

Key Findings

1. Net Neutrality threatens the Internet's future expansion of capacity and services.
2. Network providers should be free to responsibly manage their own networks.
3. Net Neutrality could result in taxpayers funding future broadband rollout--something the private sector has largely paid for in the past.
4. Government regulators should adopt some basic principles for effective network management

How can Internet growth be sustained in a future where millions more users will both contribute to and receive information from the web?

The Fallacy of Network Neutrality

The Internet is doing just fine with minimal government interference

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Synopsis *A government policy of "Network Neutrality" would force Internet Service Providers (ISPs) such as Comcast, AT&T and Verizon, to treat all content that goes across their online networks as the same. Consumer groups are pushing for a net-neutrality law that would ban ISPs from prioritizing data streams or charging more for faster Internet service. The issue is at the heart of a debate on how people share information with each other over the Internet in ways that may disproportionately consume available bandwidth.*

Even though the Internet in its basic form has been around for 40 years, only in the last 15 years has it taken off to the dizzying heights it resides at today. The growth of both content and users that are on the Internet on a global scale has been exponential. Entire industries are now based solely on the Internet. The system has revolutionized the way people conduct business, stay in contact using social networks, or receive daily news.

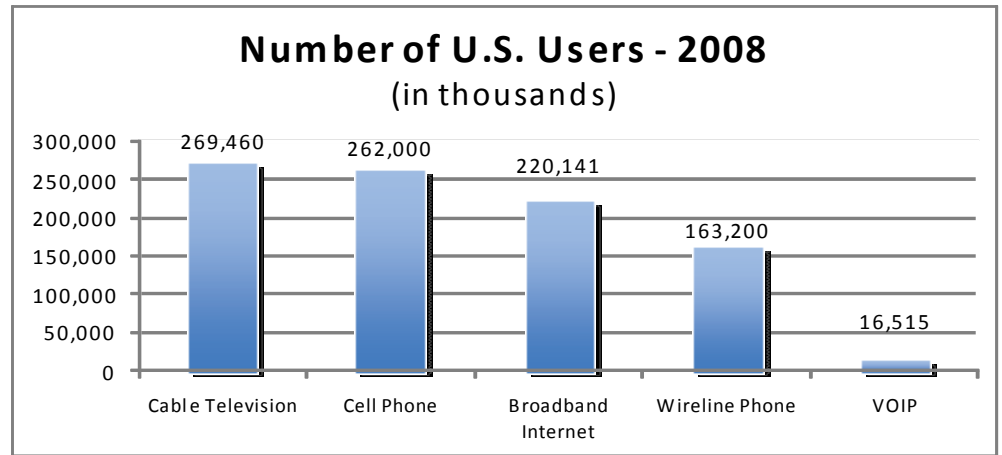
The massive flow of information drives markets, supplies entertainment and generally, makes lives easier. How can this growth be sustained in a future where millions more users will both contribute to and receive information from the web? Private Internet Service Providers (ISPs) are spending billions of dollars to expand their networks and keep pace with demand. However, while simultaneously expanding the fiber optic backbone of the Internet, ISPs are increasingly worried that until more hardware is laid, the existing networks will need to be managed so as to keep the Internet's digital pipelines clear of congestion.

This issue is at the heart of Net Neutrality.

Fifteen years ago, most computers connected to the Internet using a 14.4 kilobaud modem, downloading information at a slow 14.4 kilobytes per second (kbps). If someone was prepared to spend more money, they could have purchased a 56 kbps modem. These connection speeds were used over a standard telephone wire. More often than not the connection was severed if someone else in the house unwittingly picked up another phone to dial out – or perhaps when you received a phone call your connection was terminated.

As we drew towards the turn of the 21st century, cable and telephone companies began offering dedicated Digital Subscriber Lines (DSL) or cable modem connections that truly revolutionized the way the Internet served peoples' needs. Now, much larger and more complex content is able to make its way around the world in mere nanoseconds. With the advent of DSL and cable connections, even the best 56.6 kbps modems were quickly replaced with new broadband connections capable of handling 1.5 megabytes per second or more – over 20

times faster than old connections.



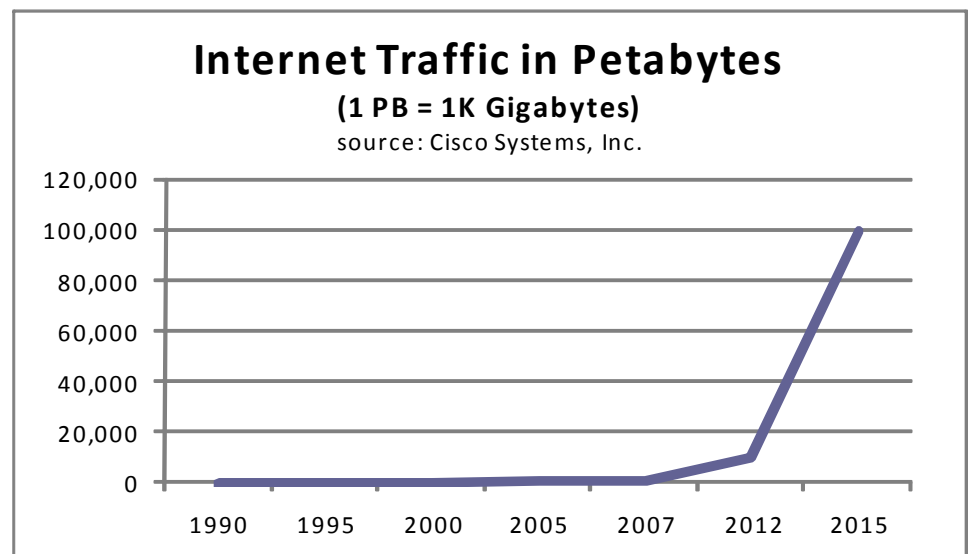
Source: CTIA, National Cable & Telecom Association

By the beginning of 2008, cable modems were providing download speeds up to 12Mbps and new fiber optic lines are bringing residential customers 15Mbps connections. Sending pictures and video over the Internet takes up far more digital space than plain text, yet using video is now one of the most common ways to communicate on the web.

Video chatting across the globe using a laptop with a wireless connection is now commonplace. High Definition videos and movies can now be purchased and downloaded over the web. Numerous websites dedicated to video take up thousands of gigabytes of data.

In fact, last year the popular video site YouTube consumed as much online bandwidth as the entire Internet did in the year 2000. In just February 2008, nearly 135 million U.S. Internet users spent an average of 204 minutes viewing 10.1 billion online videos.

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The discussion today revolves around simple factors that have complicated policy implications. Network capacity is not limitless. Users cannot send or receive data faster than the amount of network capacity available to them. If there are too many users whose Internet demands exceed the supply of digital bandwidth, a bottleneck occurs. To relieve the bottleneck ISPs manage or prioritize the flow of traffic. Therefore, some data is slowed down or delayed in transmission.

One of the main areas most likely to be affected by a provider managing its network is the peer-to-peer (P2P) file-sharing system. P2P file-sharing creates giant user communities where an end-user can connect to another person's computer and download files directly. More often than not, the files being swapped are movies, music, pictures, games or software (think Napster). On the up side, these communities provide an efficient way to spread information quickly from one person to another. On the downside, too much file-sharing of large chunks of information will bog down Internet transmission speeds for everyone else.

Until recently, most Internet providers supplied access to the Internet for a flat fee. It did not matter how much data a customer consumed. A customer checking email and news sites a few times a day uses far less data than another customer who downloads gigabytes of video, conducts video chats, or watches television shows over the web. But both most likely paid the same rate, despite reports showing that 5 percent of users generate 40 percent of the Internet traffic. This is like a taxi system where every passenger pays the same no matter how far they travel or how much luggage they bring.

Regulatory-wise, the Federal Communications Commission has, up to this point, remained mostly "hands off" the Internet – encouraging companies to provide unfettered access to the Internet.

But as more and more people around the world are becoming more reliant on web-based services or applications, whether for business or entertainment, network providers are considering proposals to either meter the larger time data consumers or to prioritize what kind of data goes first through the narrow broadband pipe. Granted, the broadband pipe is expanding, but most network providers are worried that growing network capacity is being outstripped by the even faster growth in network demand.

So, how can Internet providers effectively manage network demand while guarding against any negative impact to innovation or stifling the exponential growth of this globalizing tool?

The first question might be, "just exactly who gets to manage the networks?" Currently, ISPs, both public and private, handle traffic. However, much of the Internet traffic flows through privately held or operated lines. Most of the infrastructure investment is flowing from private companies and their shareholders. In 2007, private telecom companies spent an estimated \$70 billion to create new or expand current broadband capabilities. Policymakers must be careful not to drive this investment away.

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Some proponents of the Net Neutrality policy are proposing that it is the federal government's role to play Internet gatekeeper. They are asking for a "non-discrimination" principle that would prohibit ISPs from managing their own networks.

But by and large, private companies are spending billions in expanding the reach and speed of both the main trunk lines of the Internet, as well as the "last mile" connections (the connections from a local node to a customer's home).

Implementing a net neutrality policy would remove incentives for private companies to roll out expanded services if they cannot recoup the cost of expansion. One unintended consequence of this action would be that, as demand for broadband services continues to increase, taxpayers would be on the hook to fund government to take on a greater part in expanding broadband to meet that need.

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Government regulators are being positioned as the “bad guys” if they do not endorse the Net Neutrality philosophy. However, regulators should recognize the transformative effect the Internet and e-commerce has played over the past decade-and-a-half and resist the temptation to intrude into an area that is already regulated sufficiently. Technological improvements are the key ingredient to remaining at the forefront of global competition.

There is a real risk that policymakers, by imposing Net Neutrality rules, will smother the growth and innovations of the Internet, raise the cost to taxpayers, and harm service to millions of daily users.

Some basic principles should be adopted in regards to responsible network management. These principles apply to both government and the private sector.

Basic Principles for Effective Network Management

- 1. Government regulators should maintain a “light touch” regulatory approach to network management.** The federal government does not need to intrude any further into managing the Internet, which has seen explosive growth in almost all segments of society over the last 15 years.
- 2. Network management should permit consumers to access the lawful content of their choice.** Neither government nor private Internet Service Providers should prohibit consumers from accessing legal content on the Internet.
- 3. Approaches to network management should not prohibit tiered pricing or data enhancement packages.** ISPs should consider pricing structures that would provide higher speeds for higher prices. Treat network management similar to congestion pricing or utility usage – users pay for what they use, instead of relying on the current flat-rate pricing structure.
- 4. Government regulators should not hinder or favor any particular company.** Regulators must not give a competitive edge to any specific ISP. All companies should rise or fall on the merits of their service, customer satisfaction, etc.
- 5. Providers should tell consumers how any network management policy may impact them.** ISPs should disclose to consumers how, if at all, the provider will manage its customers’ Internet traffic. With better consumer disclosures, consumers will be better able to choose the provider that meets their needs.

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