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Internet Domain Names: Background and Policy Issues

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Summary

To navigate the Internet requires using addresses (and corresponding names) that identify the location of individual computers. As the Internet grew, the method for allocating and designating those *domain names* became controversial. The Administration issued a White Paper in June 1998 endorsing the creation of a new not-for-profit corporation of private sector Internet stakeholders to administer policy for the Internet name and address system. On November 25, 1998, the Department of Commerce (DOC) formally approved a new corporation, called the Internet Corporation for Assigned Names and Numbers (ICANN). A Memorandum of Understanding (MOU) between ICANN and DOC has been extended through September 2006. During this transition period, government obligations may be terminated as most DNS responsibilities are transferred to the private sector. The 109th Congress will likely conduct oversight on how the Administration manages and oversees ICANN's activities and policies as ICANN strives to meet the conditions of the Department of Commerce MOU. The 109th Congress is also likely to assess the role of the federal government and the international community in Internet governance.

Background

The Internet is often described as a "network of networks" because it is not a single physical entity but, in fact, hundreds of thousands of interconnected networks linking millions of computers around the world. Computers connected to the Internet are identified by a unique *Internet Protocol (IP)* number that designates their specific location, thereby making it possible to send and receive messages and to access information from computers anywhere on the Internet. Domain names were created to provide users with a simple location name, rather than requiring them to use a long list of numbers. For example, the IP number for the location of the THOMAS legislative system at the Library of Congress is 140.147.248.9; the corresponding domain name is "thomas.loc.gov". *Top Level Domains (TLDs)* appear at the end of an address and are either a given country code, such as .jp or .uk, or are *generic* designations *(gTLDs)*, such

as .com, .org, .net, .edu, or .gov. The *Domain Name System (DNS)* is the distributed set of databases residing in computers around the world that contain the address numbers, mapped to corresponding domain names. Those computers, called *root servers*, must be coordinated to ensure connectivity across the Internet.

The Internet originated with research funding provided by the Department of Defense Advanced Research Projects Agency (DARPA) to establish a military network. As its use expanded, a civilian segment evolved with support from the National Science Foundation (NSF) and other science agencies. While there are no formal statutory authorities or international agreements governing the management and operation of the Internet and the DNS, several entities have played key roles in the DNS. The Internet Assigned Numbers Authority (IANA) makes technical decisions concerning root servers, determines qualifications for applicants to manage country code TLDs, assigns unique protocol parameters, and manages the IP address space, including delegating blocks of addresses to registries around the world to assign to users in their geographic area. IANA operates out of the University of Southern California's Information Sciences Institute and has been funded primarily by the Department of Defense.

NSF was responsible for registration of nonmilitary domain names, and in 1992 put out a solicitation for managing network services, including domain name registration. In 1993, NSF signed a five-year cooperative agreement with a consortium of companies called InterNic. Under this agreement, Network Solutions Inc. (NSI), a Herndon, Virginia engineering and management consulting firm, became the sole Internet domain name registration service for registering the .com, .net., and .org. gTLDs.

Recent History

Since the imposition of registration fees in 1995, criticism of NSI's sole control over registration of the gTLDs grew. In addition, there was an increase in trademark disputes arising out of the enormous growth of registrations in the .com domain. There also was concern that the role played by IANA lacked a legal foundation and required more permanence to ensure the stability of the Internet and the domain name system. These concerns prompted actions both in the United States and internationally.

An International Ad Hoc Committee (IAHC), a coalition of individuals representing various constituencies, released a proposal for the administration and management of gTLDs on February 4, 1997. The proposal recommended that seven new gTLDs be created and that additional registrars be selected to compete with each other in the granting of registration services for all new second level domain names. To assess whether the IAHC proposal should be supported by the U.S. government, the executive branch created an interagency group to address the domain name issue and assigned lead responsibility to the National Telecommunications and Information Administration (NTIA) of the Department of Commerce (DOC). On June 5, 1998, DOC issued a final statement of policy, "Management of Internet Names and Addresses." Called the White Paper, the statement indicated that the U.S. government was prepared to recognize and enter into agreement with "a new not-for-profit corporation formed by private sector

Internet stakeholders to administer policy for the Internet name and address system."[1] In deciding upon an entity with which to enter such an agreement, the U.S. government would assess whether the new system ensured stability, competition, private and bottom-up coordination, and fair representation of the Internet community as a whole.

In effect, the White Paper endorsed a process whereby the divergent interests of the Internet community would come together and decide how Internet names and addresses would be managed and administered. Accordingly, Internet constituencies from around the world held a series of meetings during the summer of 1998 to discuss how the New Corporation (NewCo) might be constituted and structured. Meanwhile, IANA, in collaboration with NSI, released a proposed set of bylaws and articles of incorporation. The proposed new corporation was called the Internet Corporation for Assigned Names and Numbers (ICANN). After five iterations, the final version of ICANN's bylaws and articles of incorporation were submitted to the Department of Commerce on October 2, 1998. Additionally, nine members of ICANN's interim board were chosen (four Americans, three Europeans, one from Japan, and one from Australia). On November 25, 1998, DOC and ICANN signed an official Memorandum of Understanding (MOU), whereby DOC and ICANN agreed to jointly design, develop, and test the mechanisms, methods, and procedures necessary to transition management responsibility for DNS functions to a private-sector not-for-profit entity.

The White Paper also signaled DOC's intention to ramp down the government's Cooperative Agreement with NSI, with the objective of introducing competition into the domain name space while maintaining stability and ensuring an orderly transition. During this transition period, government obligations were to be terminated as DNS responsibilities transferred to ICANN. Specifically, NSI committed to the development of a Shared Registration System that permits all accredited registrars to provide registration services within the .com, .net., and .org gTLDs. NSI (now VeriSign) continues to administer the root server system until receiving further instruction from the government.

After a year of negotiations, on November 10, 1999, ICANN, NSI, and DOC formally signed agreements which provided that NSI (now VeriSign) was required to sell its registrar operation by May 10, 2001 in order to retain control of the dot-com registry until 2007. In April 2001, arguing that the registrar business was by then highly competitive, VeriSign reached a new agreement with ICANN whereby its registry and registrar businesses would not have to be separated. With DOC approval, ICANN and VeriSign signed the formal agreement on May 25, 2001. The agreement provided that VeriSign would continue to operate the .org registry until 2002; the .net registry until June 30, 2005, which prior to that time will be opened for recompetition unless market measurements indicate that an earlier expiration date is necessary for competitive reasons; and the .com registry until at least the expiration date of the current agreement in 2007, and possibly beyond. VeriSign agreed to enhanced measures (including annual audits arranged by ICANN and made available to the U.S. government) to ensure that its

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[1] Management of Internet Names and Addresses, National Telecommunications and Information Administration, Department of Commerce, *Federal Register*, Vol. 63, No. 111, June 10, 1998, 31741.

registry-operation unit gives equal treatment to all domain name registrars, including VeriSign's registrar business.

On September 17, 2003, ICANN and the Department of Commerce agreed to extend their MOU until September 30, 2006. The MOU specifies transition tasks which ICANN has agreed to address. ICANN will implement an objective process for selecting new Top Level Domains; implement an effective strategy for multi-lingual communications and international outreach; and develop a contingency plan, consistent with the international nature of the Internet, to ensure continuity of operations in the event of a severe disruption of operations.

On June 30, 2005, Michael Gallagher, Assistant Secretary of Commerce for Communications and Information and Administrator of NTIA, stated the U.S. Government's principles on the Internet's domain name system. Specifically, NTIA states that the U.S. Government "intends to preserve the security and stability" of the DNS, and that "the United States is committed to taking no action that would have the potential to adversely impact the effective and efficient operation of the DNS and will therefore maintain its historic role in authorizing changes or modifications to the authoritative root zone file." The NTIA statement also says that governments have legitimate interests in the management of their country code top level domains, that ICANN is the appropriate technical manager of the DNS, and that dialogue related to Internet governance should continue in relevant multiple fora.[2]

Issues

The Department of Commerce (through NTIA) remains responsible for monitoring the extent to which ICANN satisfies the principles of the White Paper as it makes critical DNS decisions. In the 109th Congress, the Senate Committee on Commerce, Science and Transportation and the House Committee on Energy and Commerce will likely conduct oversight on how the Administration manages and oversees ICANN's activities and policies as it strives to meet the conditions of the Department of Commerce MOU. The 109th Congress is also likely to assess the role of the federal government and the international community in Internet governance.

Governance. On June 22, 2002, ICANN released a "Blueprint for Reform," which calls for a significant restructuring of ICANN. Specifically, the Board of Directors would be composed of fifteen members: the ICANN President, eight members appointed by a nominating committee, and six selected by three Supporting Organizations. The reform blueprint also recommends that ICANN collect a fee of 25 cents per registered domain name. New bylaws based on the reform proposal were formally adopted by the ICANN Board at the October 2002 Board meeting in Shanghai. Some in the Internet community have spoken against the ICANN reforms, asserting that its elimination of elected At-Large board members precludes effective representation of unaffiliated Internet users.

In a related development, the United Nations, at the December 2003 World Summit on the Information Society (WSIS), debated and agreed to study the issue of how to achieve greater international involvement in the governance of the Internet and the

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[2] See [http://www.ntia.doc.gov/ntiahome/domainname/USDNSprinciples_06302005.pdf]

domain name system. The study was conducted by the UN's Working Group on Internet Governance (WGIG). On July 14, 2005, the WGIG released its report, calling for further internationalization of Internet governance and proposing the creation of a new global forum for Internet stakeholders. Four possible models are put forth, including two involving the creation of new Internet governance bodies linked to the UN. The report's conclusions will be considered by the UN during the second phase of the WSIS to be held in Tunis in November 2005. U.S. officials have stated their opposition to transferring control and administration of the domain name system from ICANN to any international body.[3]

On March 31, 2005, the National Research Council (NRC) released a report entitled, *Signposts in Cyberspace: The Domain Name System and Internet Navigation*.[4] The report was mandated by Congress in 1998 (P.L. 105-305) and sponsored by the Department of Commerce and the National Science Foundation. Among its recommendations, the NRC concluded that the domain name system should continue to be administered by a nongovernmental body and not be turned over to an intergovernmental organization. The report also recommended that before turning over control of the DNS, the Department of Commerce should seek ways to protect ICANN from undue commercial and political pressures, and to provide oversight of ICANN's performance.

Protecting Children on the Internet. In the 107th Congress, legislation sought to create a "kids-friendly top level domain name" that would contain only age-appropriate content. The Dot Kids Implementation and Efficiency Act of 2002 was signed into law on December 4, 2002 (P.L. 107-317) and authorizes the National Telecommunications and Information Administration (NTIA) to require the .us registry operator (currently NeuStar) to establish, operate, and maintain a second level domain within the .us TLD that is restricted to material suitable for minors.

In the 108th Congress, P.L. 108-21/S. 151 (PROTECT Act), contains a provision (Sec. 108: Misleading Domain Names on the Internet) which would make it a punishable crime to knowingly use a misleading domain name with the intent to deceive a person into viewing obscenity on the Internet. Increased penalties are provided for deceiving minors into viewing harmful material.

Meanwhile, on June 1, 2005, ICANN announced that it had entered into commercial and technical negotiations with a registry company to operate a new ".xxx" domain, which would be designated for use by adult websites. Registration by adult websites into the .xxx domain would be purely voluntary, and those sites would not be required to give up their existing (for the most part, .com) sites. Announcement of a .xxx domain has proven controversial. With the ICANN Board scheduled to consider final approval of the .xxx domain on August 16, 2005, the Department of Commerce sent a letter to ICANN requesting that "adequate additional time" be provided to allow ICANN to address the objections of "individuals expressing concerns about the impact of pornography on families and children and opposing the creation of a new top level domain devoted to

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[3] "Read My Lips: No New Internet Governance at the U.N., Gross Says," *Washington Internet Daily*, September 13, 2005.

[4] Available at [http://books.nap.edu/catalog/11258.html?onpi_newsdoc03312005]

adult content."[5] ICANN's Government Advisory Committee has also requested more time before a final decision is made. ICANN has agreed to the delay and will possibly make a final decision on the issue in October 2005.

Trademark Disputes. The increase in conflicts over property rights to certain trademarked names has resulted in a number of lawsuits. The White Paper called upon the World Intellectual Property Organization (WIPO) to develop a set of recommendations for trademark/domain name dispute resolutions, and to submit those recommendations to ICANN. At ICANN's August 1999 meeting in Santiago, the board of directors adopted a dispute resolution policy to be applied uniformly by all ICANN-accredited registrars. Under this policy, registrars receiving complaints will take no action until receiving instructions from the domain-name holder or an order of a court or arbitrator. An exception is made for "abusive registrations" (i.e. cybersquatting and cyberpiracy), whereby a special administrative procedure (conducted largely online by a neutral panel, lasting 45 days or less, and costing about $1000) will resolve the dispute. Implementation of ICANN's Domain Name Dispute Resolution Policy commenced on December 9, 1999. Meanwhile, the 106th Congress passed the Anticybersquatting Consumer Protection Act (incorporated into P.L. 106-113, the FY2000 Consolidated Appropriations Act). The act gives courts the authority to order the forfeiture, cancellation, and/or transfer of domain names registered in "bad faith" that are identical or similar to trademarks, and provides for statutory civil damages of at least $1,000, but not more than $100,000, per domain name identifier.

Privacy. Any entity who registers a domain name is required to provide contact information (phone number, address, email) which is entered into a public online database (the "WHOIS" database). Over the past several years, registrants who wish to maintain their privacy have been able to register anonymously using a proxy service offered by some registrars. In February 2005, the National Telecommunications and Information Administration (NTIA) – which has authority over the .us domain name – notified Neustar (the company that administers .us) that proxy or private domain registrations will no longer be allowed for .us domain name registrations, and that registrars must provide correct WHOIS information for all existing customers by January 26, 2006. According to NTIA, this action will provide an assurance of accuracy to the American public and to law enforcement officials. The NTIA policy is opposed by privacy groups and registrars (such as Go Daddy) who argue that the privacy, anonymity, and safety of people registering .us domain names will be needlessly compromised.

In a related development, during the 108th Congress, the Fraudulent Online Identity Sanctions Act was incorporated as Title II of H.R. 3632, the Intellectual Property Protection and Courts Amendments Act of 2004, signed by the President on December 23, 2004 (P.L. 108-482). The act increases criminal penalties for those who submit false contact information when registering a domain name that is subsequently used to commit a crime or engage in copyright or trademark infringement.

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[5] Letter from Michael Gallagher, Assistant Secretary for Communications and Information, Department of Commerce, to Vinton Cerf, ICANN Board Chairman, August 11, 2005. Available at [http://www.icann.org/correspondence/gallagher-to-cerf-15aug05.pdf]