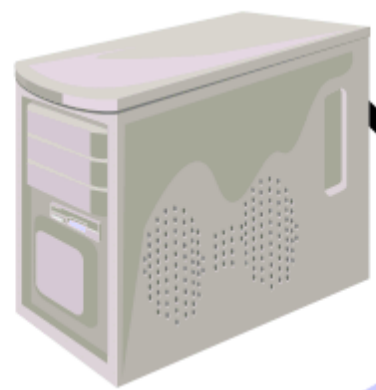
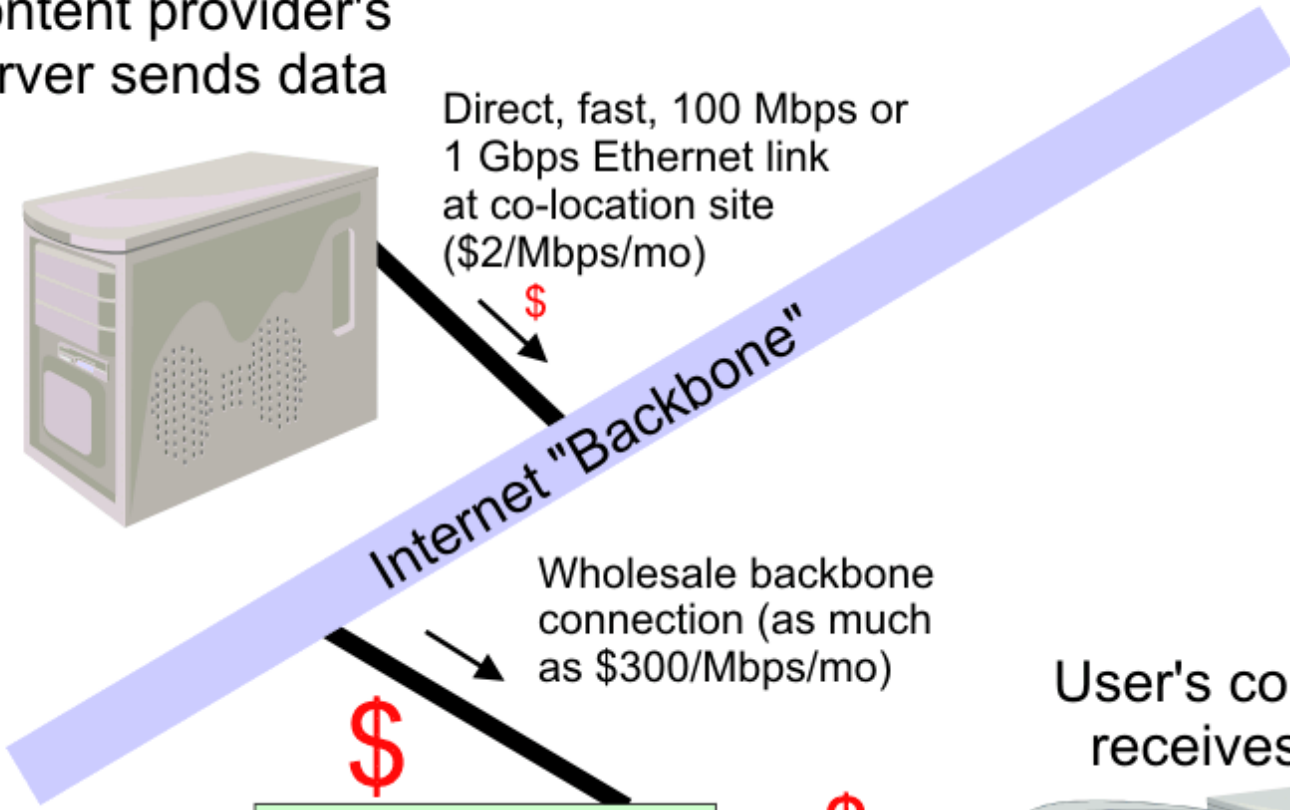


Client-Server Content Delivery

Content provider's server sends data



Direct, fast, 100 Mbps or 1 Gbps Ethernet link at co-location site (\$2/Mbps/mo)



Internet "Backbone"

Wholesale backbone connection (as much as \$300/Mbps/mo)



ISP Network

Local loop (DSL, cable modem, wireless)

User's computer receives data



Does restricting P2P limit speech? Or access to lawful content and services?

- Any content or service deliverable via P2P is also deliverable via other means
- Therefore, if content is inaccessible, it is not the fault of an ISP who blocks P2P simply to prevent cost-shifting or enforce its terms of service. The onus falls upon the content provider to offer non-P2P-based access as an alternative.
- Examples of P2P-based and non-P2P-based services:

Service	P2P vendor	Non-P2P vendor
Telephony	Skype	Vonage
Video	Vuze	YouTube
Gaming	Blizzard Entertainment*	Blizzard Entertainment*

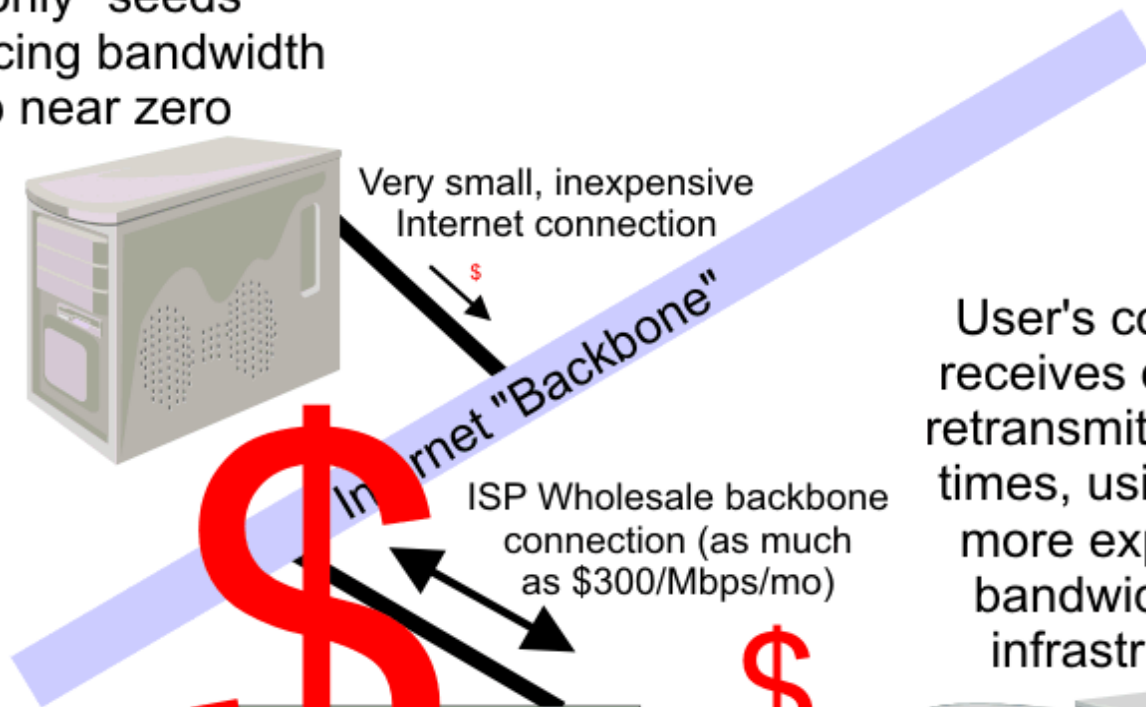
* Blizzard Entertainment allows both P2P and non-P2P downloads of updates to its online games.

P2P Content Delivery

Content provider's server only "seeds" data, reducing bandwidth cost to near zero



Very small, inexpensive Internet connection



Internet "Backbone"

User's computer receives data and retransmits it many times, using ISP's more expensive bandwidth and infrastructure

ISP Wholesale backbone connection (as much as \$300/Mbps/mo)



Because user has flat rate service, ISP is saddled with huge bandwidth costs



Local loop must be upgraded to handle bigger loads



Seven Principles

- "Seven Network Neutrality Principles and Guidelines for Appropriate Regulation" at <http://www.brettglass.com/principles.pdf>
- -
- Contains *original* principles of "network neutrality," including prohibition of anticompetitive conduct
- Recognizes that content providers as well as ISPs have responsibilities -- in particular, to make content accessible via software that does not attempt to exploit ISPs' networks or set up servers there without permission or compensation
- Disclosure of ISP terms of service required
- Right of network operators to halt abuse preserved
- Document is a work in progress; input welcome