What is it?
Net neutrality is the principle that broadband Internet providers will handle all network traffic in a nondiscriminatory manner. The Internet was conceived over three decades ago as an “open” service that would operate under the same “common carrier” regulation that applied to the telephone system and many networked systems before it, such as telegraph, railroads, and even the canal system. Common carriers are required, among other things, to serve any customers who seek their services and to do so “indifferently.” The principle was conceived to protect consumers from transportation providers that had a monopoly on transport facilities such as roads or canals and, later, wirelines. It was also meant to prevent antitrust violations in which network operators could enter contracts that favored one customer to the detriment of others seeking the same service.

When the Internet functioned as a dial-up service, common carrier regulation applied because the service operated over the telephone system. Complications arose, however, as users switched to broadband services that operated over new means of transmission. Cable companies—never subject to common carrier regulation—began offering broadband services. Power companies could provide broadband over power lines, and broadband transmission over wireless networks was becoming practical. In 2005, the question of how broadband should be regulated came before the U.S. Supreme Court. As a result of its ruling, the Federal Communications Commission removed common carrier requirements (also known as Title 2) from all broadband providers, including phone companies. Since 2005, questions have arisen about the possible consequences if network operators began to discriminate against certain users and which federal agency would have the authority to stop such behavior.

In 2008, it was discovered that Comcast was blocking transmissions from a specific content provider, BitTorrent. The FCC intervened and the behavior stopped; Comcast sued, arguing that the FCC did not have the authority to enforce net neutrality. Comcast won the case, confirming the fears of those who worried that the FCC had no legal right to stop discriminatory behavior over broadband networks.

Currently, unless the FCC reverses its 2005 decisions and places broadband services under some form of common carriage, or unless Congress passes a law that gives the FCC clear authority to establish rules and regulate behavior on broadband networks, broadband users have no protection from discriminatory network behavior.

How does it work?
When the FCC removed common carrier protections from broadband service, in its place they adopted several so-called

Scenario
Heather is a student at a local community college. Because she works full time, she takes many of her courses online, which provides the flexibility she needs in her schedule. For several semesters, this arrangement works well—she accesses the course resources online, including high-bandwidth materials such as videos of recorded lectures and learning exercises that require the transfer of large files.

In her fourth semester, though, she begins to notice a slowdown of her Internet access when she is working with content from the college. Videos don’t stream reliably, and some actions time out before they can be completed. She talks to the IT staff at the college about the problems she’s experiencing, and they inform her that the local cable company, which is the only provider of broadband Internet in the area, has placed restrictions on the Internet speed for the community college. The company informed the institution that due to growing consumer demand for bandwidth-intensive content—such as online video games and streaming HD television and movies—it would begin charging more for transmitting this kind of material. Most providers of movies and games had opted to pay the premium, but the community college cannot afford the extra fees.

As a result, the speed with which the college’s content is transmitted has been degraded. When Heather complains to the cable company, they inform her that there are no regulations requiring broadband providers to transmit all content at the same speed and that the company is legally allowed to charge content providers a different rate for full-speed service of their material.
Internet Freedoms as principles to guide the broadband industry, and these principles are generally followed. They are not considered enforceable, however, and the ruling in the Comcast v. FCC case appears to confirm this. These principles are currently the subject of a proceeding to strengthen them, make them enforceable, and add two additional rules regarding nondiscrimination and transparency, though the question of FCC authority must be resolved first. The principles state that, in an effort to "encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to access the lawful Internet content of their choice; to run applications and use services of their choice, subject to the needs of law enforcement; to connect their choice of legal devices that do not harm the network; and to competition among network providers, application and service providers, and content providers."

The two additional rules state that although broadband providers are barred from discriminatory practices, they are permitted to "engage in reasonable network management" and that, in order to assure transparency, broadband network providers would be required "to make available relevant information regarding network management practices to the consumers who purchase their service; to content, application, and service providers, who must ensure that their offerings function on the Internet; and to the Commission."

**Who's doing it?**
Supporters of enforceable net neutrality rules include many higher education associations (EDUCAUSE among them), library and research organizations, public interest groups (such as Common Cause), and content companies including Amazon.com, eBay, Google, Intel, Microsoft, Facebook, Skype, and Yahoo. Those who oppose new net neutrality regulations and feel that current law is sufficient are broadband Internet access providers including AT&T, Verizon, Comcast, Time Warner Cable, and others.

**Why is it significant?**
Because the Internet has become such a critical communications infrastructure, the ability for a network operator to decide what information is allowed to pass freely and quickly, or slowly or not at all, runs counter to the well-established tradition of acceptable common carrier behavior. Many see this as a direct threat to our economy, our politics, our educational and healthcare systems, our security, and our basic values and freedoms. While all parties appear to agree that openness is good, they disagree strongly about the degree to which we need to guarantee it by law.

**What are the downsides?**
For those who support strong, enforceable net neutrality rules, the current legal environment is untenable because every infraction has to be recognized and challenged on an individual basis. Infractions can easily go unnoticed until real harm has occurred, and even when they are revealed, it is not clear whether any federal agency has the authority to act. Court settlements are costly and can take years to resolve; because of the speed with which the Internet economy evolves, most supporters of net neutrality believe that the current legal system is not equipped to deal with these issues.

Those who oppose new net neutrality regulations contend that they would limit the investment needed to deploy and improve broadband networks. Network development is capital-intensive and is almost exclusively accomplished through private investment. Many broadband service providers feel that the current system—despite the recent Comcast ruling—remains sufficient and that both the FCC and the Federal Trade Commission have the authority to resolve these issues. Opponents of new regulations believe that the issues that have come up since 2005 have been dealt with properly and argue that there is no reason to believe there will be any increase in these types of activity.

**Where is it going?**
Currently the federal government and the private sector are investigating several avenues to resolve this debate. The FCC has issued a Notice of Inquiry to explore the possibility of reversing its 2005 decision and returning certain common carrier obligations to broadband service providers. Congress has announced its intent to update the Communications Act of 1934 to more specifically cover broadband services and to clarify the FCC’s authority to make these decisions. In addition, several broadband and content providers have announced the creation of a technical advisory group that would work on questions of acceptable industry “network management” practices, act as a mediation board to help resolve conflicts, and be an advisory group for the FCC.

**What are the implications for higher education?**
As an institution that was instrumental in developing the Internet, and as one of the largest producers and consumers of Internet content, higher education has a special interest in guaranteeing that the network remains as open as possible. Activities including research, collaboration, distance education, and provision of online services to campus constituents increasingly depend on equal and open access to online content. Moreover, many institutions of higher education are charged to serve the public interest. An Internet in which access to content is prioritized according to its economic benefit to the network operator would considerably limit an institution’s ability to fulfill this goal of public interest, as well as undermine their educational mission overall.