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Title: WILL AOL OWN EVERYTHING?

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Abstract: Discusses the idea that America Online (AOL) will continue to buy companies until it owns everything. Effect of the popularity of broadband Internet access on AOL; Details of the end-to-end principle in computer networks; Comparison of the situation to the antitrust case of the United States government versus Microsoft Corp; Worry that AOL will become a monopoly.

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WILL AOL OWN EVERYTHING?

America Online could do in the early 21st century what Microsoft did at the end of the 20th: control the flow of key technologies

America Online is America's largest Internet service provider. Twenty-two million members get to the Internet through AOL. If it were a state, AOL would rank second in the nation in population, behind California. The company has a market capitalization of $125 billion--a bit less than the GDP of Denmark. And with its proposed purchase of one of the largest and most powerful media giants, Time Warner, many are beginning to ask, Should we worry about AOL the way the government worries about Microsoft?

Maybe. But to see why, we've got to look at something politicians don't talk about much--architecture.

At the core of the Internet is a principle of design described by network architects Jerome Saltzer, David P. Reed and David Clark as "end-to-end." The principle of e2e says, Keep the network simple, and build intelligence in the applications ("ends"). Simple networks, smart applications--this was the design choice of the Internet's founders.

The reason was innovation. Simple networks can't discriminate; they are inherently neutral among network uses. Innovators thus don't need to negotiate with every network owner before a new technology is available to all. The burden on innovation is kept small; innovation is, in turn, large.

AOL has benefited from this neutrality. Because regulators breaking up AT&T forced the telephone company to respect e2e neutrality, consumers of telephone service have always had the right to choose the Internet service provider they want, not the ISP the telephone company is pushing. This built an architecture of extraordinary competition among ISPs. AOL, by delivering what consumers want, has prevailed in this competition.

All this may change, however, as Internet access moves from narrowband (telephones) to broadband (predominantly cable). Cable companies are not required to respect e2e; they are allowed to discriminate. Unlike telephone companies, they get to choose which "new ideas" will run on cable's network. They get to block services they don't like. Already many limit the streaming of video to computers (while charging a premium for streaming video to televisions). And this is only the beginning. The list of blocked uses is large and growing.

This trend worries many. AOL fought restrictions when AT&T (after buying a gaggle of cable monopolies) proposed them. But now AOL, by buying Time Warner, is buying its own cable monopolies. And many are worried that AOL will forget its roots. Will the temptation to build its broadband network to protect itself against unallied content and new innovation be too great? Will AOL, like every other large-scale network that has controlled content and conduit, pick a closed rather than an open architecture? Will AOL become what it eats?

Compromising on the principle of e2e would weaken the Internet. It would increase the costs of innovation. If to deploy a new technology or the next killer application--like the World Wide Web was in the early 1990s or gadgets to link the home to the Net may someday become--you first have to negotiate with every cable interest or with every AOL, then fewer innovations will be made. The Internet will calcify to support present-day uses--which is great for the monopolies of today but terrible for the future that the Internet could be.

An analogous issue is at stake in the government's case against Microsoft. Microsoft argues that it has furthered innovation by providing a platform upon which many application developers have been able to write code. No doubt it has--generally. But the government attacked cases where Microsoft used its power over the platform to stifle technologies that threatened Microsoft's monopoly. The charge was that Microsoft's strategic behavior undermined innovation that was inconsistent with Microsoft's business.

The Microsoft case was about the platform of the 1990s--Windows. The risk that AOL presents is to the platform of the 21st century--the Internet. In both cases, the question is whether a strategic actor can chill innovation. With the Internet, that answer depends upon the principles built into the Net.

AOL promises it will behave. It has been a strong defender of "open access" in the past. But its promises are not binding, its slowness in allowing other instant-messaging services onto its platform is troubling, and last month's squabble over access to ABC on Time Warner's network is positively chilling. These are not signs that the principle that built the Internet thrives.

The test will be whether AOL sticks to the principle of e2e, and if it doesn't, whether the government will understand enough to defend the principle in response. If AOL respects e2e in broadband, if it keeps the platform of the network neutral among new uses, if it builds a guarantee into its architecture that innovation will be allowed and encouraged, then we should not worry so much about what AOL owns. Only when it tries to own (through architecture) the right to innovate should we worry.

Sustaining a neutral platform for innovation will be the challenge of the next quarter-century. The danger is the view--common among politicians--that this neutrality takes care of itself. But we have never seen the owners of a large-scale network voluntarily choose to keep it open and free; we should not expect such altruism now. The

Internet has taught us the value of such a network. But the government should not be shy to make sure we don't forget it.

Lessig, who served as an adviser to Judge Jackson in the Microsoft case, is a Harvard law professor, a fellow at Berlin's Wissenschaftskolleg and author of Code and Other Laws of Cyberspace

IS MONOPOLY INEVITABLE?

JEFF BEZOS
CEO, AMAZON.COM

"The Internet is much too big for that to happen. As for retail, it's a $5 trillion market--a thousand times bigger than the operating-systems market Microsoft was in--so by necessity it's going to end up being shared among lots and lots of companies."

DAVID BOIES
LEAD U.S. ATTORNEY IN THE MICROSOFT TRIAL

"It's very unlikely. The danger comes if the antitrust laws are not vigorously enforced. I've seen industry after industry argue that antitrust laws didn't apply to them, and the Supreme Court said no, they do."

STEVE CASE
CEO, AMERICA ONLINE

"Not only is monopoly not inevitable on the Internet, it's not possible. In this new world, bigger isn't necessarily better. Better is better, and only the companies that are better at understanding consumer needs and meeting them will succeed."

SCOTT MCNEALY
CEO, SUN MICROSYSTEMS

"It's vital that networking protocols and programming interfaces be kept open, giving everyone a level playing field. As long as that's the case, no one will have a monopoly on the Internet, because no one has a monopoly on good ideas."

JOEL KLEIN
U.S. ASSISTANT ATTORNEY GENERAL

"It depends on the industry. In network industries it is likely to be transient unless monopolists do what Microsoft did, which is use its monopoly power to coerce and exclude and harm rivals without any business benefit."

PHOTO (COLOR): Jeff Bezos

PHOTO (COLOR): David Boies

PHOTO (COLOR): Steve Case

PHOTO (COLOR): Scott McNealy

PHOTO (COLOR): Joel Klein

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By Lawrence Lessig
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