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The domain name game

Holding sway on huge master list, Network Solutions is a misnomer to its critics / **Simson L. Garfinkel**

ALTHOUGH MANY PEOPLE feel that the Internet is a loose confederation bordering on anarchy, it is actually a multinational technocracy, with one universal language and loosely exercised central control. That control is more powerful than many people imagine.

One of the Internet's control points is the Domain Name System, sometimes called the telephone book of cyberspace. It is DNS that translates between the easy-to-remember domain name and the actual numerical addresses used by the Internet's computers. For example, when you type `www.boston.com` to look at The Boston Globe's Web site, DNS translates those letters into the site's actual address, `207.121.136.165`.

Network Solutions Inc. is the Northern Virginia company that runs a large part of the Domain Name System. The company's computers contain the master list of every domain whose name ends with the letters ".com," ".net," ".gov," ".edu," and ".mil." Once a night, this list is copied to roughly a dozen other computers, which comprise the root domain servers. These computers, most of which are operated by the major Internet service companies, provide domain name service for the rest of the planet.

The arrangement between Network Solutions and the root

domain servers is consensual. But it is an arrangement increasingly under stress.

Most of the gripes against NSI have to do with the company's policy for resolving trademark disputes, which heavily favors trademark holders over the people who are actually using the domain names. In one case, NSI turned off the domain name for `newton.com`, a bulletin board system used by several hundred people to get their e-mail. The computer was owned by Mark Newton. But Apple Computer wanted `newton.com` for its lightweight portable computer, the Newton MessagePad. Although Mark Newton had used the domain since 1994, NSI put the domain "on hold" in 1996 after Apple wrote a letter to the company claiming infringement.

Companies are also angry about NSI's customer support. Erik Leung, vice president of PuraNet, a Boston-based Internet service provider, says that his company has been plagued by Network Solutions' "lack of procedure, inability to provide

marginal technical support, as well as their lack of timely response" to many administrative problems. The company frequently doesn't respond to e-mail, says Leung, and phone calls often take 30 to 60 minutes to get answered.

I have had my own problems with NSI. The company charges \$100 to register a new domain, and \$50 a year to renew old ones. But NSI has routinely sent me invoices that I couldn't pay - the company's own computers said the invoice tracking numbers were invalid. Payments have been lost.

"I have dealt with some of these same problems myself," says Chuck Gomes, NSI's director of customer programs. "They are certainly a small exception [to the total number of domains processed], but they are very important to the customers involved." When there is a dispute over payment, Gomes said, the company puts the name into a "protected status" while it re-

searches the problem.

The question is, why is Network Solutions still in control of the Internet's domain name registry? Because the people running the Internet don't have a good alternative.

Many believe that these problems would fix themselves if there were true competition. Earlier this year, a group called the Internet International Ad Hoc Committee recommended that the Internet create seven new top-level domains, with names such as `.biz` and `.web`, to be jointly administered by two-dozen different organizations. Meanwhile, a New York-based company called PGP Media, operated by Paul Garrin, has filed an antitrust suit against NSI, saying that it is conspiring with the root domain servers to prevent him from operating his own top-level domain, `name.space`.

But competition for the root domain servers could create technological anarchy. What if a federal court ruled, in the interest of competition, that Garrin should be allowed to operate his own `.com` domain? What if four of the two-dozen new registries all accept

\$100,000 for registering the domain `.sex.web`?

Who decides where we go from here? Nobody is sure. There is simply no legal infrastructure for governing the 'Net. For example,

the systems managers who control the world's root domain servers could decide to take matters into their own hands. Instead of pointing their name servers

at NSI, they could point the computers at another location - perhaps overseas.

It's not clear whether NSI or any Internet user would have any legal recourse. After all, NSI gets its authority from a five-year contract with the National Science Foundation to run registration services for the NSFNet. But NSFNet was dissolved two years ago.

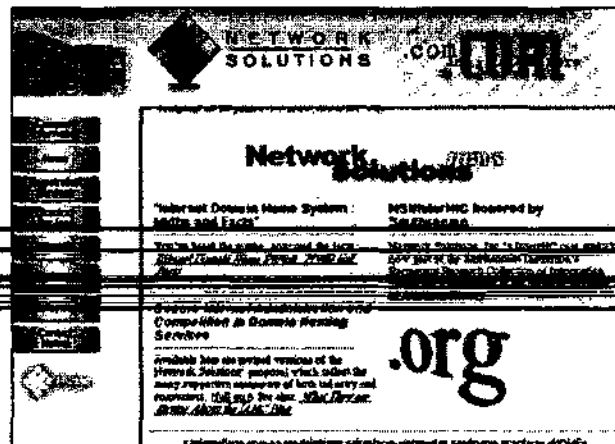
Right now, the root name servers are taking their lead from one person: John Postel, the head of the Internet Assigned Numbers Authority. Although Postel has no legal authority, he effectively runs the Internet with the consent of the major players.

For years, Postel's work was funded by the Defense Department's Advance Research Projects Agency. But April 1, ARPA cut its funding to him. So Postel issued a quiet plea for help. On June 2, Communications Week International reported that the European and Asian Internet registries had together come up with \$75,000 to help Postel continue his work.

"This is a warning shot across the bow of the federal agencies" who assume that the US government has ultimate control over the Internet's infrastructure, says Gordon Cook, editor and publisher of the Cook Report on the Internet. But that control is in fact illusory. "If the current meddling is not solved to the satisfaction of the technical people running the Internet, the federal government will sell the IANA functions moved to Europe or Asia."

In fact, the Internet is starting to behave like many other multinationals. It is taking on a life of its own.

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The Domain Name System, otherwise known as the telephone book of cyberspace, is run in large part by Network Solutions Inc. The Virginia-based company deals with the major Internet service providers.