



## But Who Runs the Darn Thing?

by Scott Holstad

The grand question often asked is "Who owns the Internet?" Usually, this inquiry elicits little more than carnage in the way of responses: the Feds, America Online, aliens, Bill Gates, et al. So who does own it, anyway? Well, the obvious answer is: "no one"-- the Internet is an internationally networked collection of computer networks. That said, it's actually possible, believe it or not, to pin down those mysterious entities which run the Internet!

To find out the goods, it's important to know a little bit about how the Internet was established. The Internet came about (circa 1969) as a result of a Defense Advanced Research Projects Agency DARPA attempt to maintain communication between military and research centers in the event of a nuclear war (this was the Cold War era, you know). As the purpose was to maintain a decentralized network, sites were created at various universities and research centers around the country, including MIT, The University of Utah, UCLA, and Stanford, among others. This project was soon referred to as the ARPANET, and it grew steadily.

In the mid 1980s, the National Science Foundation, a government organization, established a national backbone called the NSFNET. (A backbone is a high-speed line or series of lines that form a major network pathway.) NSFNET linked more universities and research sites to ARPANET--joined together, the two became the basis for what we know today as the Internet. In 1990, the ARPANET was shut down, while the NSF maintained the growing Internet. The Feds, however, had no intention of paying permanent maintenance fees (such as fees involving domain registration logistics, hardware, software, and connectivity), and made plans to shift Internet responsibilities away from the NSF and onto the private sector. Thus, the NSFNET was shut down in 1995; yet by that point, the Internet had experienced a phenomenal growth spurt, and no one noticed the NSF's absence.

By now you may be asking, "who's running the darn thing???" When people think of the Internet, often domain names like earthlink.net or aol.com spring to mind. The NSF shifted responsibility for top level domain name registration and maintenance to the InterNIC (Inter Network Information Center), a private non-profit organization. Thus, when people or companies wish to register domain names, they must pay an annual fee (as well as a start-up fee) and go through the InterNIC, which approves and administers names on a first-come, first-serve basis.

So if InterNIC administers domain names, how is the Internet physically maintained? After the demise of the NSFNET, the network backbone shifted to several Network Access Points NAPS. Each NAP supports connections in its specific area (while the telephone companies are connected to each NAP). At this point, there are about a half a dozen NAPS, the most important being the New York (area) NAP, operated by Sprint, the Chicago NAP, operated by Ameritech, and the San Francisco PacBell NAP.

Now that we have domain maintenance and the physical backbone pinned down, the question looms, "Who makes da rules???" To find out who determines Internet policy, go check out The Internet Society homepage. It's an international cooperative involved in advancing Net-related policy matters. One of the unique aspects of the Internet Society is that anyone can join, making the Net one of the more realistic models of working Democracies around. For a more detailed understanding, visit the Internet Architecture Board (IAB), a

committee of individuals concerned with setting Internet standards (regarding such things as Internet addressing, international character sets, MIME type registration, and Internet architectural principles). The IAB is made up of members drawn largely from the Internet Engineering Task Force (IETF), the self-described "protocol engineering and development arm of the Internet," which researches the growth and standards of the Internet. It administers IP (Internet Protocol--the physical, numerical address of the computer you use to access the Net) numbers through its Internet Assigned Numbers Authority (IANA). Finally, Internet standards are proposed and advanced via the Internet RFC (Request for Comments) Editor. Yet another sign of Internet wisdom, RFC works for you in that anyone can submit a proposal to advance Internet standards! This ensures a governance-by-consensus paradigm, allowing you to truthfully tell your buddy across the street that you do indeed run the darn thing!

Of course, the most popular part of the Internet is the World Wide Web, developed around 1990 by Tim Berners-Lee at CERN, the European Laboratory for Particle Physics. CERN, a Swiss research facility which develops particle accelerators, might be best known as the birthplace of the Web. Adding to the Web's growth (and implicitly vying for Internet control, if such a thing is possible) are developments by Netscape, Microsoft, and Sun Microsystems. These companies, and others, are attempting to push their own proprietary standards, essentially creating de facto standards, in an attempt become the dominant movers and shakers on the Net. The shakedown likely to occur during this process seems like a great plot for another column down the road (is my boss reading this?).

The Net can seem confusing at times, and figuring out the highspeed ins and outs can be overwhelming. Internet ownership might seem convoluted, but the beauty is, you are a part of it. So, the next time someone asks you who owns the Internet, you can tell 'em, "no one, but I know who runs it!"



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