

is warranted and four times it has concluded that a consistent policy of “vigilant restraint” is the wiser course.<sup>110</sup>

As the Commission analyzes these same issues for a fifth time, the case for continuing the market-based approach to cable Internet services is stronger than ever before. Capital investment continues to pour into broadband infrastructure at a rate that outpaces the rollout of previous products and services in the communications field, such as cable television, telephone, and color television.<sup>111</sup> Incumbent LECs’ aggressive deployment of high-speed DSL service – has proceeded much more rapidly than almost anyone initially expected, and incumbent LECs’ DSL subscriptions have skyrocketed in the past year. Attractive satellite-based and wireless broadband offerings have likewise been deployed much sooner and more broadly than anyone predicted. There is now overwhelming marketplace evidence that there will be – and in many areas already are – multiple competing broadband paths to the home. Competition is fierce on every front, as the many telephone, cable, wireless and satellite providers vie for customers’ attention with near constant announcements of new promotions, features, service guarantees, and innovations.

In this competitive environment, cable operators have strong market incentives to give their consumers the widest possible choice of features, functions, and content, or risk losing those customers to a rival. Given that consumers have alternatives, if AT&T and other cable Internet providers were to deprive customers of what they want, they would be handing their

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<sup>110</sup> See *Internet Deregulation; Web Information Privacy: Hearing on H.R. 1686 and H.R. 1685 Before the House Comm. on the Judiciary*, 106<sup>th</sup> Cong. (July 18, 2000) (statement of William Kennard, Chairman, FCC) (stating that “in a dynamic and evolving market [such as the broadband market], regulatory restraint was the best way to further the [1996] Act’s goal of encouraging facilities based investment and innovation”) (“*Kennard Testimony*”).

<sup>111</sup> Decl. of Janusz A. Ordovery and Robert D. Willig at ¶ 15 (“Ordovery/Willig Decl.”); *First Enhanced Services Report* at 2447 (¶¶ 32-33); *Second Enhanced Services Report* at ¶ 204.

competitors a formidable advantage in the ongoing battle for the patronage of tens of million Internet subscribers.<sup>112</sup>

Consistent with the competitive nature of the marketplace, AT&T and other cable operators are already working with ISPs and hardware and software suppliers to develop and test innovative and highly-publicized new cable Internet offerings that will make it possible for cable customers to change ISPs with the click of a mouse – and even for two or more members of the same household to choose different ISPs.

As detailed below, commercial deployment of these new cable Internet offerings is an enormously complex undertaking that cannot be accomplished overnight. The new offerings will require brand new architectures, technologies, software and business processes that have never been tested in a commercial environment and that raise a host of cable-specific service quality, cost and ease-of-use issues. But efforts to meet these challenges are well underway. In short, it is clear that cable operators have strong incentives to get their new offerings to market as soon as they are developed and properly tested and are working diligently to that end.

In this environment, there could be no rational economic, public policy, or factual basis for changing course and acceding to the requests of forced access proponents – even if the statutory framework established by Congress did not itself foreclose a forced access approach.

**A. The Commission Has Evaluated Broadband Deployment and Competition Almost Continuously Since 1998 and Each Time Has Reached the Same Undeniable Conclusion: The Marketplace Is Working.**

Beginning with its first inquiry in 1998,<sup>113</sup> the Commission has evaluated broadband deployment and competition no less than four times in the past two years.<sup>114</sup> In each evaluation,

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<sup>112</sup> See *id.* ¶ 29.

<sup>113</sup> See Notice of Inquiry, *In re Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Americans Pursuant to Section 706 of the Telecomms. Act of 1996*, 13 FCC Rcd. 15,280 (1998).

the Commission has concluded that the marketplace for broadband services is functioning precisely as it should without government intervention.

Specifically, in the *First Enhanced Services Report*, the *AT&T/TCI Order*, the *AT&T/MediaOne Order*, and – only three months ago – the *Second Enhanced Services Report*, the Commission found that cable operators are not poised to monopolize broadband services and that market-based cable Internet policies have created strong incentives for many companies to risk the investment and create the competition that is accelerating the deployment of broadband facilities and services. As the Commission has recognized:

- “[C]ompanies in virtually all segments of the communications industry are making sizable investments in broadband technologies” and “these investments will lead to more competition in, and greater deployment of, broadband generally.”<sup>115</sup>

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<sup>114</sup> *Second Enhanced Services Report; In re Inquiry Concerning the Deployment of Advanced Telecomms. Capability to All Americans Pursuant to Section 706 of the Telecomms. Act of 1996*, Report, 14 FCC Rcd. 2398 (1999) (“*First Enhanced Services Report*”); Mem. Opinion & Order, *In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Tele-Communications, Inc., Transferor, to AT&T Corp., Transferee*, 14 FCC Rcd. 3160 (1999) (“*AT&T/TCI Order*”); Mem. Opinion & Order, *In re Applications for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from MediaOne Group, Inc., Transferor, to AT&T Corp., Transferee*, CS Docket No. 99-251, FCC 00-202 (June 6, 2000) (“*AT&T/MediaOne Order*”). In addition to the above Commission items, the Cable Services Bureau conducted a review of the broadband marketplace and issued a report to Chairman Kennard. See Cable Servs. Bureau, *Broadband Today*, Report No. CS 99-14 (October 1999), <<http://www.fcc.gov/Bureaus/Cable/Reports/broadbandtoday.pdf>> (“*Broadband Today*”).

<sup>115</sup> *First Enhanced Services Report* ¶ 92. Capital markets are clearly sold on the future of broadband (provided the current regulatory environment is maintained), as the billions of dollars in investment demonstrates. See *id.* ¶ 36 (“American business and the capital markets are obviously betting that broadband will be successful in the business and consumer markets and many companies are rushing to seize part of that success.”).

- “There are a large number of firms providing Internet access services in nearly all geographic markets in the United States, and these markets are quite competitive today.”<sup>116</sup>
- Residential penetration of broadband “at the end of the second calendar year of deployment is far more than the number of customers for the telephone, color television, and cellular service at the same stage in their deployment, and approximately the same penetration percentage as that of black-and-white television.”<sup>117</sup>
- “There is evidence that ILECs, CLECs, and other competitive providers are aggressively rolling out alternative broadband technologies,” and that “DSL sales are currently growing at a more rapid rate than cable modem sales.”<sup>118</sup>
- “By all major indicators, both residential subscribers and investment in facilities to serve them will continue to increase. Investment of billions of dollars in deploying [advanced telecommunications capabilities] to residential customers will continue. Rivalry among providers will increase. New technologies will continue to become available. Consumer demand will continue to grow.”<sup>119</sup>

This pro-consumer environment exists because the Commission’s market-based approach encourages investment and risk-taking by private sector companies that are highly motivated to compete for the attention of consumers.<sup>120</sup> And “[b]y forbearing from imposing ‘open access’

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<sup>116</sup> *AT&T/TCI Order* ¶ 93. In recent testimony, Chairman Kennard noted that, in both the *First Enhanced Services Report* and the *AT&T/TCI Order*, the Commission “declined to create a new . . . regulatory regime to address what was only a theoretical problem.” *Kennard Testimony*.

<sup>117</sup> *First Enhanced Services Report* ¶ 92.

<sup>118</sup> *AT&T/MediaOne Order* ¶ 117. Moreover, “ISPs lacking direct access . . . over cable systems are entering into alliances with alternative broadband providers, thereby accelerating the deployment of these technologies.” *Id.*

<sup>119</sup> *Second Enhanced Services Report* ¶ 218. Chairman Kennard testified that “DSL business is growing so fast that the BOCs are struggling to keep up with demand [and these] trends show no sign of slowing down.” *Kennard Testimony*.

<sup>120</sup> See generally Jason Oxman, Office of Plans & Policy, FCC, *The FCC and the Unregulation of the Internet*, OPP Working Paper No. 31, at 22 (1999) (“Although the FCC has a long tradition of encouraging the growth and development of the Internet by nonregulation, . . . there are frequent calls from many sources for the FCC to become more heavily involved in Internet regulation. . . . The challenge to the FCC . . . is to enter the era of convergence in a way that furthers the Commission’s longstanding goal of promoting competition, not regulation, in the marketplace.”); see also Gen. Accounting Office, *Technological and Regulatory Factors*

regulations on cable operators, the Commission has fostered an environment that encourages investment not only in cable, but also in the alternative broadband technologies, wireless, satellite, and DSL.”<sup>121</sup> As Chairman Kennard aptly stated, “where cable modem service has been introduced, DSL has followed.”<sup>122</sup> Indeed, noting that “the ILECs have possessed DSL technology for years but failed to offer the service, for concern that it would negatively impact their other lines of business,” the Commission has expressly recognized that “the ILECs’ aggressive deployment of DSL can be attributed in large part to the deployment of cable Internet service.”<sup>123</sup> Any regulation hindering the deployment of cable broadband, as an open access requirement is sure to do, will also retard deployment of DSL and of broadband Internet access in general.

The following chart demonstrates, for example, that the ILECs did not begin their DSL trials until cable modem trials had started, and did not announce their deployment until after cable operators had already rolled out their high-speed service.

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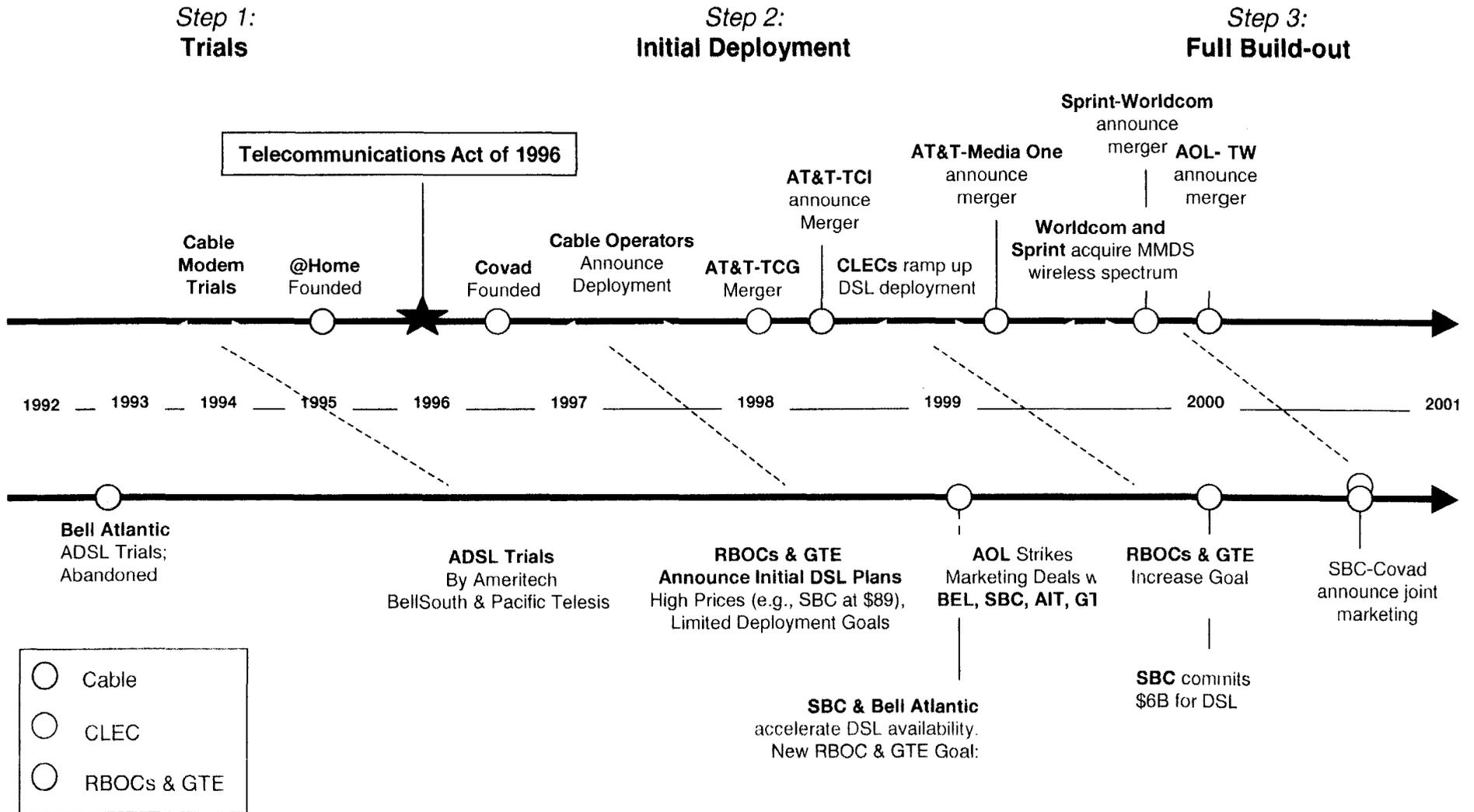
*Affecting Consumer Choice of Internet Providers* at 58-60 (GOA-01-93 Oct. 2000) (“*GAO Report*”).

<sup>121</sup> *Broadband Today* at 49.

<sup>122</sup> Remarks by FCC Chairman William E. Kennard, Chairman, FCC, Before the Federal Communications Bar Association’s Northern California Chapter, San Francisco, CA (July 20, 1999).

<sup>123</sup> *Broadband Today* at 27. See also Letter from Robert Sachs, President, NCTA, to Sen. Mike DeWine (Nov. 20, 2000) (noting that “telephone companies developed DSL technology more than a decade ago, “but” only began to deploy DSL service widely when competition arose from the cable industry and competitive local exchange carriers”).

# Competition Drives Broadband Deployment



The Commission's current "hands-off" policy regarding cable Internet service is consistent with the universally accepted economic and public policy framework for determining when regulators should interfere with market mechanisms and dictate the terms and conditions upon which one firm provides access to its facilities and services to competitors. *See* Ordoover/Willig Decl. ¶¶ 11, 14-25. This framework holds that access regulation should be confined to situations in which there is a serious risk of abuse of a bottleneck monopoly over an essential facility in a relevant market. *See id.* ¶¶ 11, 14. Both the Commission's consistent findings and the more recent marketplace evidence discussed below, confirm that there can be no serious argument that this condition is met. Competition in the nascent broadband Internet services business is thriving.

Thus, as the Cable Services Bureau concluded, the only appropriate course with respect to cable Internet services is "a continued policy of regulatory restraint to facilitate the rapid deployment of multiple broadband technologies, including cable, DSL, wireless, and satellite."<sup>124</sup> The Bureau further concluded that "[u]nless and until anti-competitive behavior surfaces, it is

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<sup>124</sup> *Broadband Report* at 45. Of course, the benefits of this deregulatory approach to the Internet have been widely recognized. For example, Congress endorsed and codified it in the Telecommunications Act of 1996: "It is the policy of the United States to preserve the vibrant and competitive free market that presently exists for the Internet and other interactive computer services, *unfettered by Federal or State regulation . . .*" *See* 47 U.S.C. § 230(b)(2) (emphasis added); *see also id.* § 230(a)(4) ("The Internet and other interactive computer services have flourished, to the benefit of all Americans, with a minimum of government regulation."). Likewise, the Administration and the Commission also have acknowledged the benefits of an unregulated Internet. *See* U.S. Gov't Working Group on Elec. Commerce, *First Annual Report* 5 (Nov. 1998) (stating that the Clinton Administration strongly advocates that the Internet be "self-policed" by those in the industry); Remarks of William E. Kennard, Chairman, FCC, before the National Cable Television Association (June 15, 1999) ("In fact, the best decision government ever made with respect to the Internet was the decision the FCC made 15 years ago NOT to impose regulation on it."); *Broadband Today* at 43 (noting FCC's "long-standing policy of non-regulation of the Internet").

preferable to allow market forces to propel cable operators and independent ISPs toward an ‘open-access’ system.”<sup>125</sup>

**B. Recent Broadband Developments Demonstrate Even More Starkly That No Government Intervention Is Needed To Fuel The Broadband Revolution.**

The deployment of competitive broadband services by various technology providers has continued at a breakneck pace.<sup>126</sup> Recent reports support the Commission’s previous conclusion that DSL and other technologies are providing robust competition for cable Internet service<sup>127</sup> and that new competitors, such as satellite and wireless companies, are stepping up their investment in the provision of residential broadband services and are poised to make significant inroads.<sup>128</sup>

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<sup>125</sup> *Broadband Today* at 43.

<sup>126</sup> See Indus. Analysis Div., Common Carrier Bureau, FCC, *High-Speed Services for Internet Access: Subscriberhip as of June 30, 2000*, at 2-4 (Oct. 2000) (“October 2000 Broadband Report”) (highlighting growth of broadband subscriberhip); Kevin Featherly, *Broadband Content to Split into Distinct TV, PC Camps—Report*, Newsbytes, Oct. 25, 2000; *Cable Modems Retain Market Lead but DSL Is Growing Faster*, Communications Daily, Aug. 2, 2000, at 3 (stating that “broadband competition is emerging quickly this year as telephone companies aggressively roll out DSL products and chop monthly service prices to match their cable rivals”); *The Residential Broadband Revolution: Finally*, GartnerGroup Market Analysis, Aug. 14, 2000, at 18 (“The number of service providers advertising high speed DSL, wireline cable modem and, now, wireless services has exploded over the last year, along with subscribers and the number of Internet streaming video service offerings.”).

<sup>127</sup> See *October 2000 Broadband Report*, at 2-4; Featherly, at 3 (quoting Forrester Research’s October report, “Broadband Content Splits,” as stating that “[b]etween cable modems and digital subscriber line (DSL) service on phone lines, providers hook up an average of 4,000 new customers a day” and that “[o]n the telco side, DSL leader SBC now takes 17,000 orders a week for high-speed service”); First Union Securities, *Residential Broadband Carrier Industry: A Review of the State of Broadband Access to the Home*, Sept. 5, 2000, at 19-25 (listing nine broadband overbuilders competing across the country); see also Shawn Young, *Verizon Profit Rose 37% in Quarter on Strength in DSL, Wireless Units*, Wall Street Journal, Oct. 31, 2000, at B10 (reporting that Verizon added 130,000 DSL customers in the third quarter of 2000 and that it “now has more than 350,000 DSL subscribers and said it is confident it can reach its year-end target of 500,000”); Ordovery/Willig Attachment.

<sup>128</sup> See, e.g., Peter S. Goodman, *Dishing Up a New Link to the Internet: Satellites Join DSL, Cable Wire as High-Speed Conduit for the Web*, Wash. Post, Nov. 6, 2000, at A1 (discussing StarBand’s launch of two-way broadband service via satellite promising speeds of 500 Kbps downstream and 150 Kbps upstream); *AOL Plus Gets Powered By DirecPC*, Sky Report, Oct.

For example, in the *October 2000 Broadband Report*, the Commission reported that “[s]ubscribership to high-speed services increased by 57% during the first half of 2000, to a total of 4.3 million lines (or wireless channels) in service.”<sup>129</sup> Significantly, DSL “lines in service increased at the fastest rate during the six months, 157% [to one million lines].”<sup>130</sup> By comparison, cable Internet service increased at a rate of 59%.<sup>131</sup> “Moreover, *numerous competing providers* report serving high-speed subscribers in the major population centers of the country.”<sup>132</sup> As the following tables demonstrate, the Bell Companies’ own statistics further confirm that broadband investment and competition are flourishing. For example, Verizon projects that it will have 500,000 DSL customers by the end of the year, and SBC anticipates that it may achieve one million DSL subscribers during the first quarter of next year.

The venture capital magazine, “Upside,” recently reported that “[m]ost analysts agree that the installed base of DSL users will overtake cable-modem users in the next few years.”<sup>133</sup> And it is clear that the pioneering broadband efforts of cable operators have spurred incumbent LECs to drop prices and compete for broadband customers, as the next chart shows:

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26, 2000 (reporting that a “two-way service, in which outgoing and incoming communications connect directly with the satellite should become available from DirecPC later in the fourth quarter”) <<http://www.skyreport.com/skyreport/oct2000/102600.htm#one>>; Mike Paxton, *Fixed Wireless Broadband: Still the Bridesmaid?* Cahners In-Stat Group, July 2000, at 47-50 (discussing the emergence and future growth of wireless broadband). See Appendix A for a listing of leading fixed wireless and satellite providers, as well as a description of the various “flavors” of DSL service being offered by various providers.

<sup>129</sup> *October 2000 Broadband Report* at 2.

<sup>130</sup> *Id.*

<sup>131</sup> *See id.*

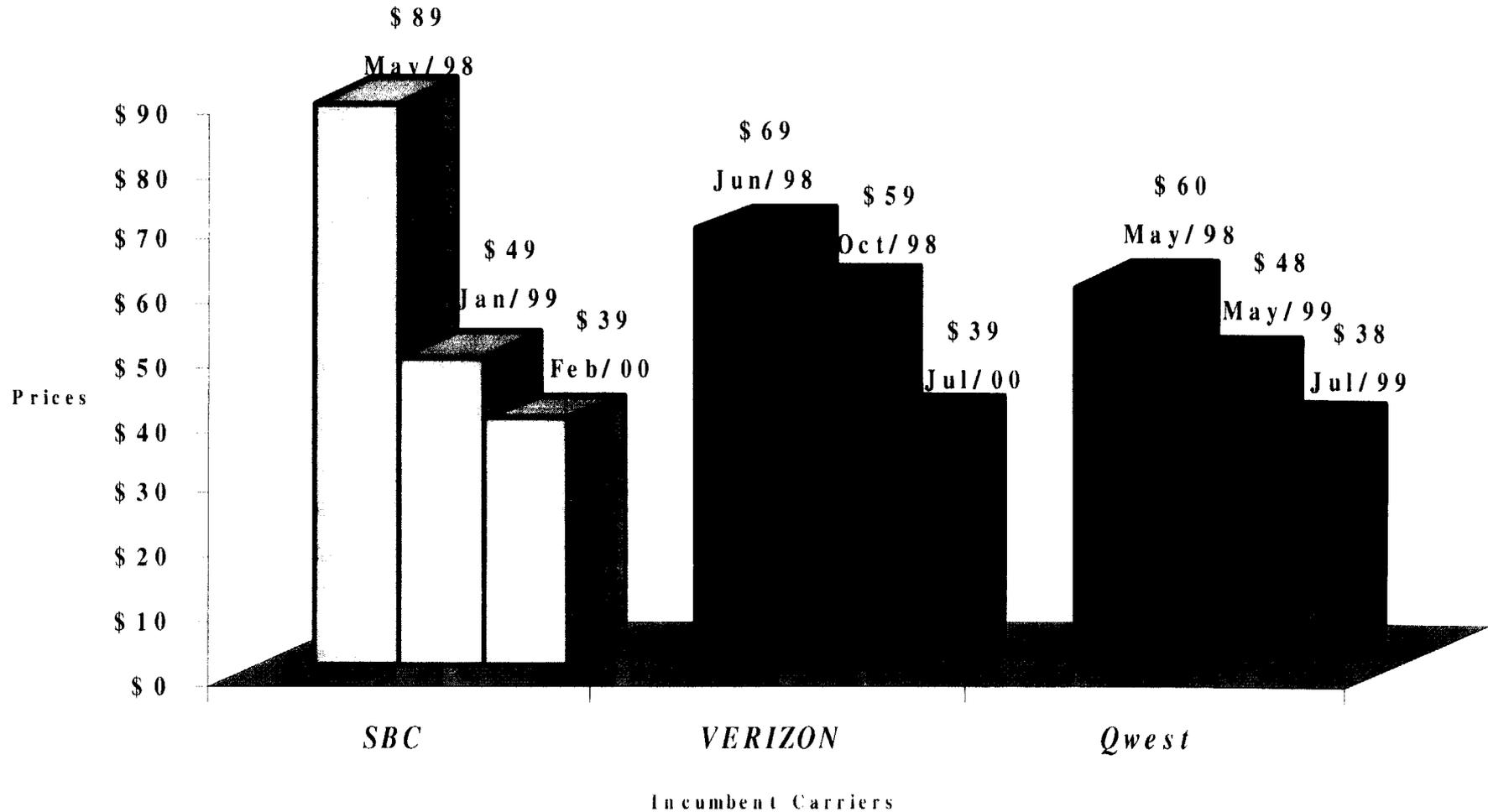
<sup>132</sup> *Id.* at 4 (emphasis added).

<sup>133</sup> Stephen E. DeLong, *Cable: The Tried-And-True Broadband Connection*, Upside, Oct. 7, 2000, at 134, 139.

# Competition Drives Down Prices

## Competition Delivers Residential DSL Price Breaks\*

RBOCs Drop Prices to Compete with Excite @ Home (\$39.95 - \$44.95)

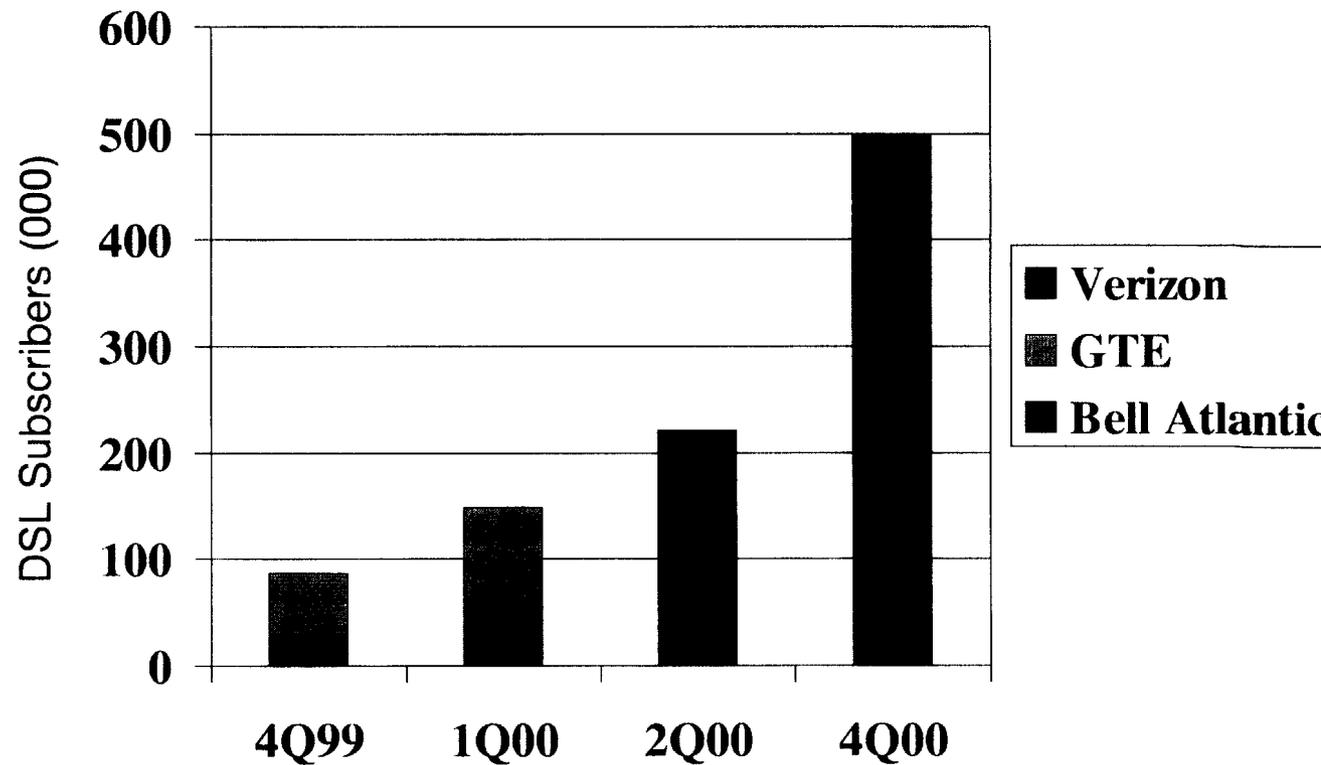


# Continue to Increase DSL Market Penetration

Verizon > For Your Home

Verizon Online DSL

## Verizon DSL Subscriber Projection – 500,000 YE00

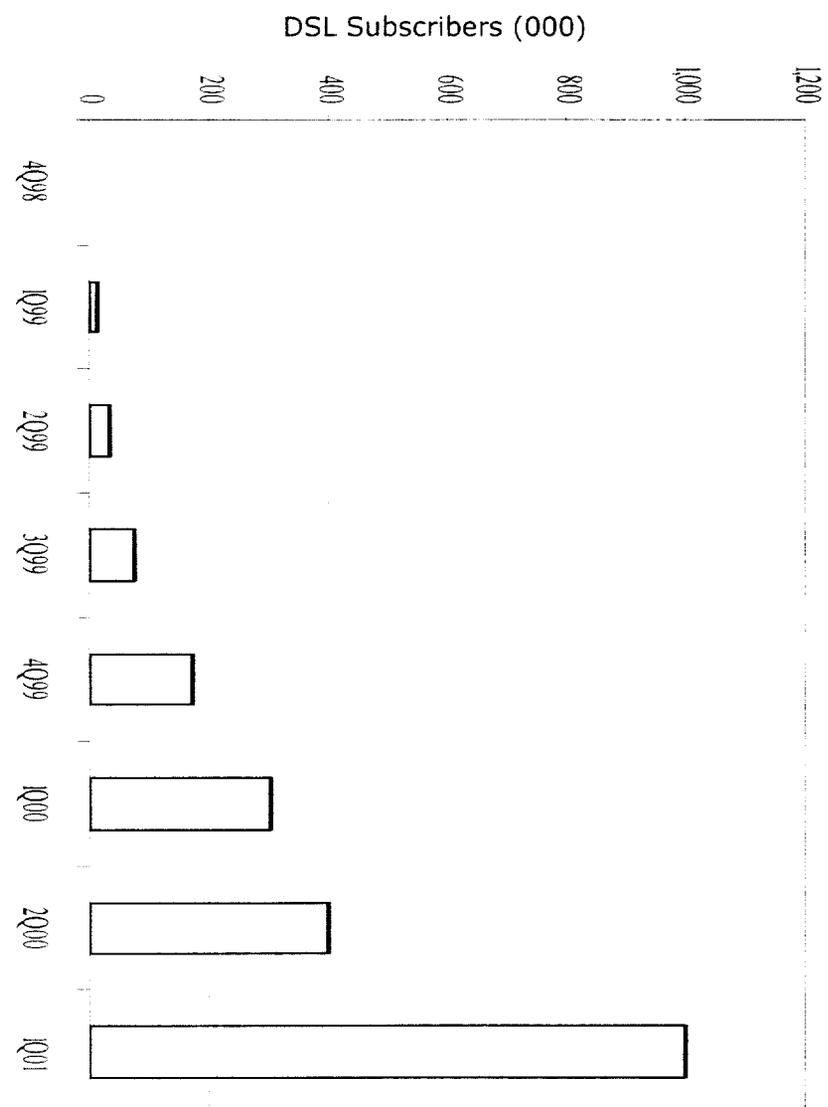


Source: [www.verizon.com](http://www.verizon.com), Quarterly Earning Reports

# Due to Increase DSL Market



## SBC DSL Subscriber Projection – 1 MILLION 1Q01



SOURCE: SBC GLOBAL NETWORK'S DSL BUSINESS, DSL SUBSCRIBER PROJECTIONS

Broadband Internet services from fixed wireless providers, satellite providers and cable overbuilders also are widely available. Sprint currently provides wireless broadband services to customers in Tucson and Phoenix, Arizona and has recently committed to expanding those services to an additional 45 markets across the United States covering 24.8 million households.<sup>134</sup> Industry leader WorldCom is deploying fixed wireless facilities with comparable coverage<sup>135</sup>. In addition, Teligent has launched broadband data services in 40 U.S. markets, Winstar Communications has wireless networks running in 45 markets (and is targeting an additional 15 markets), and XO Communications (formerly Nextlink) has begun offering wireless Internet service in Los Angeles and Dallas and intends to have broadband services operational in 25 markets by the year end.<sup>136</sup>

StarBand, a joint venture of Microsoft Corp., EchoStar Communications Corp., Gilat Satellite Networks Ltd. and ING Furman Selz Investments, has nationally launched its high speed satellite-based Internet access service.<sup>137</sup> “The joint venture plans to introduce the service through Echostar’s DISH Network, with its more than 4 million subscribers and network of some 23,000 retailers. Microsoft will provide Internet access, retail distribution through approximately

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<sup>134</sup> See *Broadband to Fon du Lac*, tele.com, Sept. 4, 2000, at 37 (Sprint fixed wireless plans to reach 45 markets and approximately 30 million households); Steve Young & Bruce Francis, *Sprint Broadband Wireless President*, CNNfn (Interview Transcript), Aug. 22, 2000 (Tim Sutton of Sprint Fixed Wireless Group discusses plans to enter 45 markets passing 30 million households); *Sprint Unveils Wireless DSL Service in Phoenix*, Communications Daily, May 8, 2000 (“Sprint’s wireless DLS footprint covers 75 million POPs – about the same size as AT&T’s cable footprint”); John Borland, *MCI WorldCom Starts High-Speed Wireless Trials*, CNE News.com (Mar. 7, 2000) <://news.cnet.com/news/0-1004-200-1566238.html?tag=st.ne.1002>.

<sup>135</sup> *WorldCom Lanchus Fixed-Wireless High-Speed Internet Service on Memphis*, WorldCom Press Release (Nov. 15, 2000) (noting that WorldCom plans to roll out its fixed wireless broadband service in 30 markets by the end of 2001).

<sup>136</sup> See Peter S. Goodman, *Dishing Up a New Link to Internet*, The Washington Post, at A1 (Nov. 6, 2000).

<sup>137</sup> *Gilat-To-Home Leases 14 Ku-band Transponders On Loral Skynet Telstar 7*, Satellite Today (Sep. 5, 2000).

7,200 RadioShack stores. [and] a Microsoft/Gilat-To-Home co-branded Internet portal.”<sup>138</sup> Satellite leader Hughes Network Systems will be providing two-way, high-speed satellite broadband services throughout the country by the end of the year.<sup>139</sup>

Cable “overbuilders,” with duplicate cable networks that compete directly with cable operators, continue to expand their services. RCN, for example is aggressively deploying its cable Internet services – which provide Internet services at speeds up to 5 times faster than traditional cable Internet services – throughout the country including the Boston-Washington corridor, San Francisco, San Diego, and more recently, Chicago and Portland.<sup>140</sup> The number of RCN subscribers doubled in the last year alone.<sup>141</sup>

In short, there are many alternative broadband paths to the home. According to the recent GAO Report, “most experts [interviewed by GAO] stated that no particular broadband technology would dominate the market in the future.”<sup>142</sup>

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<sup>138</sup> *Id.*

<sup>139</sup> See Peter S. Goodman, *Dishing Up a New Link to Internet*, The Washington Post, at A1; *Hughes Network Systems Announces Upcoming Two-Way DirecPC Satellite Internet Access*, Press Release (April 27, 2000); *Other Broadband Developments*, Broadband Daily (Sep. 6, 2000). Teledesic, a global satellite concern funded by Bill Gates and Craig McCaw, is spending \$9 billion on its “Internet-in-the-Sky” project, which will provide consumers with affordable, worldwide, “fiber-like” access (60 Mbps or higher) to broadband Internet access, video-conferencing, and high-quality voice and digital data service beginning in 2003 using a constellation of 288 low-Earth-orbit satellites. See <<http://www.teledesic.com/newsroom/05-22-98.html>>. See also Comments of Scott Hooper, co-CEO of Teledesic and Chairman of Nextlink Communications at 9-13, *In the Matter of En Banc Hearing on Broadband Services* (July 9, 1998) (<<http://www.fcc.gov/enbanc/070998/teledesic.pdf>>).

<sup>140</sup> Meryl Davids Landau, *Going High Fiber*, Chief Executive, Sept. 25, 2000, at 39 (2000 WL 12374849).

<sup>141</sup> *Id.*

<sup>142</sup> GAO Report, at 44; see also Myers Mediaenomics, *Interactive Television Outlook 2000*, at 45-47 (Oct. 2000) (attached to Letter of Lawrence R. Sidman, Counsel, Walt Disney Co., to Magalie Roman Salas, Secretary, FCC, CS Docket No. 00-30 (filed Sept. 7, 2000)) (comparing various analyst projections for cable modem service, DSL, and digital broadcasting).

Of course, cable Internet service providers' principal competitors remain the dial-up narrowband services over which 90 percent of subscribers nationwide obtain access to the Internet. Over 130 million Internet users surf the Web using both narrowband and broadband access, and continued growth is expected for some time to come.<sup>143</sup> Virtually every cable Internet customer had to be convinced to switch from AOL or another existing dial-up service, and cable Internet service providers have, from the outset, priced their services to compete with dial-up alternatives.<sup>144</sup> For AT&T and other cable companies to transform broadband Internet access into a mass market product, they must convince millions more dial-up users to switch.<sup>145</sup> If broadband prices are too high, or the quality of broadband offerings is inadequate, fewer customers will convert from dial-up service.<sup>146</sup> Under any plausible scenario, narrowband pricing will constrain broadband pricing for years to come. As the Cable Services Bureau recently noted, and the following chart confirms, “[e]ven the most optimistic estimates predict that narrowband will still be the dominant subscribed form of Internet access by 2005.”<sup>147</sup>

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<sup>143</sup> CyberAtlas, *The World's Online Populations* (visited November 30, 2000) <[http://cyberatlas.internet.com/big\\_picture/demographics/article/0,,5911\\_151151,00.html](http://cyberatlas.internet.com/big_picture/demographics/article/0,,5911_151151,00.html)>; see also *TR's Online Census*, Telecommunications Reports, at 1 (Nov. 2000) (reporting that “[m]ore than 63.2 million households” subscribed to Internet “access services of major U.S.-based Internet service providers”).

<sup>144</sup> See *First Enhanced Services Report* ¶ 87 & Chart 3.

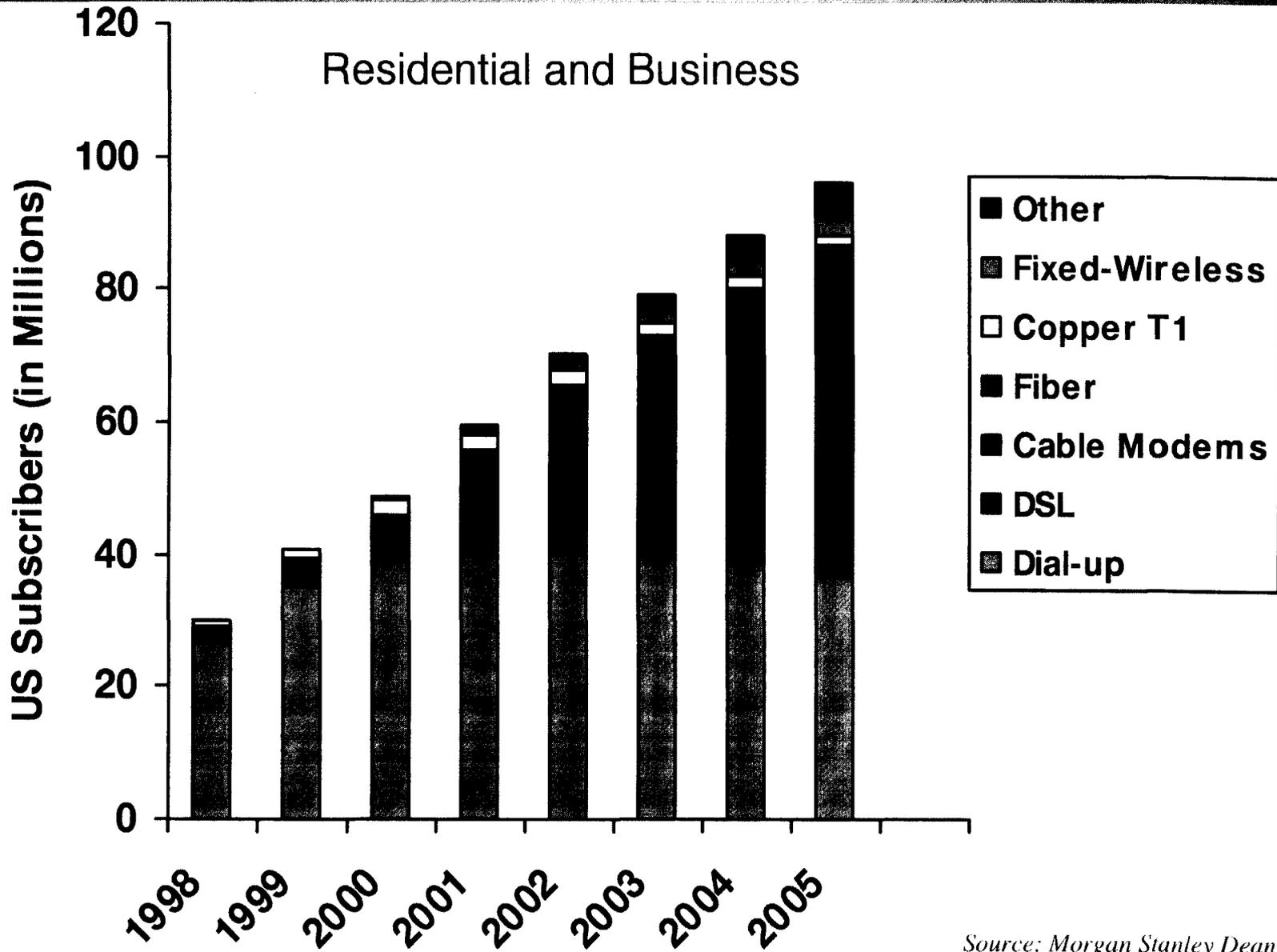
<sup>145</sup> See Ordover Willig Decl. ¶ 21.

<sup>146</sup> *Id.*

<sup>147</sup> *Broadband Today* at 32-34; see also Jupiter Research Vision Report, *Consumer Broadband: Differentiate Beyond Technology to Drive Consumer Adoption* 13 (2000).

These marketplace developments and projections demonstrate that no government intervention is needed to fuel the broadband revolution. Rather, all evidence indicates that the Commission's policies of regulatory restraint are working and that the Commission should reaffirm those policies and refrain from creating any regulatory uncertainty about the future of cable Internet service by imposing an investment-stifling forced access requirement on cable operators.

# Residential and Business Growth of Different Access Technologies



Source: Morgan Stanley Dean Witter, The Broadband Report, 5/1/00

**C. Existing And Planned Cable Internet Offerings Provide Further Confirmation That The Marketplace Is Working And That Cable Internet Providers Have Every Incentive To Give Customers What They Want.**

Competition and market forces provide AT&T and other cable Internet providers with every incentive continually to improve their offerings and to deliver high quality, low cost, easy-to-use services that provide consumers with as much choice and innovation as possible. That is because, as noted, consumers can choose among various alternative technologies for the provision of Internet access services. To disappoint consumers in this nascent, highly competitive business, even just one time, can easily cause serious commercial problems.<sup>148</sup> AT&T has, therefore, always been committed to offering its customers the best services possible to meet the vigorous and growing competition from the many narrowband and broadband online services.

AT&T believes that the success of its existing AT&T@Home and AT&T Road Runner services can be attributed, in large part, to AT&T's commitment to providing customers with customizable, open access to the public Internet. In particular, to remain competitive, AT&T has always followed – and has publicly committed to continue to follow – an open strategy that allows customers of its Internet services freedom to access the content of their choice. Consistent with this strategy, AT&T@Home and AT&T Road Runner customers may customize their Internet experience in the ways that best conform with their personal preferences and, more importantly, that allow them to reach any (non-proprietary) Internet content with a single “click” of the mouse.<sup>149</sup> Simply stated, consumers want easy and affordable access to all kinds of online

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<sup>148</sup> See Ordover/Willig Attachment.

<sup>149</sup> Of course, the very first time that a new customer “logs onto” the AT&T@Home service, certain content and information selected by AT&T is presented to them. However, after that initial “log on,” our customers may choose to by-pass that content, and instead select a different portal or other Web page as the “start up” page. After a customer has changed his or her “start-

content and services, and the more content and services consumers can access on AT&T's high-speed network, the more attractive AT&T's offerings will become to those consumers. As AT&T's vice president for federal government affairs noted in testimony before Congress earlier this year, "The more that AT&T satisfies its customers, the more customers it will have, the more traffic it will carry, and the more likely it will be to sell to customers its other broadband offerings."<sup>150</sup>

AT&T continues to consider new and innovative ways to improve its cable Internet offerings in order to provide its customers with as much choice as possible. To this end, AT&T has announced its intention to develop and deploy innovative new cable Internet offerings that will permit customers to purchase services from multiple ISPs that are connected *directly* to AT&T's cable systems.<sup>151</sup>

AT&T calls this program "Broadband Choice," and AT&T plans commercial deployment of the new Broadband Choice service nationwide in about 18 months. That is a very aggressive timeline given the amount of work that remains to be done to ensure a reliable, customer-friendly, and cost effective multiple-ISP service offering. This is particularly true because

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up" page, there is no need for that customer to make that selection again; rather, the startup page selection need be made only once (and can be changed again at any time).

<sup>150</sup> *Internet Deregulation; Web Information Privacy: Hearing on H.R. 1686 and H.R. 1685 Before the House Comm. on the Judiciary, 106<sup>th</sup> Cong.* (July 18, 2000) (statement of Leonard J. Cali, Vice President of Federal Government Affairs, AT&T). A number of financial analysts have made similar comments recently about the benefits of allowing unaffiliated ISPs access to the cable modem platform. See, e.g., Richard A. Bilotti, *Cable: Open Access Is Good*, Morgan Stanley Report, Nov. 1, 2000 ("Thus, open access initiatives would help the cable operators grow revenue and cash flow earlier. In addition, as more consumers sign up for the service as a result of the choice in ISPs, the cable operators would have an incentive to roll out these new services in their markets more quickly. In addition, cable operators would realize cost savings by allowing multiple ISPs to use their cable systems, which, in turn, would help induce cash flow."); *Open Access Could Help AOL-Time Warner, Goldman Says*, Reuters, Nov. 8, 2000 (citing Goldman Sachs report suggesting that AOL-Time Warner could benefit from letting AOL's rivals use Time Warner's cable network).

AT&T must roll out these multiple ISP services without adversely affecting the services received by current Excite@Home customers. As described below, AT&T faces significant challenges in moving to a multiple ISP environment. And, the strong competition among the various online Internet services imposes additional pressure on AT&T to ensure that the initial quality of its new service is very high in order to avoid turning current and potential customers to the services offered by competitors. But AT&T is firmly committed to tackling and resolving these issues. And the efforts by AT&T and other cable companies in this area provide still further support for the Commission's repeated – and unquestionably correct – findings that the marketplace is working and provides strong incentives for cable Internet providers to do everything in their power to please customers.

AT&T describes below: (1) its existing cable Internet architecture and the fundamentally different approach required to enable Broadband Choice; (2) the many technical, operational and business issues that must be resolved before commercial deployment of these innovative new services is possible; (3) the technical and operational trial that is underway now in Boulder, Colorado to assess how laboratory solutions to multiple ISP access hold up under real world

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<sup>151</sup> *AT&T Broadband to Launch Trial of Multiple Internet Providers*, AT&T Press Release (June 7, 2000) <<http://www.att.com/press/item/0,1354,2951,00.html>>.

conditions; and (4) AT&T's planned technical and commercial trial next year in Massachusetts that will build on the experience in Boulder and address the commercial aspects of sharing the cable Internet platform with unaffiliated ISPs.

**1. The Development Of The New Broadband Choice Service.**

AT&T has long been exploring the possibility of designing and developing new cable Internet services that would allow customers to choose from among multiple ISPs that are connected directly to AT&T's cable systems.<sup>152</sup> On December 6, 1999, AT&T publicly confirmed, in a joint letter with Mindspring Enterprises to Chairman Kennard, that it would, upon the expiration in 2002 of the limited exclusivity provisions in its contract with Excite@Home, provide consumers with a choice of ISPs and that it would enter into commercial negotiations with unaffiliated ISPs that wish to offer high-speed Internet access over AT&T's cable facilities.<sup>153</sup> Among other things, AT&T agreed that it would give consumers:

- (1) a choice of ISPs;
- (2) the ability to exercise their choice of ISPs without having to subscribe to any other ISP;
- (3) a choice of Internet connections at different speeds, and at prices reasonable and appropriate to those speeds;
- (4) direct access to all content available on the Web without any AT&T-imposed charge to the consumer for such content;
- (5) the continued ability to change or customize their "start page" and other aspects of their Internet experience; and
- (6) the functionality of their ISP comparable to that which such ISP has on competing high-speed systems, subject to technical constraints particular to, or imposed

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<sup>152</sup> *Id.*

<sup>153</sup> See *Ex Parte* Letter from Joan Marsh, AT&T, to Magalie R. Salas, FCC, filed in CS Docket No. 99-251 (Dec. 7, 1999) (attached 12/6/99 letter from James W. Cicconi, AT&T, and David N. Baker, Mindspring Enterprises, to William E. Kennard, Chairman, FCC).

upon, all ISPs using AT&T's cable system to deliver high-speed Internet access.<sup>154</sup>

To effectuate this policy, AT&T stated that it was prepared to negotiate private commercial arrangements with multiple ISPs, to take effect upon the expiration of the existing Excite@Home exclusive contractual arrangement, that would provide ISP with the following:

- (1) Internet transport services for high-speed Internet access at prices reasonably comparable to those offered by AT&T to any other ISP for similar services, subject to other terms negotiated between the parties on a commercial basis;
- (2) the opportunity to market directly to consumers high-speed Internet access over cable using AT&T's Internet transport services;
- (3) the opportunity, through means to be mutually agreed upon, to market their high-speed Internet access using AT&T's Internet transport services to AT&T's cable customers who have not already designated an ISP;
- (4) the opportunity to bill cable subscribers directly for services provided by the ISP that are additional to the services provided by AT&T;
- (5) the opportunity to differentiate service offerings by various means, such as enhanced customer care and advanced applications; and
- (6) the opportunity to maintain brand recognition in all such offerings.<sup>155</sup>

AT&T is now taking concrete steps to implement the open access policies to which it committed in the MindSpring letter. In particular, AT&T recently unveiled "Broadband Choice," a program designed to develop, test, and deploy new technology and processes that will permit customers to purchase services from multiple ISPs that are connected directly to AT&T's cable systems.

Contrary to the claims of some forced access proponents, implementing Broadband Choice is not a simple matter of "plugging" more ISPs into existing systems. Rather, it requires

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<sup>154</sup> *See id.* at 1.

<sup>155</sup> *Id.* AT&T also agreed subsequent to the joint MindSpring letter that it would: (1) permit ISPs to obtain Internet backbone capacity from AT&T or to supply their own backbone capacity and (2) ensure the availability of streaming video to customers who desire it. *See Ex Parte* letter from B. Brady, AT&T, to Magalie R. Salas, FCC, filed in CS Docket 99-251 (May 10, 2000).

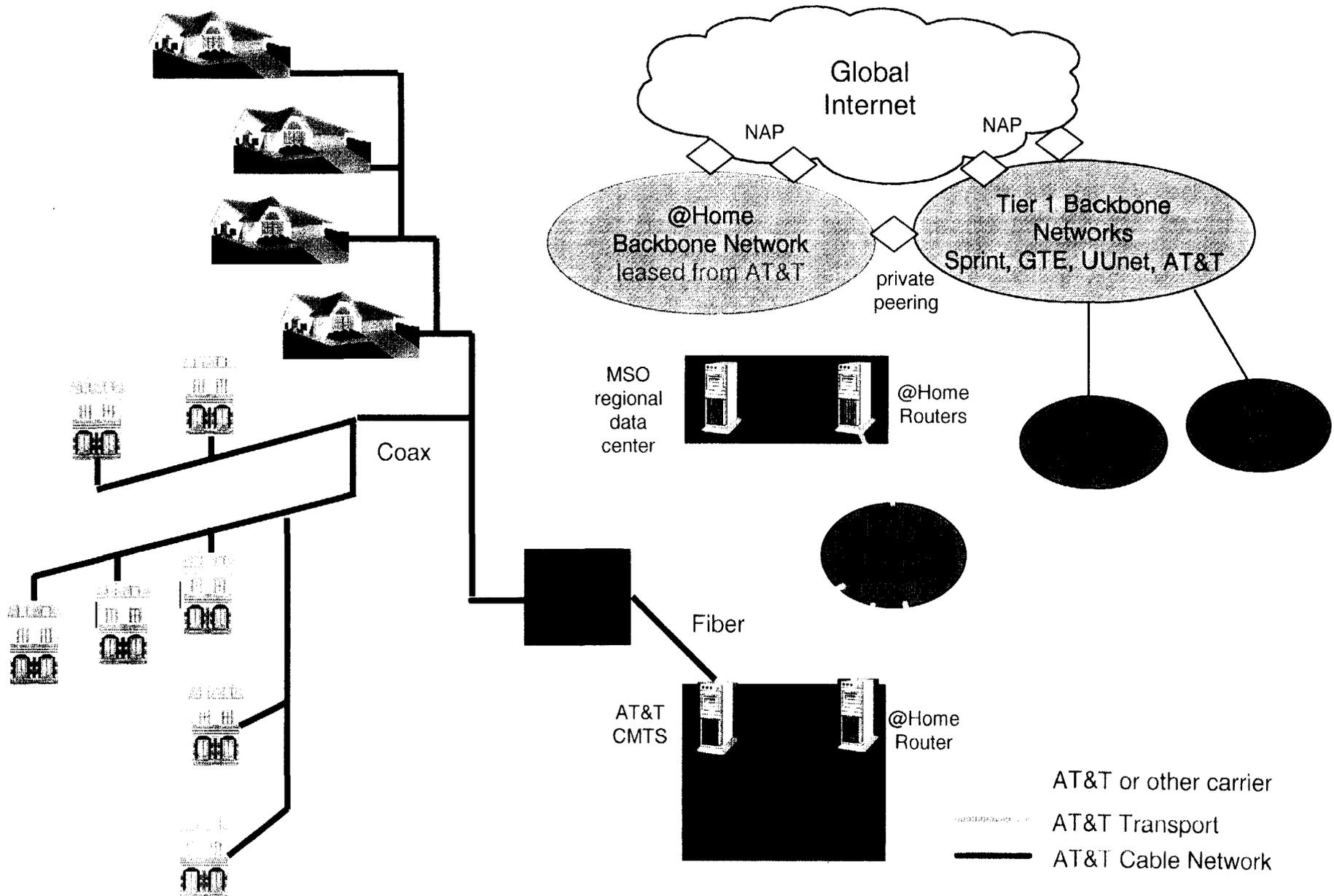
a fundamental redesign of cable Internet service. The current AT&T@Home service is a single integrated offering pursuant to which customers are provided online Internet services. As such, it is not possible at this time to divide the service into parts or even to identify a single demarcation point between AT&T and Excite@Home on the critically important “logical layer” of the cable network.<sup>156</sup> The logical layer consists of certain equipment (*e.g.*, routers) and software that control how data is transmitted over the “physical layer” of the network (*e.g.*, the cable wires). For instance, the logical layer controls how data is taken from a customer’s home and delivered to the Internet and vice versa. As a practical matter, Excite@Home controls most aspects of the logical layer of the cable modem network, *i.e.*, Excite@Home is responsible for ensuring that data transmitted from an AT&T@Home customer’s home reaches the appropriate destination on the Internet and that data from the Internet is properly routed to the requesting customer’s home.

The following chart depicts the current architecture for delivery of high-speed Internet access over the cable plant:

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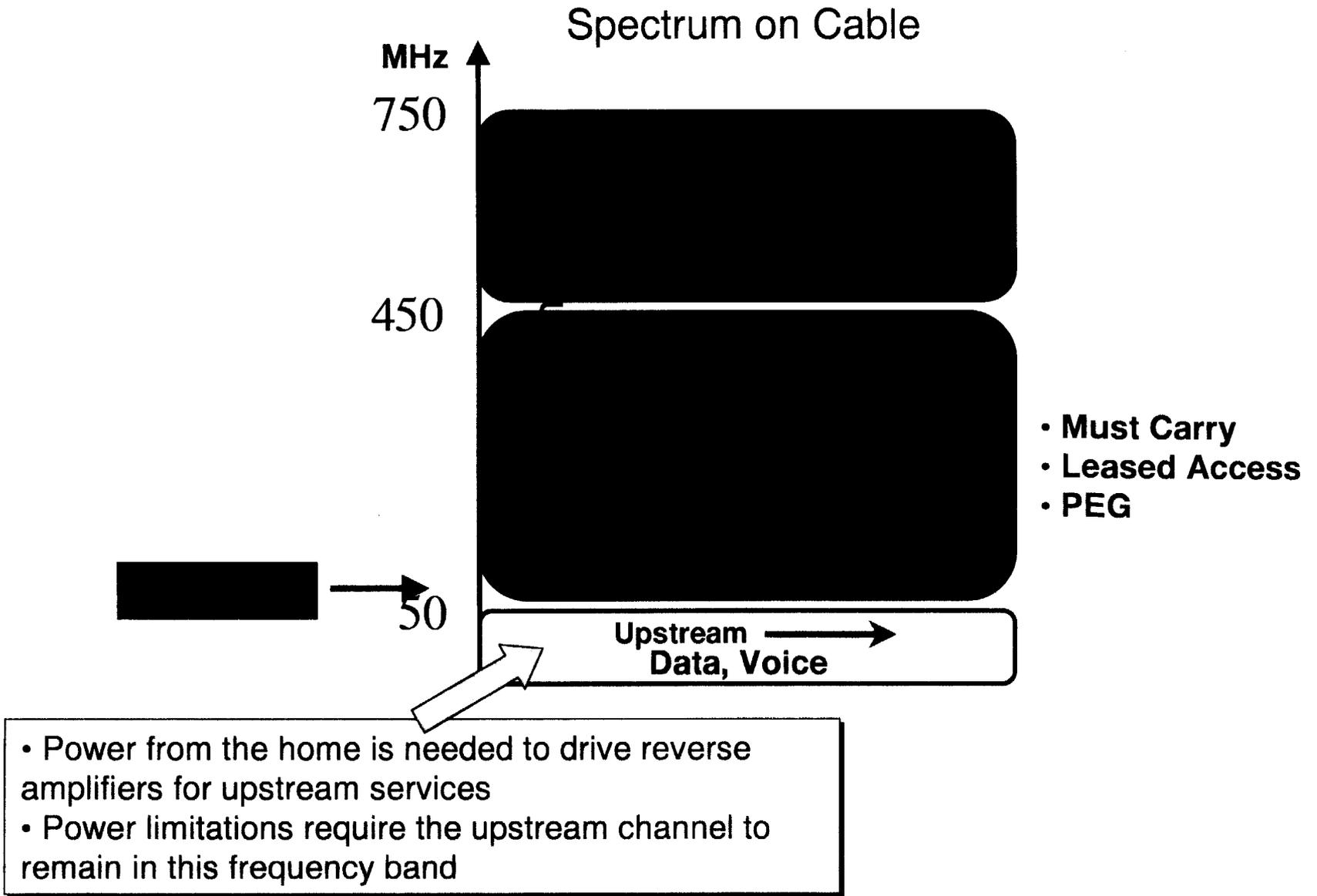
<sup>156</sup> In technical terms, there are two “layers” associated with the AT&T@Home service, a “physical layer” and a “logical layer.” Although the control and ownership demarcations of the physical layer of the network can be identified, the same is not true for the logical layer of the network.

# ISP Connectivity over Cable Today



AT&T Proprietary - Do Not Print

# Cable Requirements Limit



The AT&T@Home service was designed in this manner because, at the time that these networking decisions were made, engineers from @Home and AT&T (then TCI) determined that the most effective and efficient way to offer customers a low-cost broadband Internet service over cable facilities in a timely fashion was to have a single entity control the bulk of the logical layer of the network<sup>157</sup>. And this conclusion was quite reasonable in light of the fact that no other cable service had successfully implemented a multiple ISP service at that time.

Moreover, AT&T's experience confirms that these were the correct decisions. In developing and deploying the current AT&T@Home service, AT&T experienced countless logistical and technical problems. Overcoming these problems in a "single ISP" environment was quite difficult; it would have been much more difficult, if not impossible, to do so with multiple ISPs. Indeed, AT&T would not have been able to deploy a broadband cable Internet service of the same quality and in the same time frame as the AT&T@Home service if it had originally attempted to do so with multiple ISPs.

That being said, the experience gained by AT&T from deploying the AT&T@Home service will undoubtedly be of assistance to AT&T in its efforts to offer a multiple ISP service by 2002. Of course, that does not mean that the task will be easy. To the contrary, AT&T must overcome numerous challenges before such a service can be deployed on a commercial basis.<sup>158</sup>

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<sup>157</sup> Letter from Robert Sachs, President, NCTA, to Sen. Herb Kohl (Nov. 20, 2000) ("Cable broadband was deployed at a time when few in the industry were willing to take or share the risk of innovating, developing, and deploying a new and unproven service in the face of uncertain consumer demand. When no one else would take the risk, the cable industry inverted private capital, formed affiliated ISPs, and entered into exclusive agreements, a widely accepted practice in the context of a risky venture with no guarantee of financial return").

<sup>158</sup> AT&T has described some of these challenges in previous filings with the Commission. *See, e.g.*, AT&T Reply, filed in CS Docket No. 99-251, at 111-112 (Sept. 17, 1999).

## **2. Technical And Operational Challenges Associated With Multiple ISP Access.**

Because cable networks were initially designed to support only a single ISP, implementing multiple ISP access to existing cable networks creates numerous complex technical and operational issues. These include: (1) reconfiguration of the cable system and development of hardware to accommodate multiple ISPs; (2) development of systems and software to manage third-party bandwidth demand; and (3) development and implementation of the operational support systems that would be needed to provide access to ISPs (*e.g.*, ordering, billing, maintenance).

Cable modem networks are not generally constructed to operate with multiple ISPs connected directly to the cable system. Consequently, moving to a multiple ISP environment will require restructuring of the network so that multiple ISPs can operate on the same physical plant (*i.e.*, cable facilities) without sending inconsistent network instructions – a problem which could significantly reduce the quality of the service received by cable customers. Addressing this issue will require the development of new software to control and direct data through the network.

Most of these issues stem from the “shared” nature of the cable plant. Unlike a telephone system, in which there is a dedicated circuit between the caller and the central office, transmissions between cable subscribers and ISPs will use a common bandwidth. Accommodating multiple ISPs on a cable network requires proper routing of the transmission between the consumer and the ISP selected by that customer without degrading network integrity or creating network congestion. More specifically, the network must be able to determine which ISP among many is intended to receive a message or data packet from a particular cable network customer – in short, it needs a router capable of matching each customer to his or her chosen ISP. If a single customer may designate a different ISP for each computer in her home or even

multiple ISPs serving a single computer, matching the data stream to the correct ISP is even more complicated.<sup>159</sup>

The routers that are currently used in the AT&T@Home service, and by other cable Internet service providers, are only able to read *destination data* from a “packet header.” Because all traffic is presently routed to a single ISP, there is no need for the routers to read the customer’s *source data* in the packet. In a multiple ISP environment, however, source data is needed so that the packet can be routed to the appropriate ISP. By knowing the source of a piece of data, the cable operator can determine which ISP the source is using. Consequently, new routers have to be deployed that are able to read the source information in the packet header. A router has been developed that has performed the proper routing function in a laboratory setting. However, that router (also known as a “policy-based router”) has not yet been tested in a real-world environment to ensure that it is reliable and scalable for commercial use. In fact, even preliminary testing of policy-based routers has raised concerns about their ability to handle high volumes of traffic in a commercial setting. In these tests, it appears that the greater the number of ISPs that the router must match up with subscriber transmissions, the greater the degradation of service to all subscribers.<sup>160</sup>

On a shared infrastructure, the integrity of the network and overall customer services depends upon fair usage of the bandwidth by all ISPs and their customers. If one ISP allows its customers to engage in activities that use a disproportionate amount of the bandwidth that is

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<sup>159</sup> Any customer with a subscription to more than one ISP will also need multiple IP addresses rather than the single address assigned to the customer when the computer is booted up. IP addresses are scarce resources like telephone numbers, and the prospect of assigning several to each customer raises potentially serious issues.

<sup>160</sup> Router manufacturers and software developers are currently working on improvements to policy-based routers such as layer three transport mechanisms to make them more efficient. This solution will hopefully “tag” each data packet so that key policy information can be read by the router without having to open and read the entire packet.

available on AT&T's cable system, then the customers of other ISPs would be unable to access the Internet at high-speeds. In addition, as the following chart illustrates, a shared infrastructure must support not only simultaneous access to multiple services, including voice, video, and data, but also multiple ISPs.

Some method of monitoring, controlling, and prioritizing customer bandwidth usage must be developed in order to ensure that these high bandwidth services can be successfully offered without interfering with other consumers' use of their ISP services or threatening the integrity of the network.

DOCSIS 1.1, the latest cable modem standard, will allow more effective management of bandwidth usage. Such a capability is essential for the successful implementation of services such as video streaming or Internet telephony, the quality of which may be severely affected by variations in bandwidth availability. Internet uses less reliant on a constant level of bandwidth – such as the browsing of web pages – could be given a lower priority without substantially affecting the quality of service. Customers could change their priority levels repeatedly within a single computer session with a click of the mouse. In essence, DOCSIS 1.1 will permit the provisioning of varying levels of service depending upon the needs of the customer and consequently a more efficient use of limited bandwidth. As with policy-based routers, however, DOCSIS 1.1 is currently in the testing phase.

Another technical issue that networks and ISPs must resolve prior to the implementation of multiple ISP access is the proper location of the points of connection (“POCs”) between the network and the ISPs seeking access. Because several viable points of interconnection exist (*e.g.*, the headend, regional data center, or national backbone), cable network operators and ISPs will have to weigh the advantages and disadvantages of each POC in light of relevant network

architecture and ISP needs. Significant amounts of research and testing are required to determine the location and commercial viability of these additional POCs.

Multiple ISP access also raises questions regarding the physical integrity of the network and its related facilities. Some balance must be reached between cable Internet operators' needs to protect the security of their systems, physical plant, and network and ISPs need for access for the purposes of installation, maintenance, and service. In addition, questions regarding allocation of network space, costs of upgrades, and other issues regarding the use of the network must be addressed.<sup>161</sup> In addition, questions regarding payment for infrastructure costs such as repair, expansion, and upgrade of facilities must be addressed.

Apart from these technical and operational problems, there is no ready model for dividing responsibilities between the cable operator or cable Internet service provider and unaffiliated ISPs for: the provisioning of services, customer installation, access by customer service

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<sup>161</sup> Among the questions that must be resolved are the following:

- Who ensures that the equipment is compatible with the cable network's equipment and will not create any interference with the network or other ISPs?
- How and on what terms will ISPs gain access to cable network buildings essential for maintenance or services?
- How will such access be monitored in order to ensure the integrity of both the network and the services of other ISPs?
- Who will pay for the expansion of facilities and additional electrical and other costs related to multiple ISP access?
- Who is responsible for capital upgrades of buildings and the cable network?
- Who determines when upgrades are necessary?
- Who determines what usage level and priority certain ISPs are given?
- Who determines how much space should be reserved for future ISPs?
- Who reallocates bandwidth space when old ISPs leave the network and new ones join?

representatives to the cable plant, traffic engineering and management, dispatch and troubleshooting, network fault isolation, network capacity expansion, and customer software updating and modification.<sup>162</sup> Billing procedures between the cable network and ISP must also be established (direction of payment, basis for payment – flat fees, revenues, percentages, *etc.*, timing of payments, and penalties). These “back office” functions must be resolved before multiple ISP service can be provided on a commercial basis. Moreover, because these provisioning systems are software-based, they require substantial testing in the lab and in the “real world” to identify and weed out any “bugs” that would otherwise introduce instability and errors in a commercial environment.

Systems must also be developed to effectively address any customer service problems that may arise. First, with multiple ISPs providing service over a cable network, the process of locating and solving any service problems becomes substantially more complicated. To address this problem, AT&T, for instance, is developing diagnostic tools to aid customers in identifying and even solving certain service issues. Second, customer trouble calls to both cable Internet operators and to ISPs must be appropriately prioritized and coordinated. Third, AT&T and the ISPs will need to work out a method to implement a degree of visibility into each others’ systems so that they can efficiently identify problems and manage Internet services on a daily basis.

Another complexity is the management of ISP traffic flow, which will require ISPs to provide cable operators with information regarding the types of services being provided and number of customers buying their services. Although essential to network management, ISPs are likely to resist providing adequately detailed information regarding such activities to the network

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<sup>162</sup> Moreover, the dynamic nature of enriched broadband services will require constant improvements in and modifications to local network support.

manager, even for the limited purpose of managing bandwidth congestion. Sharing such sensitive business information regarding customers, business plans, and operations with an unaffiliated entity – who may well be a competitor and who certainly has contact with competitors – will go deeply against the grain of companies worried about the loss of a competitive advantage. In order to properly size network capacity, each ISP must provide a forecast of usage – a common practice today in the long distance telephone and ISP peering contexts. To ensure that accurate information is provided, the affected parties will need to negotiate terms regarding the type and scope of information to be provided, the use to be made of it, security procedures to be applied, and penalties for misuse of information.

### **3. The Boulder Technical Trial.**

In an effort to research and begin resolving technical and operational challenges involved in providing its customers with ISP choice, AT&T launched on November 1 a six-month trial in Boulder, Colorado with multiple unaffiliated ISPs, and will commence a follow-on trial in Massachusetts next October. The purpose of the Boulder trial is to define and execute an architecture for a multiple ISP environment, focusing in particular on the technical and operational aspects of such an environment and how to make ISP choice scalable across AT&T cable systems and easy to use for customers.

AT&T invited a number of national and regional ISPs to participate in the six-month trial in Boulder, which runs from November 2000 through April 2001.<sup>163</sup> Thus far, eight of the invitees have agreed to join the trial, including a mix of national ISPs (Excite@Home,

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<sup>163</sup> The ISP invitees were AOL, Dell.net, Denver News (part of the Denver Post newspaper organization), Excite@Home, Juno, Mindspring, MSN, RMI.net, WorldNet, Yahoo!, Winfire, FriendlyWorks, and Flashcom. See *AT&T Broadband to Launch Trial of Multiple Internet Providers*, AT&T Press Release (June 7, 2000). AT&T selected Boulder because of the city's close proximity to AT&T Broadband's headquarters, the relatively small size of the cable system, and the city's high concentration of PC owners and online users. See *AT&T to Try Out*

EarthLink, Juno, and WorldNet), a regional ISP (RMI.net), an ISP specifically designed for seniors (FriendlyWorks), and two DSL providers (Winfire and Flashcom).<sup>164</sup> The trial will likely involve approximately five hundred consumers.<sup>165</sup>

The Boulder trial is focused primarily on testing brand new – and complex – technology and software that are designed to allow customers to seamlessly access multiple ISPs that are directly connected to AT&T’s cable systems. AT&T will also begin to develop the major “back office” support systems required to provide the service to customers across AT&T systems nationwide. Furthermore, AT&T intends to monitor customer behavior with regard to the functionality of the user interface and the customers’ demand for this service offering in order to ensure that it is providing customers with a service that meets their needs.

In order to avoid disrupting service to any existing AT&T@Home customers in the Boulder area during the test period, AT&T has built an entirely new parallel broadband network (that uses only the cable drops and distribution from the existing cable network), passing some 9,000 homes. AT&T will not charge customers for participating in the trial, nor will ISPs be charged for interconnections.<sup>166</sup> AT&T also emphasizes that it managed to get the trial up and

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*Multiple ISP Access to Cable Systems*, Communications Daily, June 8, 2000, at 3 (quoting AT&T Broadband spokesperson).

<sup>164</sup> See *Eight ISPs Join AT&T Broadband Choice Trial*, AT&T Press Release (Nov. 1, 2000) (noting that participating ISPs will share customer care processes, connect to the AT&T Broadband network, and develop interfaces with AT&T to provide customer service).

<sup>165</sup> AT&T invited over 9,000 Boulder residents to apply to participate in the trial, reviewed the applications received from interested residents, and further pre-screened those applicants based on the type of computer equipment in their homes to determine those that would be suitable for the trial. See Leslie Ellis, *Anatomy of a Trial: Boulder*, Broadband Week, Oct. 2000, <[http://www.broadbandweek.com/news/0010/0010\\_news\\_openside.htm](http://www.broadbandweek.com/news/0010/0010_news_openside.htm)> (“*Anatomy of a Trial*”).

<sup>166</sup> See *id.* (“Because the point is to learn the technical and operational aspects of broadband choice, AT&T won’t strike service level agreements (SLAs) with the [participating] ISPs.”).

running within six months, and that there were already over 100 consumers receiving services by the end of November. AT&T plans to add at least 75 new consumers to the trial each week.

The Boulder trial will operate using a newly developed service activation system that will allow AT&T to perform the service provisioning and management function previously done entirely by Excite@Home. Trial customers will obtain the service through a “Service Agent” tool which will allow them to select ISPs from their desktops (including multiple ISPs for a single household), choose their connection speed (and change speeds based on the needs of the particular application being used), and navigate through the new ISP choice environment.<sup>167</sup> One goal of the trial is to debug and improve the Service Agent tool to provide better service to customers in the future.<sup>168</sup> In addition, the Service Agent will have diagnostic functions, help customers identify where additional support is available, and ultimately sort out billing information.<sup>169</sup> As AT&T Broadband’s senior vice president for data services has noted, the “strategy of creating the Service Agent is an excellent way to allow for ISP choice by consumers

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<sup>167</sup> *See id.* AT&T will also offer customers the option of subscribing to local online content that AT&T Broadband will develop and provide. Customers may subscribe to this online content service alone, in addition to an ISP service, or not at all. In time, AT&T also expects to give customers the option of subscribing to telephony services over the cable plant.

<sup>168</sup> *See id.*; *see also* Jeff Baumgartner, *Even Open-Access Tests Are Complex*, Multichannel News, Aug. 7, 2000, at 1, 57 (quoting AT&T Broadband’s director of business development as saying: “[Customers] will be doing a lot of artificial behaviors for us – subscribing, unsubscribing, changing their speed up, and changing their speed down.”). As a technical matter, existing DOCSIS 1.0 modems do not have tiering capabilities to vary data rates dynamically, so maximum data rates will be pre-assigned for each trial participant. *See* Ellis, *Anatomy of a Trial: Boulder*. Next generation DOCSIS 1.1 modems, in contrast, will allow for variations in maximum data rates. *See* Leslie Ellis, *DOCSIS 1.1: What It Is, and What It Isn’t*, Multichannel News, Oct. 16, 2000, at 64 (noting, for example, that if a user wanted to stream a movie on her PC, the DOCSIS 1.1 modem automatically adjusts to the higher data rates). AT&T hopes that the DOCSIS 1.1 standard will be finalized and available during the Boulder trial, and, if it is, AT&T will upgrade the cable modems of trial customers to the new standard.

<sup>169</sup> *AT&T Broadband to Launch Trial of Multiple Internet Providers*, AT&T Press Release (June 7, 2000).

and, at the same time, give ISPs the control they need to tailor their services to consumer needs.”<sup>170</sup>

As noted above, routing technologies are critical in an environment involving multiple ISPs because the cable system needs to know not only the destination of each data packet, but also the source of that data. AT&T has configured the Boulder trial for multiple ISP traffic using “policy-based routing.”<sup>171</sup>

Under this approach, AT&T assigns the personal computer of the customer an IP address from the address block of the customer’s ISP of choice. Outgoing packets are forwarded to the ISP based on the customer’s IP address, while incoming packets are generally routed to the customer’s personal computer. AT&T will provide this routing service using Cisco’s new (and, to date, commercially untested) router that will be located in a regional data center in Denver, Colorado.<sup>172</sup> What follows is a schematic of the architecture for the Boulder trial that includes the policy-based router.

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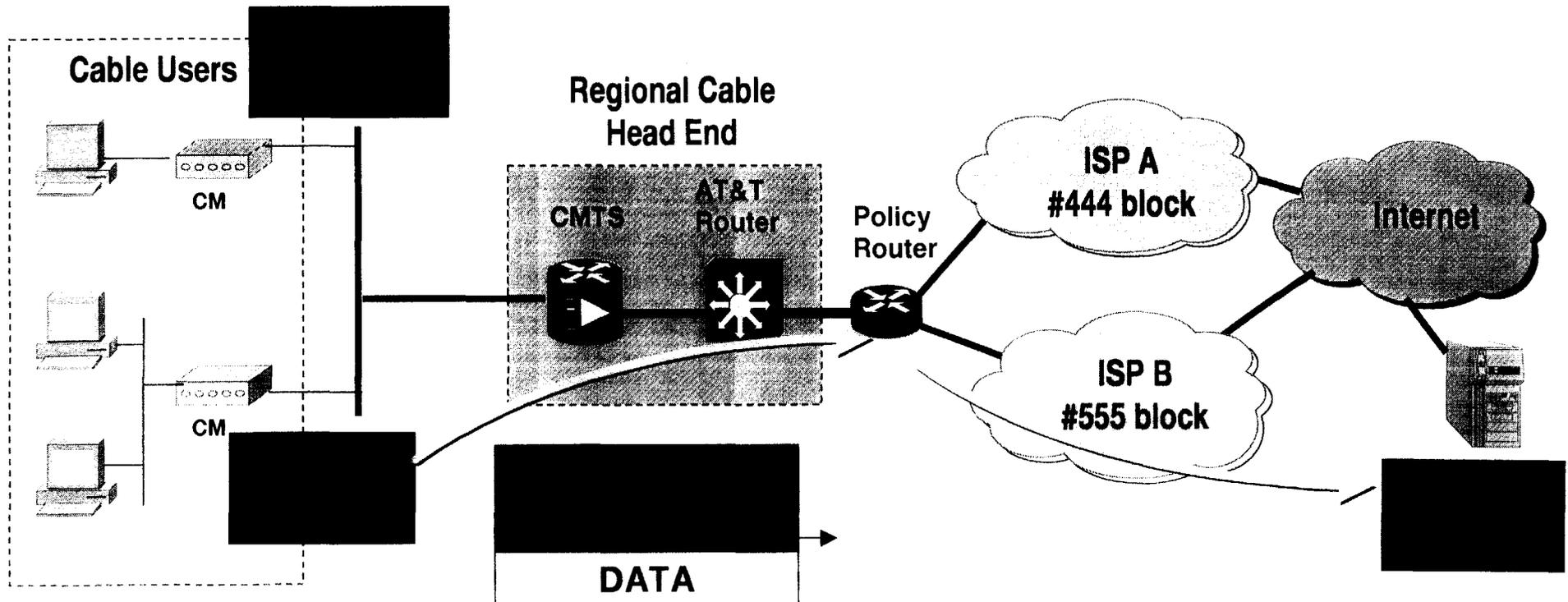
<sup>170</sup> *AT&T to Try Out Multiple ISP Access to Cable Systems*, Communications Daily, June 8, 2000, at 3

<sup>171</sup> See Jeff Baumgartner, *Even Open-Access Tests Are Complex*, Multichannel News, Aug. 7, 2000, at 1, 57; see also *id.* (describing other routing methods, including tunneling, network address translation, and native IP). Time Warner is also using policy-based routing in its multiple ISP trial in Columbus, Ohio. See Leslie Ellis, *Opening Days*, Broadband Week, Oct. 2000, <[http://www.broadbandweek.com/news/0010/0010\\_news\\_open.htm](http://www.broadbandweek.com/news/0010/0010_news_open.htm)>.

<sup>172</sup> See Ellis, *Anatomy of a Trial* (noting that data packets in the Boulder trial will travel from the test-dedicated CMTS in AT&T’s Boulder headend, over an AT&T-owned high-speed line, to the policy-based router in metro Denver and then on to participating ISPs’ routers and servers around the country). AT&T is also testing a policy-based router made by Juniper Networks.

# Source Address Based Policy Routing

- ISP provides AT&T Broadband with a block of IP addresses
- AT&T Broadband dynamically assigns cable modem an IP address from the ISP block
- Incoming packets are destination routed to the cable modem
- Outgoing packets are forwarded by the policy router to the ISP based on the source address of the cable modem



#### 4. The Planned Massachusetts Trial.

On June 27, 2000, AT&T and the Massachusetts Coalition for Consumer Choice and Competition on the Internet announced an agreement that will provide AT&T's customers in Massachusetts a choice of ISPs.<sup>173</sup> Under the agreement, AT&T will conduct a multiple ISP pilot in up to three Massachusetts communities, no later than October 31, 2001, and implement Broadband Choice statewide no later than July 1, 2002.<sup>174</sup>

AT&T has yet to formalize its plans for the 2001 trial, but expects that it will build on the results of the Boulder trial as well as technological advancements, such as introduction of the DOCSIS 1.1 modem. In particular, AT&T anticipates that the trial will focus on the myriad of commercial and "back office" aspects of the multiple ISP model that were not addressed in the Boulder trial, including how to bill customers and ISPs, how to coordinate customer service calls with multiple ISPs, what other business arrangements with participating ISPs need to be established, how to market the product, and so on. As with the Boulder trial, the Massachusetts pilot program is likely to involve both national and regional ISPs, and will give customers a choice of different connection speeds for the service.<sup>175</sup> AT&T anticipates that it will open discussions with ISPs sometime during the first quarter of next year and select participating communities in the same time frame.

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<sup>173</sup> See *Massachusetts Coalition for Consumer Choice and Competition on the Internet and AT&T Agree on Plan for Consumer Choice of ISPs in Massachusetts*, AT&T Press Release (June 27, 2000).

<sup>174</sup> See *id.* AT&T anticipates that the Massachusetts trial will involve a larger number of customers than the Boulder trial in order to increase the scale of the Broadband Choice rollout in preparation for the full statewide rollout in 2002.

<sup>175</sup> See Peter J. Howe, *Net Service Providers Applaud AT&T Agreement*, *The Boston Globe*, June 29, 2000, at D1.

AT&T's Broadband Choice initiative, and the Boulder and Massachusetts trials it has undertaken to implement the initiative, provide very substantial evidence of AT&T's incentive to create a workable multiple ISP environment and its willingness to invest significant resources to make that environment a reality. Particularly when combined with the robust competition and investment in broadband Internet access described above, these efforts by AT&T (as well as other cable companies) should provide the Commission with even greater assurances that it need not and should not impose a forced access requirement on cable operators.

**III. GOVERNMENT-MANDATED ACCESS WOULD HARM CONSUMERS BY DETERRING INVESTMENT, IMPEDING INNOVATION, AND DELAYING AND IMPAIRING THE PROVISION OF BROADBAND SERVICES.**

Deviating from the well-considered policy of "vigilant restraint" would be unwise. Proponents of government-mandated access ask the Commission to ignore clear evidence of robust competition and marketplace responses to customer demand. But imposition of a rigid, one-size-fits-all access requirement in an area as dynamic as the Internet will dramatically slow deployment of broadband access, deter investment, stall development of new services and technologies, discourage innovative business models, and irretrievably mire the industry and the Commission in unproductive regulatory proceedings and disputes. In short, adoption of a forced access requirement would be disastrous for consumers, for broadband competition, and for the Commission itself.

**A. Regulation of Nascent and Rapidly-Developing Cable Internet Services in the Absence of Any Serious Threat That Cable Is Poised to Gain a Monopoly Could Only Harm Consumers.**

Prophylactic regulation for problems that do not exist, particularly in services that have not yet fully developed, is always a dangerous enterprise. Ordoover/Willig Decl. ¶ 17. Such regulation requires government bodies, rather than market participants, to make difficult initial judgments about appropriate technical and business terms and conditions for access and to