwork>>. The term "dumb network" was first coined by George Gilder, and "stupid network" by David Isenberg.

⁹ Contrast the open architecture of the Internet with the voice-specific nature of the telephone network.

sometimes incompatible, with the fixed ILEC voice network. More significantly, the tools of the Internet are cutting into the need for voice lines, including additional telephone lines for faxes and other voice-based services. The Internet represents the first really significant threat to the laissez faire future of the ILECs.

The Marketplace

Two significant forces have effected development of the Internet: the degree of monopoly or competitiveness in the telecommunications market that provides access to the Internet, and the proprietary or open nature of the access. The ILECs have a strong influence on the direction of each vector.

For example, the ILEC's core business is heavily invested in proprietary "intelligent" switches that have been maximized for voice quality. As we have seen above, their business methods tend toward ensuring their monopoly status. This world is asymmetric in terms of two-way communications: it is more about broadcast and controlled access than the Internet currently is. More like a public address system than a ham radio network.

The 1996 Act was supposed to encourage an alternative to monopoly. Highly competitive local access was to provide the ground on top of which a society is free to use and develop a wide range of new tools. This environment has a two-way symmetry that supports the development of a "commons" where anyone can be a producer or consumer. Here, information tends to be decentralized and, central to values served by the First Amendment, secures "the widest possible dissemination of information from diverse and agnostic sources."¹⁰

"The free and open exchange of information and creative expression is a fundamental value in American democracy, science and culture. Yet even as the Internet democratizes access to information and creativity, new technological locks, licensing regimes and unprecedented expansions of intellectual property law are converting materials that were once freely available to everyone into closed, proprietary "product." If the public is going to enjoy broad public access to scientific research and cultural and civic information, pro-active efforts must be undertaken now to describe how the "enclosure of the information commons" is threatening core democratic values."¹¹

The ILEC forces that shape the direction of primary network and access development, and therefore the nature of the Internet, do not necessarily yield the best future for the public.

The Cost of Doing Business

"For decades, individuals have been willing to pay much more for the privilege of participating in conversations than to receive professional content—expenditures on long-distance and local telephones have been

¹⁰ United States v Associated Press. 326 US 1, 20. 1945.

¹¹ "Projects - Reinventing the Public Domain: Making Intellectual Property Law Serve Democracy, Science and Culture." Public Knowledge website. 25 April 2002 <<http://www.publicknowledge.org/projects/reinventing.html>>.

greater than expenditures on newspapers, magazines, broadcast, cable, and movies put together."¹²

While demand for connectivity to the Internet is increasing, demand for the ILEC's core business, landline telephony, is going down. The rate of up and down motion was not expected by anyone in the industry. Minutes of network use are declining as people substitute other methods of communications: cell phones, cable modems, email and the like. Consider the preliminary evidence:

Demand for residential voice telephone lines is declining for the first time in history. The percentage of copper line has steadily decreased since 1991 in the total number of Working Telecommunications Channels as fiber replaces copper. The total number of central offices (CO) has been declining since 1993.¹³ Currently, about 2% of residential and business phone lines have been replaced by cellular service and another 2% by Voice over IP (Internet telephony).

This is a bell-weather indicator for long-term problems. "The goodness of the new network on one hand is a nightmare economically on the other ... the incumbents are slowly going bankrupt, some quicker than others... (including the ILECs) because their ... networks have a very high cost of provisioning."¹⁴ Voice-grade switching equipment that makes up the ILEC infrastructure is expensive to buy and maintain, relative to many alternative networks. That infrastructure requires an army of employees (despite recent layoffs). Additionally, this model is not the best choice for data transport. New and more cost-effective technologies (wireless or WiFi, fiber optic, etc.) are being deployed whenever and wherever possible to provide access to data services that undermine the long-term well-being of costly ILEC investments.

"Whether they're brand new or a hundred years old, all of these phone companies need to figure out how to increase sales – and, oh, yes, profits – from their data businesses. The older guys must outrun declines in their voice businesses."¹⁵

Declines in Core Business: Landline Local Service		
	4 th Qtr, 3 Mo. 12/00 - 12/01	4 th Qtr, 12 Mo. 12/00 - 12/01
SBC	(3.2%)	3.2%
BellSouth		(2.1%)
Verizon	(3.6%)	(0.5%)
Qwest	(3.0%)	(16.4%)

Taking a closer look, the future is bleak:

¹² Benkler, Yochai. "From Consumers to Users: Shifting the Deeper Structures of Regulation Toward Sustainable Commons and User Access." *Federal Communications Law Journal*. Vol 52, No 3, p 564. 17 Mar 2002 <<http://www.law.indiana.edu/fclj/pubs/v52/no3/benkler1.pdf>>.

¹³ "Trends in Telephone Service." FCC, Industry Analysis Division, Common Carrier Bureau. August 2001. 24 March 2002 <http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend801.pdf>.

¹⁴ Googin, Roxane. "How Networking Advances Screwed Up the Economy." Online newsletter. David S. Isenberg's SMART Letter, No. 64, Dec 16, 2001. 11 March 2002 <<http://www.isen.com/archives/011216.html>>.

¹⁵ Mehta, Stephanie N. "Why Telecom Crashed." *Fortune*. November 27, 2000. 29 March 2002 <http://www.fortune.com/indext.jhtml?channel=print_article.jhtml&doc_id=00000185>.

SBC

Discussion of their core business is taking a back page to what's really going on. People want access to the Internet, not voice-grade lines. In SBC's 3rd Quarter¹⁶ and Year-End Investor Briefings,¹⁷ Operating Revenues from landline local service is steadily declining (Third Quarter declined 0.4%, Fourth Quarter by 2.8%, and down 3.2% for the year.) SBC pulled Cingular Wireless out of their income statement revealing a decline in total revenues of 13.2% (3rd Quarter) and 10.6% (4th Quarter). Why? Total access lines served is showing a decline as well (1.7% and 2.8% respectively). People are getting rid of 2nd phone lines, or substituting cell phones and broadband access for telephone lines. This means SBC is not taking in as much income as it needs to pay off their investments.

BellSouth

Their Fourth Quarter Financials¹⁸ show a similar picture: a decline in access lines of 1.9%. Instead, they have an increase in Access Line Equivalents, explained as:

"Access line equivalents represent a conversion of non-switched data circuits to a switched access line basis and is presented for comparability purposes. Equivalents are calculated by converting high-speed/high-capacity circuits to the equivalent of a switched access line based on transport capacity. While the revenues generated by access line equivalents have a directional relationship with these counts, revenue growth rates cannot be compared to line growth rates on an equivalent basis."¹⁹

BellSouth would perhaps like us to believe that they can't make a direct comparison between access line equivalents and voice lines, but there is a technological maximum to make the comparison. They are not taking in as much income for Access Line Equivalents as they do for straight Access Lines. In fact, it's much less income. More and more lines are being used for Equivalents than for Access. This is true for all ILECs.

Verizon

The events of September 11, 2001 had a significant affect on Verizon, but were not the entire explanation for Verizon's falling income. From their fourth quarter earnings report,²⁰ we see that the number of switched access lines has remained stable over three months and 12 months. The local services operating revenue from those lines declined by 3.2% for 3 months, .5% for 12 months. Even their network access services changed marginally (-.1% and 1.8% respectively).

Qwest

¹⁶ SBC Investor Briefings. 3rd Quarter, 2001. 12 March 2002

<http://www.sbc.com/Investor/Financial/Earning_Info/docs/3Q01_IB_FINAL.pdf>.

¹⁷ SBC Investor Briefings. 4th Quarter, 2001. 12 March 2002

<http://www.sbc.com/Investor/Financial/Earning_Info/docs/4Q_IB_FINAL_COLOR.pdf>.

¹⁸ BellSouth Financials. 4th Quarter, 2001. 15 March 2002 <<http://www.bellsouth.com/investor/pdf/4q01p.pdf>>.

¹⁹ BellSouth Financials. 4th Quarter, 2001.

²⁰ Verizon's Investor area. Company web site. 15 March 2002

<<http://investor.verizon.com/annual/VZ/4Q2001/4Q2001.pdf>>.

A dismal picture with different numbers: switched access is down 3% for three months ending Dec 31, 2001, and down 16.4% for the year.²¹ Significant here: the recent merger between Qwest and US West that caused a huge write-off and resulted in an increase in expensive fixed assets.

"Qwest (Q) on Tuesday reported a loss of \$3.31 billion, or \$1.99 a share, compared to a reported loss of \$121 million, or 14 cents a share, a year earlier. The latest quarter's results included one-time and merger-related pretax charges of \$3.72 billion. Excluding these items, the regional telephone company earned \$128 million, or eight cents a diluted share, compared with \$255 million, or 15 cents a share, a year earlier."²²

As with all the ILECs, their income continues to center on data, not voice. To get around this Qwest has engaged in some creative financial deals and as a result has been under investigation on and off over the last few years. Most recently:

"Details of the deal, which was not announced at the time but has been disclosed in recent filings in Enron's bankruptcy case, indicate that the two companies raced to complete the transaction as the third quarter was ending in September. Enron and Qwest valued the transaction at more than \$500 million, but analysts said the timing and the valuation would be hard to justify because a glut of fiber optic capacity had sent network prices plummeting."²³

Qwest may be the first to go. Qwest's Joseph Nacchio, listed as 1999's CEO with the Largest Options Grants in Fortune's Executive Pay table,²⁴ has cashed out on significant holdings.²⁵ The company's 2001 10-K,²⁶ filed with the SEC on 1 Apr 02, shows anemic earnings. They're borrowing to cover their capital investments in obsolete equipment. They're now under investigation by the SEC for inflating revenues through trades with bankrupt Global Crossing. They face a bleak future at best.

The Hole in the Bottom of the Bell's Boat

Declining income, discussed above, is just the precursor to the dark and stormy night ahead. There is also the problem of stranded assets—lots of them.

"(Incumbent) Phone companies have spent billions over the past several years to build or upgrade their networks to accommodate a ton of new volume generated by the Internet and computer-to-computer traffic. The problem is that they have yet to develop data service that will wean them from reliance on their moribund voice business. And if they do not, they

²¹ "Qwest Communications Reports Fourth Quarter, Year-End 2001 Results." Qwest press release. Jan 29, 2002. 15 March 2002 <http://media.corporate-ir.net/media_files/NYS/Q/q_1_28_02earnrel.htm>.

²² "Qwest's Loss Widens Amid Huge Merger-Related Charges; Results Match Expectations." Dow Jones Business News. July 24, 2001. 15 March 2002 <<http://www.cfo.com/Article?article=4306>>.

²³ Barboza, David and Feder, Barnaby J. "Enron's Swap With Qwest Is Questioned." New York Times. Mar. 29, 2002. 29 March 2002 <<http://www.nytimes.com/2002/03/29/business/29SWAP.html>>.

²⁴ Colvin, Geoffrey. "The Great CEO Pay Heist: Tables." Fortune. June 25, 2001. 29 Mar 2002 <http://www.fortune.com/index.t.jhtml?channel=print_article.jhtml&doc_id=202915>.

²⁵ Insider & Form 144 Filings - NACCHIO, JOSEPH P. From Yahoo Finance web site. 25 April 2002 <<http://biz.yahoo.com/t/08/846.html>>.

²⁶ Qwest 10K for 2001. 2 April 2002 <<http://www.sec.gov/Archives/edgar/data/1037949/000103570402000198/0001035704-02-000198-index.htm>>.

could be crushed by the fixed costs of their massive capital investments."²⁷

The ILECs have for many years been investing in a high-quality, high-cost voice network with high reliability. We've long heard about the five nines: "99.999% reliability" in a network that was technically designed to maximize the quality of voice. It's been expensive: SBC carries a \$26 billion debt, BellSouth a \$20 billion debt, Qwest has a \$25 billion debt, and Verizon a stifling \$64 billion debt.²⁸ To cover their investments (some of which is going to buy obsolete voice-based equipment) the ILECs have multi-year loans, and covering expiring loans are new loans for 20 years and more. Many of the loans are written with accelerated paybacks in case of default.

Competing with the high reliability ILEC networks are lower cost, lower reliability alternatives such as fiber, cable and wireless. These workable new networks have an added advantage: flexibility. As technology develops it can be deployed quickly and cost-effectively, in some cases by home users as well as competing carriers. This is in stark contrast to the relatively fixed network of the five nines.

Lessons from Enron

The Enron scandal offers many lessons relevant to the ILECs' interests. Public shareholders are an angry bunch right now, and have shown they can move markets with incredible speed if they collectively lose confidence. Historically, ILECs have been considered safe havens for retirement accounts; assumptions that are about to be challenged again. The industry analysts are starting to take notice of the ILECs' impending troubles.

The SEC, working with new accounting rules in light of Enron's creative financing, has announced investigations on 49 big companies, including Qwest (mentioned above). Additionally, under these new accounting rules companies will not be able to amortize their goodwill and will instead require big write-downs in their next statements. Qwest just bought US West. The cost? "...[A] non-cash charge of between \$20 billion and \$30 billion in the second quarter...."²⁹

Government policies can have an enormous impact on business activities, in terms of regulation and enforcement, litigation, taxation, and even publicity. Here, a public policy debate is inevitable. The ILECs have arrogantly held their position against the government's policies and against public interest. As their financial situations become apparent, there may be little mercy from any but the most pragmatic hands. In this uncertain economic climate, the ILECs' futures are far from secure: historically bad customer relations, poor balance sheets, a lack of clarity in their future plans, and competitors and technology ready to change their market.

Conclusion

²⁷ Mehta, Stephanie N. "Why Telecom Crashed."

²⁸ Googin, Roxane. April 10 panel discussion. Pulver's Voice on the Net Conference. Seattle WA, April 8-11, 2002.

²⁹ Lewis, Mark. "The Dominoes Keep Falling in Telecom." *Forbes*. Apr. 2, 2002. 3 April 2002

<http://www.forbes.com/2002/04/02/0402metromedia_print.html>.

Over time, the telecommunications network has become an essential part of our daily lives. Recognizing this, incumbent ILECs have grown fat and arrogant at our expense. For years, the ILECs have held their monopoly position against the government's policies and against the public interest. The ILECs have maintained their stranglehold on the last mile, or local connections, and with it have foreclosed opportunities by telecommunications service competitors. ILEC profits have come at the cost of investment-backed technological development and innovation.

Continuing public policy debates are inevitable. The ILEC future is uncertain, and with it the stock and retirement money of millions of investors. Serious financial and technical workings are busy undermining the well being of the monopolistic ILECs. The Internet has captured the public's interest, and now challenges the established telephone network's profitability. As the ILECs' financial problems increase, there may be little mercy from any but the most pragmatic hands. We could be witnessing the end of an era.