Registering the Domain Name System: An Exercise in Global Decision Making

William A. Foster

As Internet domain names have become valuable properties there has been growing conflict over the rights to these names and over who has the rights to create them. There is the potential that these conflicts could destabilize the domain name system itself. Efforts to bring the domain name system into alignment with trademark law are complicated by the fact that trademark law is generally national while domain names are inherently global.

The Internet community should work to register the domain name system with the appropriate organs of the United Nations. This would build legitimacy for the Internet's naming and registration conventions under the trademark laws of each country and would give the world's governments an "appropriate" role in decision making regarding the Internet infrastructure. Those organizations that have a vital stake in the Internet need to invest the time and energy to insure that the world's governments acknowledge the domain name system.

The domain name system includes not only the actual Internet domain names (www.apple.com), but the administrative and technical infrastructure that makes them possible. The domain name registry (of which there are over 400 in the world) impose order on the name application process by preventing duplicate name assignments and by fitting them into a distributed hierarchy. These registries also provide a server by which remote programs may inquire and retrieve authoritative pointers to the domain name servers which contain details about a domain. The DNS (Domain Name Service) is the server program that provides this function and which allows the servers to coordinate with each other and with the "root servers" to provide a comprehensive view of the entire Internet. Though this paper is primarily concerned with the administrative aspects of the domain name system, it is important to keep both the administrative and technical infrastructure in mind when referring to the domain name system.

National Trademarks: Global Domain

The Internet domain name system was set up to create a more "human friendly" means of accessing Internet hosts than just using 32-bit IP numbers. It also has created a plenitude of marks that are being treated as "trademarks" or "service marks" in various countries. There has been a growing number of court cases in the United States over the rights of the holder of a trademark to a domain name that has been registered to someone else. Agmon, Halpern and Pauker at their Web site "What's in a Name?" provide an excellent overview of recent disputes over the rights to various domain names. [1] Many of these disputes have involved Network Services Inc. (NSI) which is responsible for registering domains under the ".com" Top Level Domain (TLD). NSI has gone through four iterations of a domain dispute policy and has enraged many in the Internet community in the process. At the same time, the U.S. Patent and Trademark Office is developing its rules on registering domain names as trademarks.[2] But, as David Maher of the International Trademark Association so adeptly points out, the real dilemma is that trademarks are governed by national rules but domain names can--by virtue of the Internet--immediately appear in almost every other country.[3] There is nothing to prevent a second country from judging that a domain name violates the rights of a trademark holder. This has already occurred in Germany where an American company was sued for using a domain name on the Word Wide Web that was registered in the United States but infringed on a trademark claimed by a German company.

Though domain names appear globally there are no global trademarks. Currently, trademarks need to be registered in each and every country where they are used. The only way to register a mark globally is to register it in every country. The World Intellectual Property Organization (WIPO) does have a processes for facilitating multiple registrations but only for states that have signed the Madrid Agreement Concerning the International Registration of Marks. The Madrid agreement is limited to 46 states and does not include the United States or Japan.[4] Signatory countries have the right to reject a filing under the Madrid agreement and disputes are settled

at the national level.

Though there are no global trademarks, the Internet community does have international Top Level Domains (iTLDs). For the most part these iTLDs, such as ".com" and ".net", are currently all controlled by the Internic, the registry run by NSI. The rest of the registries are either country or region specific and issue TLDs that are based on International Standards Organization (ISO) 3166 two letter country codes (i.e. .fr for France). Organizations who register a domain name with a national registry will have the country code appended to the right of their second level domain. However, for historical reasons, the ".us" TLD is rarely used and most U.S. businesses and organizations register under the ".com" or ".org" iTLDs. Businesses outside the United States have been allowed to register under the ".com" TLD irregardless of where their host is situated. The ".com" is thus considered an international TLD (iTLD). The ".com" iTLD has developed a snob appeal that has attracted many non-U.S. companies to register under it, but non-U.S. based companies have also registered out of fear that someone else would register a domain in the ".com" TLD that would dilute the value of their trademark within their own country.

With the incredible explosion of interest in the Internet on the part of the business community, many businesses are finding when they try to register a second level domain that the name that they would prefer, a name based on their own trademark, is already taken. US law allows many companies to use the same word in their trademarks (i.e. Acme toys, Acme books, Acme Cookies, etc.). But the way the Internet is currently configured there can only one "Acme.com".

There has been considerable discussion in the Internet community on how to restructure the domain name system to meet the needs of the commercial business community and the realities of trademark law. The Kennedy School of Government along with the National Science Foundation hosted a symposium on November 29, 1995 where leaders from different sectors of the Internet community exchanged ideas on a number of proposals.

One proposal from the Internet Assigned Number Authority (IANA) and the Internet Society (ISOC) called for the creation of new iTLD registries that would compete against each other and would provide business with multiple opportunities to use the same second layer domain (i.e. Acme.com, Acme.bus, Acme.ind). These registries would be chartered by IANA and ISOC.

Tony Rutkowski, the former director of the Internet Society, presented a paper pointing out how the TLD debate touches on a range of international domestic legal issues. Any TLD solution, he argued, needs to recognize the legal ramifications and include the major stake holders in the decision making process. Rutkowski has developed a list of the "parties of interest" in Internet public policy matters including both international business associations and international governmental bodies such as the International Telecommunications Union (ITU), the World Trade Organization (WTO), the World Intellectual Property Organization (WIPO), and the United Nations Educational, Scientific, and Cultural Organization (UNESCO).[5] Rutkowski sees the need for a new body(ies) to oversee the administrative functions of the Internet that incorporate(s) the key stake holders and effectively taps their expertise.

While many have debated the question, Eugene Kashpureff has set up a registry Alternic to issue TLDs to registries for a fee. The TLDs that Alternic registers are not in the Internet root servers so most users can not access hosts that have them as TLDs. However, Alternic does offer an alternate root server for those who will point to it that will give users access to the Alternic registered TLDs along with the IANA approved TLDs. At the Internet Engineering Task Force meeting in Montreal in June, Kashpureff questioned the right of IANA to stifle competition and even threatened to go to court to gain access to the root servers.

Internet Decision Making?

We reject Kings, Presidents, and Voting:
We believe in rough consensus and working code.
David Clark, IETF (1992)

Robert Shaw's "Internet Domain Names: Whose Domain is This?" gives an excellent overview of the organizations that are involved with Top Level Domains[6] David Maher in "Trademarks on the Internet: Who's in Charge?" reviews the key proposals for overhauling the system.[7] Though both pose questions, neither Shaw nor Maher never fully resolve the questions their titles pose.

IANA

The Internet Assigned Number Authority (IANA) has historically played the key role in coordinating the domain name system. The IANA states on its home page that it is "chartered by the Internet Society (ISOC) and the Federal Networking Council (FNC) [8] to act as a clearinghouse to assign and coordinate the use of numerous Internet protocols."[9] IANA is not legally incorporated. It is run by John Postel of the Information Sciences Institute at the University of Southern California (USC) and its "Information Sciences Institute (ISI). According to Postel, he is the voice for a "low level of effort" task that is staffed by himself, Joyce Reynolds, Nehel Bhau, and Bill Manning. [10] ISI receives its funding from the U.S. Department of Defense's ARPA program. Though it is not clear how much the U.S. government is involved in IANA, there is some speculation that IANA in the event that it is ever sued in court might claim that it is a U.S. government activity to remove the case from the court's jurisdiction.

IANA's authority rests not on its relationship with the U.S. government but because of its historical relationship with the Internet Engineering Task Force (IETF) and its steering group (the IESG). The Internet protocols that are defined by the IETF contain numerous parameters (Internet addresses, domain names, MIB identifiers, etc.) that must be uniquely assigned. John Postel has a long history of making technically sound decisions that worked for the IETF, Internet Service Providers (ISPs) and users of the Internet. It is this history that has given IANA its authority.

Postel and IANA have not demonstrated parallel skills when forced into the public policy arena. Much to his dismay, Postel has watched as the domain name system has become wrapped up with trademark law. Postel's August 1996 "Memo on New Registries and the Delegation of International Top Level Domains" recognizes "trademarks are a complicated problem in their own right."[11] He hopes that there are aspects of his plan that "may ease the problems involved with the interaction of trademarks and domain names by giving more access to domain names for holders of the same trademark in different business areas."

It is very disconcerting that Postel never in his memo acknowledges the reality that though domain names are used globally, trademark law is national. In his side remarks on "Trademarks and Domain names", he states that we will have to wait until a "high-level court" makes a decision as to whether domain names are trademarks. In fact, courts all over the world are going to have to make this determination along with their governments and international organizations.

To his credit, Postel requires in section 6.1.1 that new iTLDs must not be trademarks. It is the responsibility of the new registries to research their proposed iTLDs to insure that they have not been trademarked. He states that new iTLDs may be required to not be on the international list of national trademarks maintained by WIPO. In the memo, he is unclear as to whether WIPO's trademark list was readily available and does not seem to be cognizant of the limitations of this list including the fact that it does not include trademarks of the U.S., Japan, and other non-signatories.

The Postel memo calls for IANA, ISOC, and the IETF to create a joint committee to oversee the selection of new iTLDs and registries. The contracts used to create new registries will include a "statement indemnifying the IANA and the ISOC for any infringement of trademark which may be created in this process." Processes for arbitrating conflicts are mentioned along with an appeals process that escalates from IANA, to IETF, and finally to ISOC. It seems that IANA and IETF have no intention, however, of becoming involved in trademark disputes though they do allocate legal funds in case they are dragged in to such disputes.

ISOC & IETF

The ISOC board of trustees voted during their June 1996 meeting to support the Postel TLD proposal. ISOC's mission is to further the Internet and it tries to do this by providing a legal and financial umbrella for the IETF, the IESG, the IAB (Internet Architecture Board), and IANA. In his memo, Postel acknowledges that ISOC provides IANA with an international legal and financial umbrella. Given the importance of the domain name system to the Internet community and to the businesses that are investing in it, the question must be asked as to the ability of the umbrella to withstand potential conflicts over the legitimacy of the domain name system. ISOC's strength comes from its dues paying members, but more importantly from the success and vibrancy of the IETF which it serves. The IETF sets standards for the Internet but has shied away, for good reason, from trying to govern the operational infrastructure of the Internet or to work directly with government to address public policy concerns surrounding the Internet.

ISP Organizations

Internet Service Providers who operate much of the infrastructure have created trade associations such as the Commercial Internet Exchange Association (CIX) [12], to organize and influence the public policy debate on such key issues as ISP liability for indecent content and copyright violations. Over the past two years, CIX has repeatedly demonstrated an ability to track issues, articulate issues to policymakers, and to influence the course of legislation. Though CIX focused primarily on US issues during 1995, in 1996 it has begun to actively work with a wide range of global and regional bodies that impact ISPs such as the ITU, WIPO, the European Commission, the OECD, and others. CIX has also been active in the debate of the domain name system and hosted with ISOC the well attended conference on the "Internet Administrative Infrastructure - What is it? Who should do it? How should it be paid for?"

In addition to CIX there are a number of national and regional associations of Internet Service Providers. Some of these associations have developed to meet national and regional infrastructure needs for exchange points and registries, but some have also been active in the public policy concerns of their members.

There is also a wide assortment of associations that have sprung up to represent various interest groups and around specific technologies. The nature of the Internet dramatically lowers the costs of putting together an organization, especially at a national or global level. The ability of these Internet organizations to build consensus and make decisions very widely, as does their ability to work constructively with other organizations and government. There is certainly no hierarchy into which all these groups fall, nor is there one organization that represents the interests and the expertise of all stake holders in the Internet. This is not to say that the Internet community can not focus on common goals including the creation of an environment where the global domain name system can coexist with various national trademark laws. In working towards this goal there are many potential allies among business associations and businesses themselves who are concerned about the stability of the Internet and their own domain names.

United Nations?

The United Nations and its specialized bodies have a critical role to play in registering the Internet domain name system. Registering the domain name system will help to establish its legitimacy as a global system, even in the absence of global trademark law. Most countries have decided to participate or at least to allow their citizens to participate in the Internet. Though many nations are wrestling with how to set up barriers to illicit content , few have thought through the consequences of domain names appearing that they have not been registered. Consensus for the domain name system can be built by a process of investigation, hearings, relationship building, and eventual votes by all nations.

In "Law and Borders," Johnson and Post argue that Cyberspace needs and can create new law and legal institutions of its own.[13] However, they neglect to discuss how to enroll national governments into accepting limitations on their own jurisdiction. The Internet community needs to actively engage the world's nations in dialogue over the domain name system with the goal of registering the system. The goal is not to make the domain name system the only naming convention for all electronic communication or even for the Internet itself. Rather, the world community needs to constructively wrestle with the reality that in cyberspace marks registered

in one country can appear all over the world.

Part of the dialogue that needs to occur is over how to protect the rights of both domain name holders and trademark holders in this global environment. Postel's new memo seems to suggest that the venue for protecting a trademark is the country in which the iTLD registry is located even if the trademark infringement occurs in another country. Hopefully, IANA will not charter any registries that are not dutifully registered in a particular country or in countries which don't respect the rights of foreign trademark holders. Unfortunately, there is little evidence that IANA significantly engaged world governments in a discussion as to whether this is an acceptable solution.

ITU

Such dialogue needs to occur and it will occur much more effectively if the Internet community focuses on the goal of United Nation's registration. There are a number of UN bodies that need to be engaged. The International Telecommunication Union (ITU) and particularly its Telecommunications Standardization Sector (the ITU-T) have as its mission the coordination and facilitation of telecommunications between countries. The ITU-T has been active in setting many telecommunication standards including the Open System Interconnection (OSI) standards such as X.400 and X.500 that attempt to provide some of the same services as the Internet domain name system. There are some in the IETF who are contemptuous of the ITU-T and its standards processes. There are major differences in how the two organization set standards. The ITU-T votes on standards, while the IETF relies on rough consensus. The IETF requires at least two separate implementations before a draft can become a standard, where the ITU-T can draft a standard without an in implementation. The IETF is open to all based on their ability to participate, while the ITU-T is controlled by representatives from the government ministries that control telecommunications with input from large telecommunication carriers and manufacturers.

Despite the differences in organizational cultures, at this point in time the Internet community needs to learn how to work through the ITU to build support for the Internet in general and the domain name system in particular. Though the IETF has excelled at interoperability, it has a few things to learn about how to work within the existing political system. By attempting to register the domain name system with the appropriate UN bodies, the Internet community will be introducing a feedback loop that will be very educational for IANA, ISOC, the IETF, and other members of the Internet community. The experience may even result in IANA growing into, or being supplemented by, the kind of body that Tony Rutkowski envisions as necessary for the administration of the Internet.

If the ITU-T registers the key RFCs associated with the domain name system and how it is administered, the world's government will be taking a step toward acknowledging the systems legitimacy. The ITU can not force any country to do what the country does not want to do. However, the ITU through its decision making processes can create powerful forces for consensus.

The process of registering with the ITU can also be very helpful to the Internet community. Though there are certain Request for Comment (RFC) documents such as RFC 1591 that describe Domain Name System Structure and Delegation, Postel's memo and the Internet draft that proceeded it have not gone through the IETF's Request For Comment processes. IANA needs to update RFC 1591 if it is in fact going to proceed with creating new iTLD registries. The Internet community needs a current set of RFCs dealing with the domain name system that it can build international support for.

Parts of the Internet community will be wary of giving the ITU a role in the Internet administrative infrastructure. There will be people who will fiercely guard the IETF's decision making processes. In addition, given the potential for competition between ISPs and telephone companies, ISPs maybe concerned about the amount of power that national telephone monopolies have in the ITU. Instead of seeing the ITU as a threat, the IETF and the ISPs need to recognize the value of utilizing the ITU to build relationships with the world's governments. The ITU can be an excellent resource for gathering information and driving debate. The ITU should not be defining Internet protocols or administrative procedures. They should be challenged to explicate what it will take for a global system to co-exist with the world's governments. The UN through the ITU should

make every effort to register a global communication system, especially if that system is truely used globally. Failure to do so should call into question their own viability.

The ITU now accepts International Standards Organization (ISO) standards through a cooperative agreement. It is possible that such an agreement could be arranged with ISOC/IETF. ISOC and the ITU have become members of each others organizations. Yet, the mistrust of the ITU by some members of the IETF, will limit ISOCs ability to provide leadership in building this relationship. Only if the Internet community including ISPs and businesses who count on the Internet mobilize to work through the ITU will there be any positive results.

WIPO

The Internet community needs to work through other United Nations organizations such as the World Intellectual Property Organization (WIPO). WIPO's objective is to promote the protection of intellectual property throughout the world through cooperation among States and, where appropriate, in collaboration with any other international organization. Though there might be a question as to whether IANA is an international organization, there is a potential role for WIPO in harmonizing the domain system with trademark law.

The WIPO Convention does give the Director General the power to be involved in, subject to the General Assembly's agreement, agreements to promote the protection of intellectual property.

Agmon, Halpern and Pauker suggest that a potential solution to the trademark/domain crisis is for WIPO to facilitate an international treaty domain name.[14] There is a concern that treaties often take five or more years to write and ratify and no one has any idea where the Internet and its naming conventions will be five years from now. Working through WIPO to register the domain name system is a more realistic short term goal. WIPO could be very helpful in developing a set of procedures for registries that minimize the chance that their TLDs or the domains created under them are contested. WIPO could also be very helpful in setting in place adjudication mechanisms for business that countries would not contest and which minimize litigation. The business community would like the assurance that if they register a domain name in a registry in one country that they won't be sued for having that domain name appear in another country. Finally and most importantly, working through WIPO can help to diffuse tensions that might potentially threaten the stability of the domain name system itself.

The Internet community needs to explore with WIPO ways of protecting the rights of domain name and trademark holders in iTLDs on a multilateral basis. For many of the same reasons mentioned above for the ITU, it would be a worthwhile exercise to register the domain name system with this different UN specialized agency that has expertise and authority that are very relevant to the trademark/domain name dilemma. It is not a matter of choosing WIPO over the ITU or visa versa, both have different expertise and both represent different interests (Trademark offices vs. Telecommunication Ministries). It is recommended that the Internet community engage both in a dialogue and work for registration in both bodies.

Conclusion

A general "Law of Cyberspace Treaty" or a more specific Convention dealing with Domain Names, may eventually come into reality. However, currently the technology and the business are outstripping the ability of stake holders to organize and make sound decisions. The Internet community needs to focus on having the world's governments formally recognize the domain name system. Governments and business need to be convinced that domain name disputes can be arbitrated or adjudicated even if that domain name is owned by a business in another country and used in a third. Given the stakes involved, a business or government may out of frustration choose to attack or destabilize the domain name system or the organizations that support it.

The Internet community needs to work at the national and international level to build consensus behind the domain name system and to minimize the possibility of actions that destabilize the system and the businesses that depend on it.

Endnotes

1) Agmon, Halpern and Pauker "What's In A Name?" http://www.law.georgetown.edu/lc/internic/recent/

back to text....

2) Jessie Marshall "Domain Names and Trademarks: At the Intersection" http://www.isoc.org/isoc/whatis/conferences/inet/96/proceedings/f4/f4_3.htm

back to text....

3) David Maher "Trademarks On The Internet: Who's In Charge?" http://www.aldea.com/cix/maher.html

back to text....

4) WIPO General Information Geneva 1996

back to text....

5) Parties of Interest in Internet Public Policy Matters http://www.wia.org/pub/policy-orgs.html

back to text....

6) Robert Shaw "Internet Domain Names: Whose Domain Is This?" http://www.itu.ch/intreg/dns.html

back to text....

7) David Maher "Trademarks On The Internet: Who's In Charge?" http//www.aldea.com/cix/maher.html

back to text....

8) FNC membership consists of representatives from 17 US Federal agencies whose programs utilize interconnected Internet networks.

back to text....

9) IANA http://www.isi.edu/iana/overview.html

back to text....

10) John Postel e-mail Re: Issues on the table posted in newdom@iiiia.org on July 16, 1996

back to text....

11) New Registries and the Delegation of International Top Level Domains" ftp://ftp.isi.edu/in-notes/iana/administration/new-registries

back to text....

12) see CIX http://www.cix.org

back to text....

13) David Johnson and David Post "Law and Borders - The Rise of Law in Cyberspace" First Monday http://www.firstmonday.dk/issues/issue1/law/top.html#bdtb

back to text....

14) Agmon, Halpern and Pauker "What's In A Name?" http://www.law.georgetown.edu/lc/internic/domain1.html

back to text....