

## CLOSING THE RESIDENTIAL BROADBAND GAP

IN 1994, THE TERM "INFORMATION SUPERHIGHWAY" WAS FIRST COINED, DRAWING AN ANALOGY FROM THE DEVELOPMENT OF THE INTERSTATE HIGHWAY SYSTEM IN THE 1950s AND APPLYING IT TO WHAT, IN THE 1990s, WAS AN EMBRYONIC PERIOD OF A DEVELOPING INFORMATION ECONOMY.

Just as two-lane highways were inadequate to support a growing nation in 1950, plain old telephone service (POTS) based upon copper circuits was not capable of carrying the huge flows of information needed for providing multi-media transmission that will drive our economy well into the 21st century. Based upon this analogy, it was suggested that the nation needed an "information superhighway" to provide the infrastructure needed to handle these information flows. Nearly ten years later, we have come to call the "information superhighway" by its technical name, "the broadband network"—a network of high-speed circuits that can carry large amounts of information to every residence and business in America.

As FCC Chairman Michael Powell has stated, "Broadband deployment is the central communications policy objective in America today." He further stated that broadband deployment will "1) empower consumers to enjoy the full panoply of benefits of the information age, 2) provide a source for long-term sustainable economic growth

for our country and 3) enable the U.S. to continue to be the global leader in information and network technologies."<sup>1</sup>

So where is broadband deployment now and how can such technology be more widely deployed in the U.S.? In this Wirthlin Report, we answer these important questions.

### CONNECTED TO THE INFORMATION SUPERHIGHWAY

For the past three years, Internet penetration has remained steady. Our June 2003 study indicates that nearly three out of four Americans (72%) are connected to the Internet at home, work, or somewhere else. Over half of Americans (58%) are connected at home, while slightly more than one-third are connected at work (35%). These results are consistent with a study conducted by NBC news and the Wall Street Journal in July 2000, though slightly more are connected at work today. The 2000 study showed 59% connected at home and 29% at work.

## HIGHLIGHTS

### 1 **Connected to the Information Superhighway**

The percentage of those with Internet service has remained steady over the past three years.

### 2 **How Far Along is Broadband Deployment and Adoption? Is It Stalled?**

Contrary to critics' claims, broadband deployment is moving at a rapid rate.

### 3 **Further Developing the Broadband Market**

Working at home and the dial-up service blues can motivate consumers to switch to broadband.

### **Tiered Pricing** Price and purchase intent are connected.

### 4 **Specially Selected Content**

Offering access to video, audio, and games may increase interest in broadband.

### **The Impact of Emerging Broadband Technologies**

### 5 **Conclusions and Implications**



1. Written statement of Michael K. Powell, Chairman, Federal Communications Commission, on Competition Issues in the Telecommunications Industry. Before the Committee on Commerce, Science and Transportation, U.S. Senate, January 14, 2003.

[The] level of [broadband] penetration unquestionably counters claims by critics, and suggests that **there has been substantial growth** even from the most recent FCC estimates.

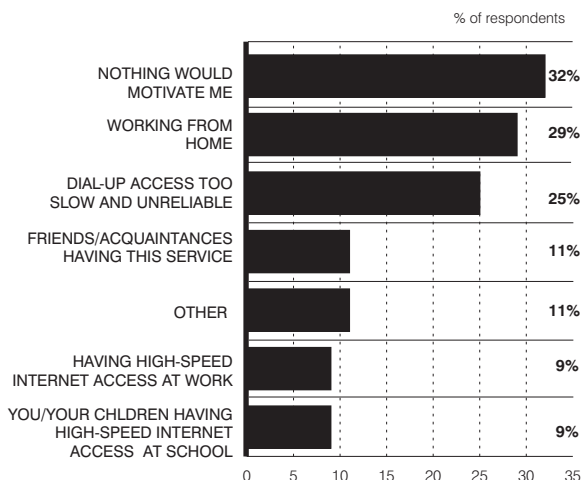
This is a good indication that the Internet has successfully reached the broad market of those interested in using it. Now that most people who want to be connected are, the next step is motivating this market to upgrade to high-speed Internet.

**HOW FAR ALONG IS BROADBAND DEPLOYMENT AND ADOPTION? IS IT STALLED?**

The rapid rate of broadband adoption is reflected in the statistics reported by the FCC over the past few years. In a report from January 1999, the Commission noted that 375,000 residential consumers had purchased broadband services. According to the most recent FCC report on high-

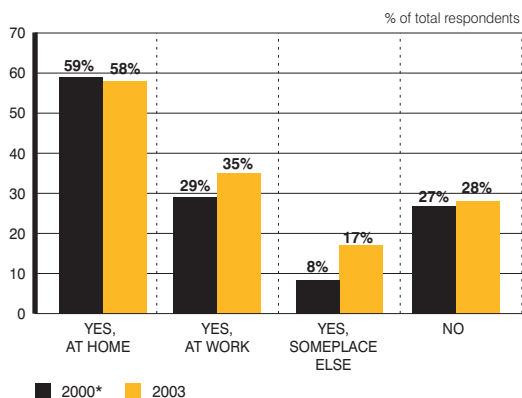
**High-Speed Motivation**

**QUESTION:** Which of the following would motivate you to obtain high-speed Internet access in your home?



**Connected to the Superhighway**

**QUESTION:** Do you have access to the Internet at home, at work, or someplace else?



\*Survey by NBC News, Wall Street Journal, July 27-July 28, 2000, N=1,009.

**22%**

OF RESIDENTIAL HOUSEHOLDS IN THE U.S. HAVE BROADBAND SERVICE.

speed Internet access (June 10, 2003), high-speed Internet services were being used by 17.9 million residential and small business subscribers as of December 31, 2002. Clearly, this is indicative of a service that, by many measures, is being rapidly deployed.

This level of growth over a four year period is unprecedented, but it still falls well short of universal deployment of broadband services. Some critics as recently as last year (Karen Kornbluh, "Fill Potholes in America's Info Highway", *Los Angeles Times*, June 13, 2002) have suggested that broadband growth is stalled at 10% penetration. Ed Quillen also asserted broadband was at a standstill in the December 4, 2001 issue of the *Denver Post*, adding that "at current prices, it doesn't seem to be worth the money."

Is broadband really stalled? And, do Americans really believe that broadband connections to the Internet are not worth the money?

To address these questions, WirthlinWorldwide sponsored its own research into broadband adoption among US households. Based on our recent survey of 1,000 U.S. households (June 27-30, 2003), we estimate that 22% (±3%) of residential households in the U.S. now have broadband service (approximately 24.5 million households). This level of penetration unquestionably counters claims by critics, and suggests that there has been substantial growth even from the most recent FCC estimates (17.9 million) at the end of 2002. This finding is consistent with recent trends in the cable industry entailing promotion of the industry's cable modem services, as well as recent declines in DSL pricing by local exchange carriers.

Among those residential consumers who report that they have broadband service, 57% (14.1 million households) have cable modem service from their cable company, while 43% have DSL (10.4 mil-

lion households) from a telephone carrier. These proportions are also in line with recent FCC statistics indicating that 64% of broadband subscribers had cable modem service and 36% had DSL.

**FURTHER DEVELOPING THE BROADBAND MARKET**

In our study, we asked respondents without broadband service, what would motivate them to obtain high-speed internet at home. While a plurality of respondents (32%) indicate that nothing would motivate them, out of a list of potential selling points, working from home (29%) and dial-up access being too slow and unreliable (25%) are the most common responses. While these results are not surprising, they pinpoint key issues around which to frame targeted communications strategies. Others include tiered pricing and offering special content (i.e. video, audio,

games, etc.), as are outlined in the following sections.

**FURTHER DEVELOPING THE BROADBAND MARKET THROUGH TIERED PRICING**

At the June 2003 National Show for the National Cable & Telecommunications Association, considerable attention was devoted to the development of tiered pricing for broadband services. Such pricing allows consumers who do not want the fastest level of service to pay less for a service which is still a substantial improvement over telephone dial-up Internet access.

As part of our survey, we evaluated three proposed price/service levels, and the likelihood that consumers without broadband service would subscribe to each:

- *A low tier priced service for \$30 per month* which gives the user a speed that is 7 times faster than telephone

dial-up and makes it possible to download a 4-6 MB file in about two minutes,

- *A medium tier priced service for \$40 per month* which is 27 times faster than dialup and can download a 4-6 MB file in about 30 seconds, and
- *A high tier priced service for \$50 per month* which is 50 times faster than dialup and permits a 4-6 MB file to be downloaded in 17 seconds.

Using split-sample techniques, each of these services was evaluated by posing a purchase intention question to approximately one-third of survey households that did not currently subscribe to broadband services (78% of the total sample).

The results show a direct correlation between price and purchase intent, with a greater level of purchase interest in broadband for the \$30 package than either the \$40 or \$50 packages.

In order to estimate realistic demand for these broadband services we discounted the purchase interest such that we only counted 80% of "definitely buy" and 20% of "probably buy" This yielded the estimates of broadband demand for different tiered offerings as shown on page four.

The estimates of additional residential broadband demand reaches 11.9 million subscribers at \$30 per month, 7.9 million subscribers at \$40 per month and 6 million subscribers at \$50 per month. Thus, the demand at \$30 is about double that of the demand for the \$50 package. It

**Our survey shows a direct correlation between price and purchase intent, with a greater level of purchase interest in broadband for the \$30 package than either the \$40 or \$50 package.**

**Price and Purchase Intent**

**QUESTION:** How likely would you be to subscribe to a high-speed Internet service, if you could get a service that is...

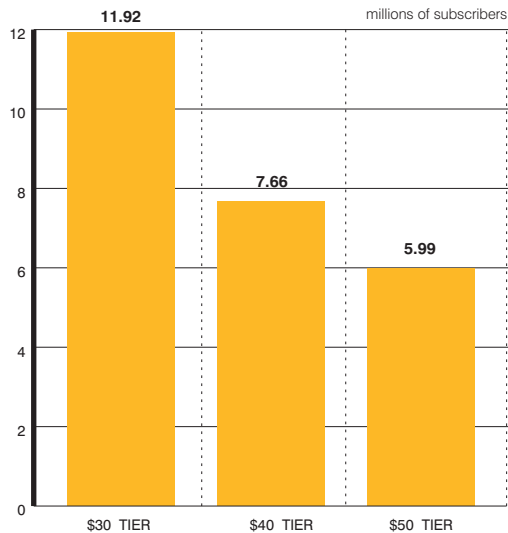


should be reiterated that these are in addition to existing subscribers of broadband offerings. We anticipate that this additional demand would materialize in the next three to five years.

The annual incremental revenue stream associated with these packages would range from \$3.6 billion for the \$50 package to \$4.3 billion for the \$30 package. The \$40 per month package would yield \$3.7 billion annually. This suggests that consumers are, indeed, sensitive to broadband pricing and that there is a considerable revenue stream that can be obtained from tiered pricing offers.

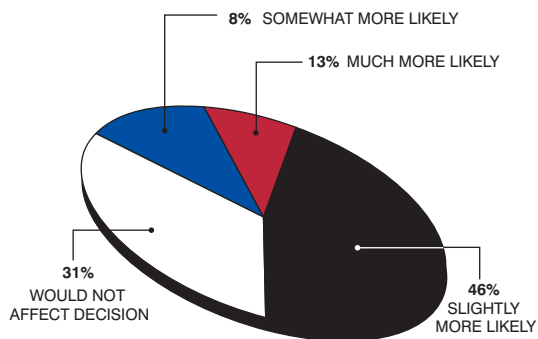
**Demand for Tiers**

**QUESTION:** How likely would you be to subscribe to a high-speed Internet service, if you could get a service that is...



**Limited Access**

**QUESTION:** Would you be more likely to subscribe to a high-speed Internet service offered by your local cable or telephone company if the service included access to a special selection of video programming, music, or games, which are not readily available on the Internet?



In additional analyses we determined that these lower speed and lower price broadband offerings are unlikely to influence the decisions of existing broadband subscribers. That is, among current broadband subscribers only 7% indicate that they would definitely or probably switch to a lower speed/lower priced offering. Thus, if carriers offer such tiered pricing packages, these offerings are not likely to cannibalize the existing base of broadband subscribers.

of subscribing to broadband services.

Our survey results show that offering such content may increase consumer likelihood to sign-up for broadband service. Almost half of respondents (46%) indicate that they would be slightly more likely to subscribe, while 31% indicate it would not affect their decision at all.

A small but potentially significant percentage of respondents without broadband service would be either somewhat more likely (13%) or much more likely (8%) to subscribe to broadband given specially designed content.

This suggests that such a "walled garden" of content may be another way to raise the interest level in broadband services.

**DEVELOPING THE BROADBAND MARKET THROUGH SPECIALLY SELECTED CONTENT**

Another potential method to increase demand for broadband services is to provide specially designed high-bandwidth content (e.g., video, audio, games). To assess this, we asked respondents to indicate how such an offering would influence their likelihood

**THE IMPACT OF EMERGING BROADBAND TECHNOLOGIES**

Several providers of broadband appear to be ready to make

**89%**

OF THOSE WITH HIGH-SPEED INTERNET WOULD EITHER PROBABLY OR DEFINITELY NOT SWITCH TO A SERVICE OFFERING A SLOWER INTERNET CONNECTION FOR A LOWER MONTHLY RATE.

larger bets in this area to become one of the first to close the residential broadband gap. These providers include the cable companies who have been successfully competing with telephone carriers to provide high-speed Internet connections. Major players also include Verizon, whose CEO recently announced (Business Week, August 4, 2003) a massive deployment of fiber-optic connections to every home and business in Verizon territory.

Clearly, deploying fiber optic facilities to every curb is a financial challenge. Carriers may be reluctant to build expensive infrastructures that regulators may insist need to be open to access by other carriers. We anticipate that there may soon be ways to deploy on a less costly basis—methods that might preclude the need to fully deregulate broadband networks.

There are other technologies (e.g., unlicensed wireless and WiFi-type networks such as 802.11a, 802.11b, and 802.11g as well as 802.16) that may be suitable for carrying the traffic the last 100 yards or so to homes and businesses. Such hybrid network facilities could conceivably be deployed by many different potential providers and may be yet another tool for closing the broadband gap.

We will continue to watch these developments closely and anticipate preparing subsequent reports on such developments.

**CONCLUSIONS AND IMPLICATIONS**

The results from our research indicate that broadband is by no means "stalled" as some

have suggested. Our surveys show substantial growth of broadband services, even from the most recent FCC estimates. Price reductions by telephone companies and heavy promotion by cable companies have certainly helped this trend.

These data also clearly indicate that there are multiple ways to increase the take-up of broadband services among consumers and that these programs and packages need to be accorded attention by current or prospective broadband providers. These programs among others include tiered pricing packages where consumers are offered somewhat lower speed services for lower prices. In addition, the availability of additional content which is not readily available on the Internet may also be a way of stimulating broadband growth.

The data provided here suggest that such programs can have a very substantial impact on the total market for broadband services and provide vehicles for closing the gap between those who are currently subscribers and those who have not yet moved beyond dial-up access and/or those who do not yet have Internet access.

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The Wirthlin Report is published monthly. 1920 Association Drive, Suite 500 Reston, Virginia 20191 Copyright © 2003, WirthlinWorldwide www.wirthlin.com

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