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Dee May  
Director  
Federal Regulatory Affairs

EX PARTE OR LATE FILED



RECEIVED

JAN 11 1999

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

January 11, 1999

**Ex Parte**

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
445 12th Street, SW  
Washington, DC 20554

**Re: CC Docket 98-147: In the Matter of Deployment of Wireline Services Offering  
Advanced Telecommunications Capability**

Please find attached a written ex parte addressed to Mr. L. Strickling of the Common Carrier Bureau. This ex parte should be entered into the record of the aforementioned proceeding.

Please feel free to contact me at 202-336-7824 if you have any questions.

Sincerely,

Handwritten signature of Dee May in cursive script.  
Attachment

Cc: C. Matthey  
B. Olson

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January 11, 1999

EX PARTE

Mr. Lawrence Strickling  
Chief, Common Carrier Bureau  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: Advanced Services Proceeding, CC Dkt 98-147

Dear Larry:

As I mentioned when we met in connection with this proceeding, exercising the Commission's authority to provide limited interLATA relief for Internet services is strongly in the public interest.

In particular, the attached presentation outlines the reasons that the Commission should exercise its authority to establish a single national and international LATA for Internet protocol network backbones. In a nutshell:

1. The network backbone business is highly concentrated, and is currently dominated by the Big Three of MCI WorldCom, Sprint, and Cable & Wireless (which acquired MCI's former backbone business). In addition, AT&T, which was deploying its own backbone network, recently announced that it is acquiring the backbone business of IBM, further concentrating the market. AT&T (which is acquiring TCI and negotiating a venture with Time Warner) also has announced that it will provide the IP network backbone for @Home.

2. The existing backbone networks for Internet traffic are plagued by congestion because demand is outstripping supply. According to Keynote Systems, the average throughput of backbone traffic is only 40 kbps, slower than a 56 k modem and more than 100 times slower than some newer on-ramp technologies such as xDSL services are capable of delivering.

3. Under these circumstances, it is critical to the future health and competitiveness of the Internet both to strengthen existing competitors to the network backbone businesses of the Big Three and AT&T, and to permit entry by additional competitors.

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4. In order to do so, the Commission should permit Bell companies to provide IP network backbone services on a national and international basis. This limited relief not only will provide significant public interest benefits, but will do so in a way that does not undermine incentives to fulfill the requirements of section 271 of the Act. The IP networks are separate from the public switched telephone network, and Bell companies will still need 271 approval to enter the roughly \$100 billion general long distance business.

5. This limited relief also is well within the Commission's authority under the 1996 Act. In fact, the Act expressly allows the Commission to "establish" LATAs, which are defined simply as "contiguous geographic areas," as well as to "modify" existing LATAs. Here, the Commission should invoke that express authority to establish a single national and international LATA for IP network backbone services.

I would appreciate the opportunity to discuss this with you at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "E. D. G.", with a long horizontal flourish extending to the right.

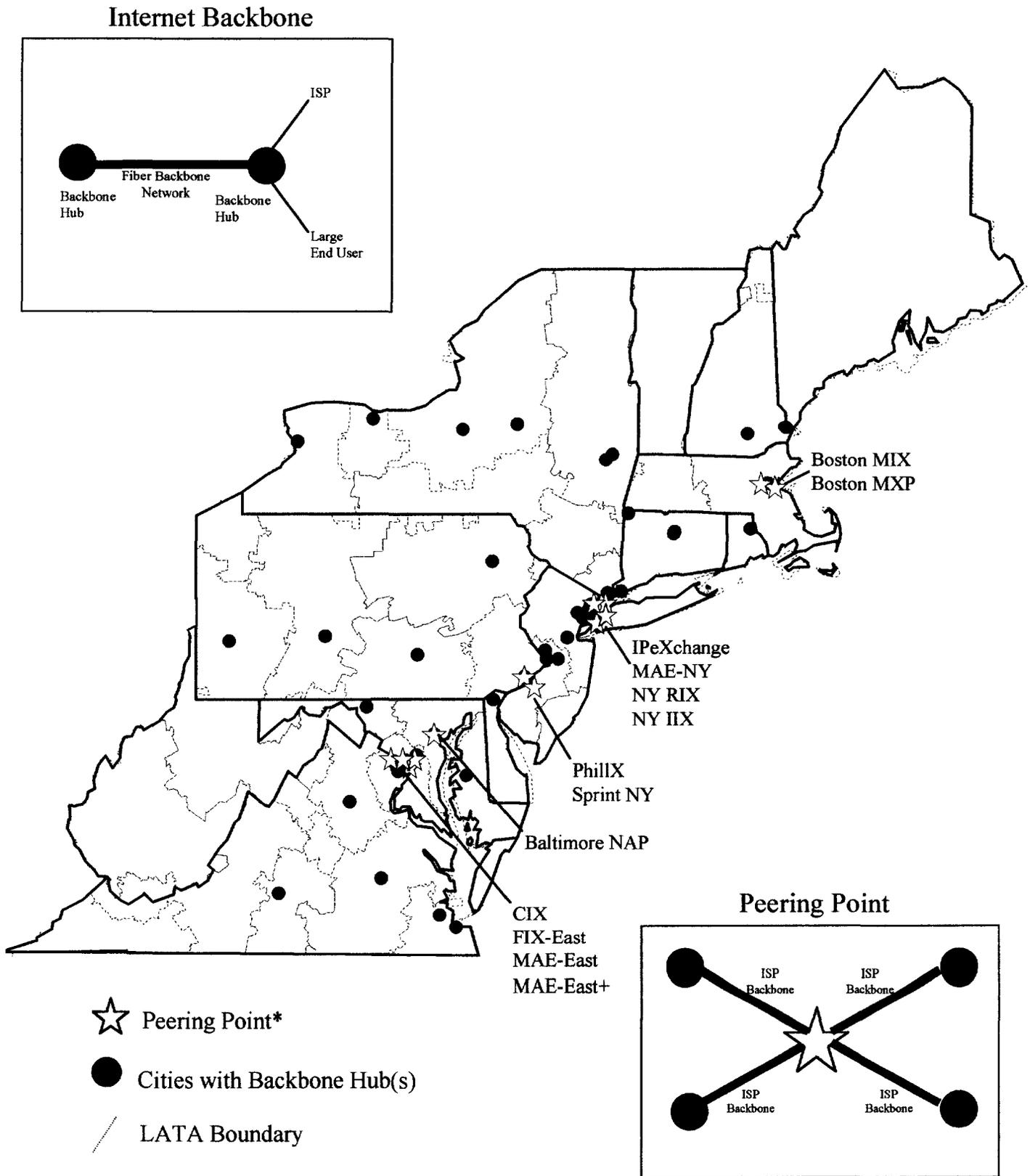
THE CASE FOR LIMITED INTERLATA RELIEF FOR  
INTERNET PROTOCOL NETWORK BACKBONES  
IN BELL ATLANTIC'S REGION

EX PARTE PRESENTATION TO THE  
FEDERAL COMMUNICATIONS COMMISSION  
JANUARY 11, 1999

## Background: Internet Backbones

- There are two major components of long-distance Internet backbones. **Figure 1.**
  - 1) Backbone networks: fiber-optic pipes that carry Internet traffic.
  - 2) Backbone hubs: nodes at which ISPs connect to Internet backbone networks.
- Backbone networks connect to each other at “peering points.”
  - Historically, all Internet traffic was exchanged under free peering arrangements – i.e., backbone operators agreed to accept at no charge the traffic of all other backbone operators and ISPs.
  - The largest Internet backbone providers have terminated free peering with all but themselves; smaller backbones and ISPs must now pay large interconnection fees.
- Backbone networks and peering points are operated independently from the public switched telephone network.
  - Packet-switched Internet Protocol (IP) network backbones are completely separate from circuit-switched voice networks.
  - ISPs, not ILECs, provide the point of entry to Internet backbones. There is no comparable intermediary for long-distance voice traffic.

# Figure 1. Internet Backbones and Peering Points in Bell Atlantic's Region



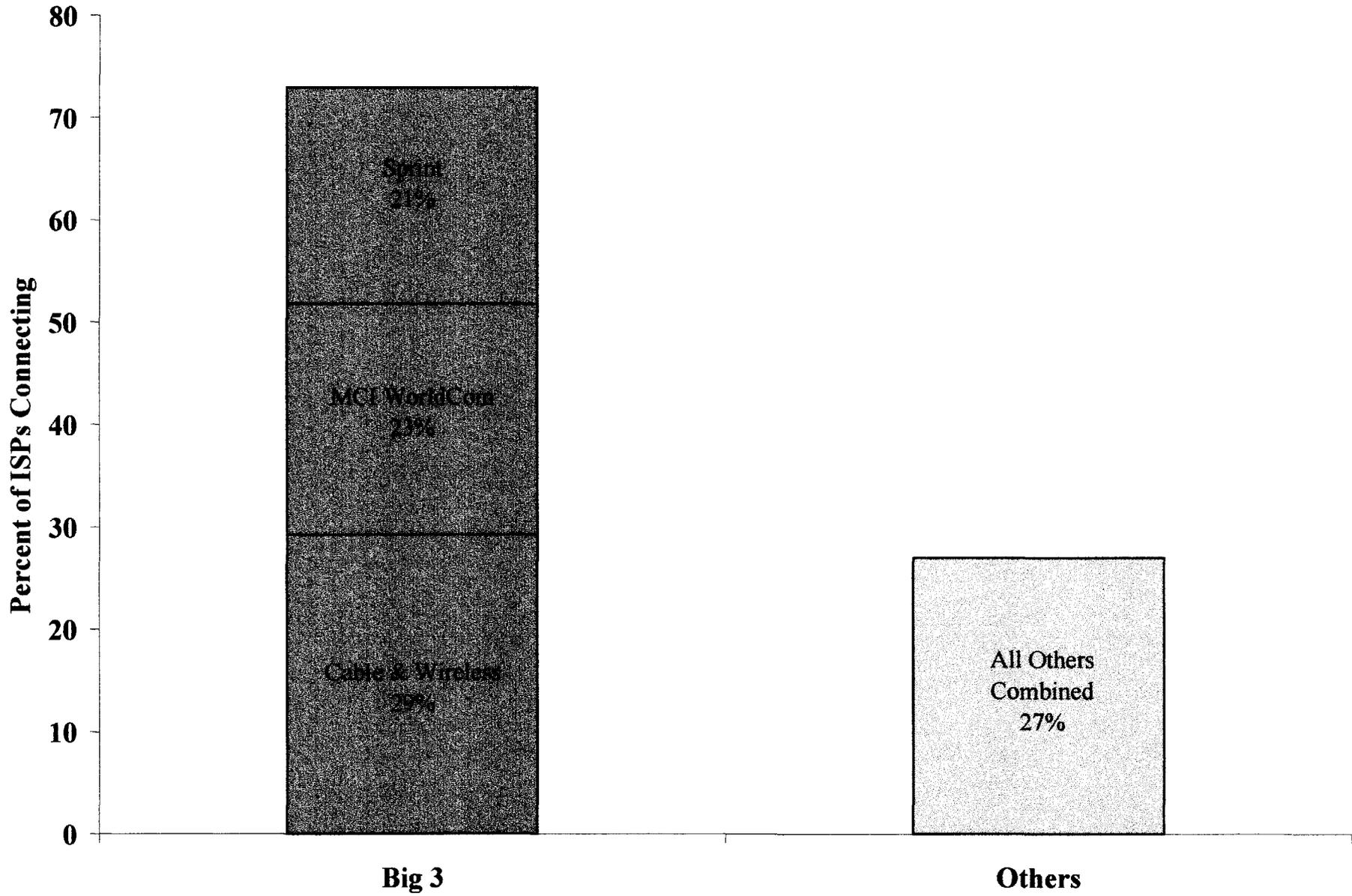
Source: Boardwatch Magazine's Directory of Internet Service Providers, Winter 1998-Spring 1999.

\*Note: Does not necessarily include all peering points, many of which are privately operated and whose locations are not publicly disclosed.

## Internet Backbones Are Highly Concentrated

- Internet backbones are concentrated among three major providers: MCI WorldCom, Sprint, and Cable & Wireless (which acquired MCI's network). Other backbone providers form a distant second tier.
  - For example, over 70 percent of all ISPs connect to the Internet through the hubs of the three top tier backbone operators.<sup>1</sup>  
**Figure 2.**
  - 26 of the 41 LATAs in Bell Atlantic's region contain two or fewer backbone hubs.
- The only other likely entrant into the top tier is AT&T, which recently paid \$5 billion for IBM's backbone network. This acquisition by AT&T, which already was building its own backbone network, further concentrates an already concentrated market. In addition, AT&T (which is acquiring cable giant TCI and negotiating a venture with Time Warner) has announced that it will provide the IP network backbone for @Home.

**Figure 2. Backbone Hub Concentration**



Source: B. McCarthy, Introduction to the Directory of Internet Service Providers, Boardwatch Magazine's Directory of Internet Service Providers, Winter 1998-Spring 1999, at 4. Chart represents share of 6,639 Backbone connections by 4,855 Internet Service Providers.

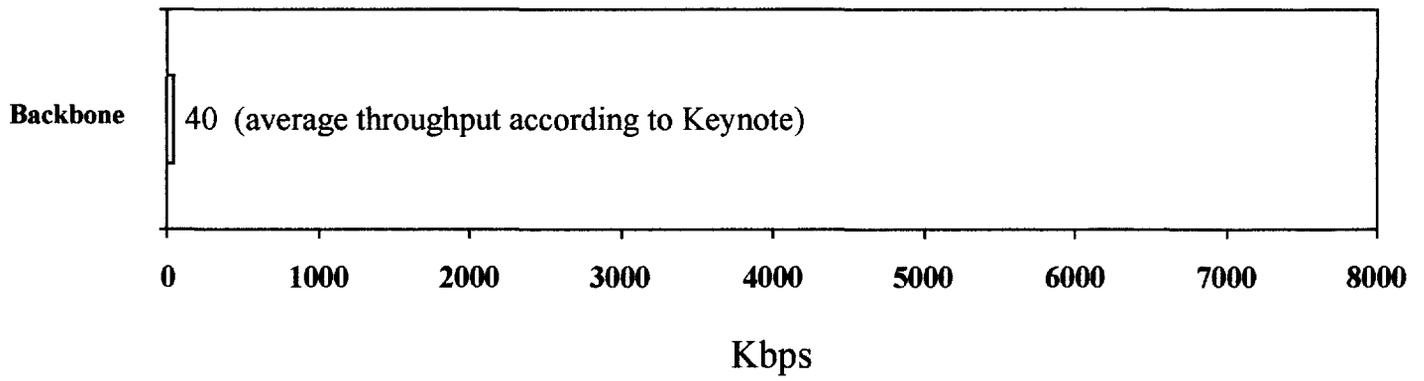
## **The Termination of Free Peering Will Further Concentrate the Backbone Market**

- In Spring 1997, the largest backbone providers terminated free peering for smaller ISPs and backbone operators. The major backbone providers now typically demand high interconnection fees from smaller carriers.
  
- North American Network Service Providers Association: “Peering estimates in excess of \$90,000 per month for minimal traffic exchange will require that NSPs pass this along to ISPs. ISPs will have to pass the cost along to their dial-up and dedicated customers. It is estimated that the break-even cost for a dial-up account will increase to over \$42.00 per month. With MCI and WorldCom offering dial-up at \$14.95 per month, it is certainly apparent that all of the customers will migrate to these less expensive accounts. The local and regional NSP and ISP will be unable to compete.”<sup>2</sup>
  
- Michael Gaddis, CTO, Savvis Communications (ISP/Backbone operator): “The peering situation of today is the land of haves and have nots.”<sup>3</sup>
  
- Richard Yoo, Cymitar Network Systems, (San Antonio ISP): “The rates charged by [the major providers, including MCI WorldCom, Sprint, and Cable & Wireless] have been increasing 10 percent to 15 percent every six months.”<sup>4</sup>
  
- Business Week: “Smaller backbone providers say they often don’t know why they’re rejected as peers. They’re afraid the big companies use secret and arbitrary criteria to deny them peering relationships, thus raising their costs and harming their service. . . . There are no industry or government standards for peering criteria.”<sup>5</sup>

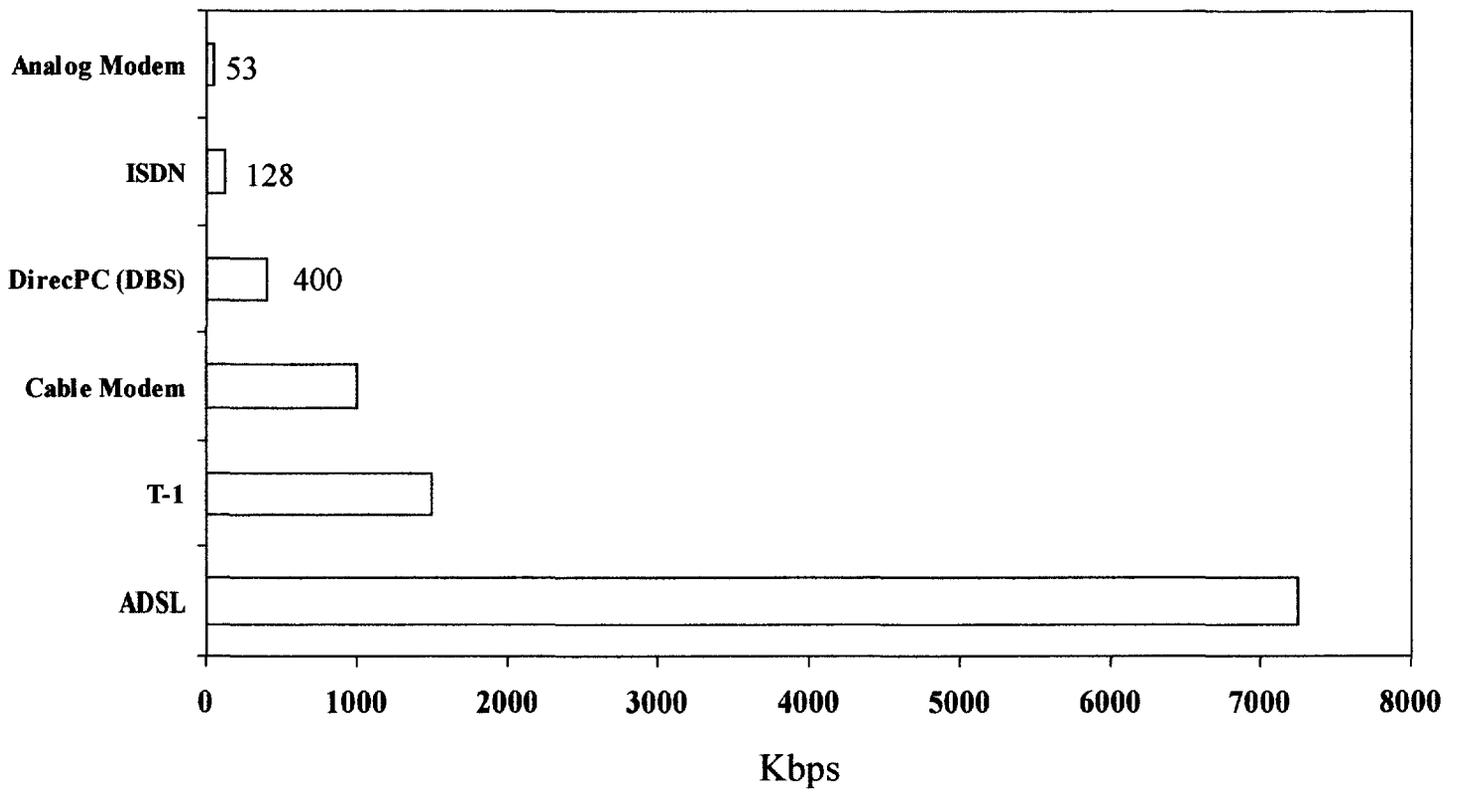
## Internet Backbones Are Highly Congested

- Two recent, independent studies have found acute congestion and performance problems on existing Internet backbones.
  - 1) According to Data Communications/European Network Laboratories, many Internet backbones suffer speed and quality problems.<sup>6</sup>
    - This study analyzes only backbone networks. It identifies problems with backbone speed, uptime, and packet loss.
      - Internet backbone speed can be as low as 176 kbps, far lower than 1.544 Mbps T1 speed.
      - Uptime can be as low as 96.86%. “Consider this: 99.0% availability is viewed as unacceptable on a T1 link; 99.9% is what corporate networkers are after.”
      - Packet loss can be as high as 1 percent. “This can ultimately reduce effective per-session data rates or, in extreme cases, force sessions to time out.”
  - 2) According to Keynote Systems, average throughput on the Internet is only 40 kbps, slower than a 56k modem.<sup>7</sup> **Figures 3 & 4.**
    - This study accounts for congestion caused by backbones, routers, servers, and peering points.
    - Business Week: “Consumers will find that [local access] lines promising speeds of a megabit or more per second won’t boost sluggish Web access all that much.”<sup>8</sup>

### Figure 3. Backbone Congestion



### Figure 4. Potential Capacity of Internet On-Ramps



## Demand for Backbone Bandwidth Is Outstripping Supply

- FCC:
  - Chairman Kennard: “We must expand bandwidth capacity to keep up with ever-burgeoning demand, which is now estimated to be doubling every few months.”<sup>9</sup>
  - Commissioner Susan Ness: “[E]xploding demand for bandwidth continues to produce scarcity.”<sup>10</sup>
- Major Backbone Providers:
  - John Sidgmore, MCI WorldCom: “The rapid growth of Internet usage is outstripping its ability to keep pace.”<sup>11</sup>
  - John Zeglis, AT&T: “A continuing problem with the Internet is that it has been slow.”<sup>12</sup>
- The fiber cables that Qwest, Level 3, IXC Communications, and others are deploying does not alleviate backbone bandwidth scarcity.
  - In order to be used as an Internet backbone, this fiber must be “lit” with costly electronics and routers, and linked to other backbone networks and peering points.
  - Few companies have the resources to acquire unlit fiber and convert it into full-scale IP network backbones.

## The Requested Limited Relief

### The Case for Relief

- Given the concentration of Internet backbone operators and the congestion of backbone networks, the Commission should act to strengthen existing competitors and introduce new competitors to challenge the “Big 3.”
- Limited interLATA relief for IP network backbones will help to promote backbone competition and relieve backbone congestion.

### The Scope of Relief

- Through a section 272 affiliate, Bell Atlantic may own and operate IP network backbone facilities that carry IP traffic on a national and international basis.
- Establishing a national (and international) LATA for IP network backbones will not materially diminish incentives to comply with sections 251 and 271.
  - The \$5 billion IP network backbone market is tiny compared to the \$100 billion long-distance market.
  - Consumers want bundles of services that include long-distance *voice* service, so Bell Atlantic will continue to have every incentive to obtain section 271 relief.

**The Commission Has the Legal Authority  
To Grant the Requested Relief**

- The Commission has the authority to “establish” or “modify” LATAs. 47 U.S.C. § 153(25)(B).
  - The Commission has already used this authority to promote the deployment of high-speed data services. *See, e.g., Southwestern Bell Telephone Company Petition for Limited Modification of LATA Boundaries to Provide Integrated Services Digital Network (ISDN) at Hearne, Texas, FCC 98-923 (rel. May 18, 1998).*
- The establishment of a single LATA for IP network backbones is consistent with Judge Greene’s establishment of a single LATA for wireless and certain information services.
- The establishment of a single LATA for IP network backbones is not tantamount to forbearance of section 271.
  - Bell Atlantic will still need to obtain section 271 authority to provide interLATA voice and non-IP-based data services.

## End Notes

1. B. McCarthy, *Introduction to the Directory of Internet Service Providers*, Boardwatch Magazine's Directory of Internet Service Providers, Winter 1998-Spring 1999, at 4.
2. North American Network Service Providers Association, Open Letter, *available at* <http://www.nanspa.org/nan-open.html>.
3. *Level 3 Picks Up Peering Fight Nature and Bureaucrats Hate Vacuum says CEO*, ISP BUSINESS NEWS, May 24, 1998.
4. S. Weiss, *Internet Firms Form Alliance to Cut Costs, Improve Service*, San Antonio Business Journal, June 19, 1998, at 4.
5. *How the Internet Works: All You Need to Know*, Business Week, July 20, 1998, at 58.
6. D. Newman and R. Mandeville, *Corporate-Class Internet? Don't Count On It*, Data Communications, Nov. 1998, *available at* <http://www.data.com/issue/981107/isp.html> (citing Data Communications and European Networks Laboratories study).
7. Business Wire, *DSL and Cable Modems Will Not Solve Internet Performance Problems According to Keynote Systems*, Feb. 13, 1998.
8. S. Wildstrom, *A Little Better, A Little Faster*, Business Week, Dec. 28, 1998, at 18.
9. FCC Chairman Kennard, Press Statement on FCC's Actions to Promote Deployment of Advanced Telecommunications Services by All Providers, Aug. 6, 1998.
10. FCC Commissioner S. Ness, before PCIA's PCS '98, Orlando, FL, Sept. 23, 1998.
11. D. Welcher, *Experts Upbeat About Faster Internet*, Business Times (Singapore), May 18, 1998, at 10.
12. John Zeglis, Speech, *Managing Knowledge with Communications Systems*, PRSA International Conference, October 18, 1998.