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Note

Master of Your Domain: Should the U.S. Government Maintain Control over the Internet's Root?

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INTRODUCTION

The domain name system (DNS) is an essential component of contemporary Internet use. The DNS is a hierarchical database that maps easy-to-remember domain names to more basic addresses, which then identify where a computer resides on the Internet.¹ At the top of this hierarchy is a single database called the root. Since the DNS root is both essential to Internet use and centralized, many in the Internet governance community believe control over this database bestows implicit control over the entire Internet.²

As research funded by the United States created both the Internet and the DNS, the U.S. had initial control over the DNS root. As the Internet developed from a U.S. research project to a worldwide computer network, other nations increasingly criticized the United States' control over the DNS root.³

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1. Posting of Jonathan Zittrain to Comment is Free, http://commentisfree.guardian.co.uk/jonathan_zittrain/2006/10/jonathan_zittrain.html (Oct. 4, 2006, 11:16 EST).

2. *Id.*

3. David Gow, *U.S. Loosens Grip on Running of Internet*, GUARDIAN UNLIMITED (London), Oct. 3, 2006, available at <http://business.guardian.co.uk/story/0,,1886022,00.html> (pointing out that the European Union desired ICANN to be completely private, whereas other developing countries desired the United Nations to take control of the root).

Partially in response to its critics, the United States transferred control of the root to the Internet Corporation for Assigned Names and Numbers (ICANN), a semi-private, nonprofit organization based out of California. Although the United States planned to completely privatize ICANN, and thereby release control of the root, it continues to retain ultimate control over ICANN's decisions. While the international community largely agrees that the United States should not control the root, there is disagreement about what the ultimate solution should be.

Part I of this Note provides background information about the DNS. Part I.A describes the function the DNS performs, briefly pointing out some political issues raised by the hierarchical nature of the DNS. Part I.B provides a short history of the rise of the DNS, including the United States Government's struggle for ownership over the root. Part I.C discusses the United States' attempt to privatize control of the DNS root in ICANN. Part I.D details ICANN's attempt to assert its authority and compares the relative success it has had with generic top-level domains (TLDs) to its relative inability to assert its authority over country-code top-level domains.

Part II of this Note analyzes the United States' control over the root and argues that its control should be limited. The analysis reveals that the United States has undue influence over ICANN and ultimately over the DNS root. This Note also recognizes, however, that while theoretically the United States should not have complete control over the root, practically there are few alternatives given the United States' refusal to relinquish control. The benefits of having a single, un-fractured root should encourage the international community to use caution moving forward. Finally, this Note concludes that the international community should encourage the United States to commit to a formal document explicitly limiting the U.S.'s direct control over ICANN.

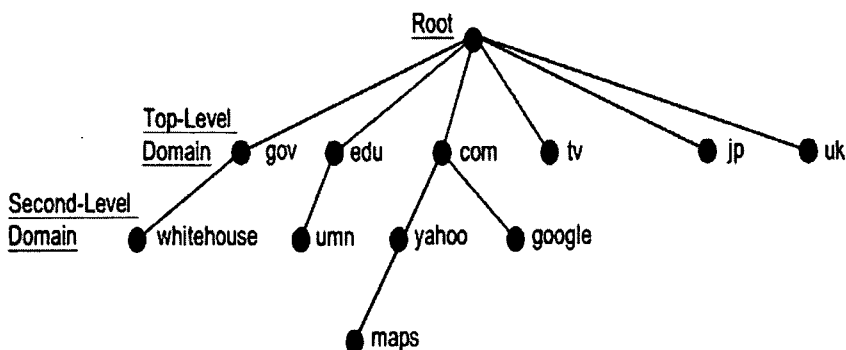
I. BACKGROUND

A. TECHNICAL BACKGROUND

The DNS is the protocol used to resolve easy-to-remember domain names into Internet protocol (IP) addresses.⁴ Internet

4. Peter K. Yu, *The Origins of CCTLD Policymaking*, 12 CARDOZO J. INT'L & COMP. L. 387, 388 (2004).

users benefit from domain names when navigating to websites (for example, “www.umn.edu”) or when using email (for example, “webmaster@umn.edu”).⁵ IP addresses provide the identifying information that enable devices on the Internet to locate each other.⁶ Whereas computers require IP addresses to navigate the Internet, domain names are merely mnemonics to assist end users who are unlikely to remember multiple IP addresses. Thus, technically most of the Internet could function perfectly well without domain names. As long as computers knew the required IP addresses, everything would work fine. However, given that a majority of Internet users would be at a



loss if their easy-to-remember domain names suddenly stopped working, some have referred to the DNS as the “backbone of the Internet.”⁷

The DNS is a hierarchical system of databases that looks like an upside-down tree when diagramed.⁸ The hierarchy has three levels. At the top is the root domain, which followed by the top-level domains; last are the child domains.⁹ Computers resolve domain names by querying the name servers of child domains, which are at the bottom of the hierarchy.¹⁰ If the child-domain name server is unable to resolve the domain name, the computer will continue to query name servers all the way up

5. A. Michael Froomkin, *Wrong Turn in Cyberspace: Using ICANN to Route Around the APA and the Constitution*, 50 DUKE L. J. 17, 38 (2000).

6. *Id.*

7. Jerry L. Archer, *Neither Safe Nor Secure on the Internet*, CNET NEWS.COM, Oct. 4, 2006, http://news.com.com/2010-7345_3-6122351.html.

8. MARK MINASI ET AL., *MASTERING WINDOWS SERVER 2003*, at 369 (2003). Contrary to its name, the top-level domain is not at the top of the hierarchy. It is below the root domain, which is the topmost domain.

9. Froomkin, *supra* note 5, at 39.

10. Yu, *supra* note 4, at 388.

the hierarchy.¹¹ At the top of the hierarchy is the root domain.

The root domain directs computers to the appropriate top-level domain.¹² Thus, the root would direct a computer trying to resolve www.msn.com to the .com domain and a computer trying to resolve www.umn.edu to the .edu domain. Once the computer finds the appropriate top-level domain (here, either .com or .edu), it can then query that domain for the IP address of the child domain (in this case, either msn or umn). Thus, the root domain directs the computer to the proper top-level domain, which then directs the computer to the proper child domain.

The root domain's ability to direct queries to the proper top-level domain proceeds from its "authoritative list of top-level domain names."¹³ The power to edit this list is the power to add, remove, and determine who administers the top-level domains.¹⁴ Whoever controls the root can thus control which new TLDs are added, which existing TLDs are erased, and who administers each existing TLD.

Each TLD also has an authoritative master copy of its second-level domains called a registry.¹⁵ The registry's control of its domain is analogous to the root's control of the entire Internet. The registry's copy of second-level domains controls which second-level domains exist and who administers them. While each TLD has only one registry, several domains have split the functions of registry and registrars.¹⁶ The registry wholesales requested second-level domains to registrars and edits the domain's authoritative master copy of second-level domains.¹⁷ The registrars sell the domain names to end users and request the registry managers to make the actual changes to the registry database.

Currently, the root domain's authoritative list of TLDs

11. *Id.*

12. The root domain consists of thirteen legacy root zone servers. Each server is assigned a name from A to M. Initially, the A-server was the primary root server and changes to the list of top-level domains were made on that server. The other root servers, B through M, replicated A so that all legacy root servers had the same data. However, since 2001, VeriSign has changed the primary root server to a hidden server that in turn updates the thirteen legacy root servers. See Root Servers Technical Operations Ass'n, <http://www.root-servers.org/> (last visited Oct. 28, 2007).

13. Froomkin, *supra* note 5, at 43.

14. *Id.* at 46 ("The root determines which TLDs are visible to the vast majority of the Internet users.")

15. *Id.* at 43.

16. NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., SIGNPOSTS IN CYBERSPACE: THE DOMAIN NAME SYSTEM AND INTERNET NAVIGATION 135-36 (2005).

17. *Id.*

contains 265 entries.¹⁸ Generally, top-level domains are split into two categories: (1) country-code top-level domains (ccTLDs) (for example, .uk for England or .jp for Japan), and (2) generic top-level domains (gTLDs) (for example, .com or .org). Of the current list of top-level domains, 247 are country code top-level domains, and 18 are general top-level domains.¹⁹ The Internet Assigned Numbers Authority (IANA), the organization that takes all initial requests for new or modified entries in the root zone,²⁰ claims that “[g]eneric [top-level] domains were created for use by the Internet public, while country code domains were created to be used by individual countries as they deemed necessary.”²¹ This distinction, however, is gradually wearing away at both ends.²² On one end, the gTLDs are not always available to the public. For example, .edu, .mil, and .gov are restricted to U.S. organizations meeting specific requirements.²³ On the other end, some of the ccTLDs do not belong to entities that are officially recognized as countries, and some countries permit people anywhere in the world to register second-level domain names under their ccTLD as a means to generate revenue.²⁴

B. A SHORT HISTORY OF THE DNS: WHY THE UNITED STATES CONTROLS THE ROOT

The Internet is the offspring of a research project funded by the Advanced Research Projects Agency (ARPA)—an agency of the Department of Defense.²⁵ The ARPA’s initial goal was to create a network that would allow research universities to communicate with each other and to facilitate mainframe sharing.²⁶ Originally, four universities were connected.²⁷ The

18. See INTERNET ASSIGNED NUMBERS AUTHORITY (IANA), Top-Level Domains, <http://data.iana.org/TLD/tlds-alpha-by-domain.txt> (last visited Oct. 28, 2007), for a complete list of top-level domains.

19. See INTERNET ASSIGNED NUMBERS AUTHORITY (IANA), Root-Zone Whois Information, <http://www.iana.org/root-whois/index.html> (last visited Oct. 28, 2007), for a complete list of generic top-level domains.

20. SIGNPOSTS IN CYBERSPACE, *supra* note 16, at 105–06.

21. INTERNET ASSIGNED NUMBERS AUTHORITY (IANA), Domain Name Services, <http://www.iana.org/domain-names.htm> (last visited Oct. 28, 2007).

22. SIGNPOSTS IN CYBERSPACE, *supra* note 16, at 116–20.

23. INTERNET ASSIGNED NUMBERS AUTHORITY (IANA), Generic Top-Level Domains, <http://www.iana.org/gtld/gtld.htm> (last visited Oct. 28, 2007).

24. MINASI ET AL., *supra* note 8, at 371 (remarking that Tuvalu (.tv) and Cocos Keeling Island (.cc) have both allowed their top level country code for registration).

25. MILTON L. MEULLER, RULING THE ROOT: INTERNET GOVERNANCE AND THE TAMING OF CYBERSPACE 74 (2002).

26. See *id.*; see also Barry M. Leiner et al., *A Brief History of the Internet*,

network that connected them was called ARPANET, and in the following years, several computers joined the network.²⁸ Yet while ARPANET was revolutionary, it was not the Internet.²⁹ People did not call it the Internet, it was difficult to use, and it connected at most “about 200 people at 21 nodes.”³⁰ ARPANET did not become the modern day Internet until January 1, 1983, the day the network transitioned its communication protocol from Netware Control Protocol to TCP/IP.³¹

Initially, the Internet did not use the DNS.³² Instead, each computer had its own file, called a host file, with a complete list of every host name and corresponding IP address.³³ Because every computer had a local copy of the host file, anytime new computers were added to the network, every computer would need to re-download the entire host file.³⁴ The requirement to re-download the entire file and the fact that all computers used separate copies resulted in several errors: (1) general failure to scale, (2) inadequate timeliness, (3) susceptibility to failure, and (4) name conflicts.³⁵ The DNS helped to alleviate these problems by introducing a unified, hierarchical naming system.

However, while the DNS protocol provided solutions to old technical problems, it also introduced new political issues such as what TLDs should exist and who should operate them. While the Internet's founders discovered temporary solutions, the international community continues to grow increasingly frustrated as the Internet becomes more central to the world economy. Initially, some argued for generic TLDs, whereas others desired country specific TLDs. Jon Postel, one of the Internet's founders, eventually decided that he would create both.³⁶ To avoid potential political problems regarding which

INTERNET SOCIETY, Dec. 10, 2003, at n.5, available at <http://www.isoc.org/internet/history/brief.shtml> (emphasizing that ARPANET was not motivated by a desire to create a network resistant to nuclear war).

27. Leiner et al., *supra* note 26 (stating that by 1969, UCLA, Stanford, UC Santa Barbara and the University of Utah were all connected into the initial ARPANET).

28. *Id.*

29. MEULLER, *supra* note 25, at 74.

30. *Id.*

31. Justin Jaffe, *Happy Birthday, Dear Internet*, WIRED, Dec. 31, 2002, <http://www.wired.com/techbiz/it/news/2002/12/57013>.

32. SIGNPOSTS IN CYBERSPACE, *supra* note 16, at 47 (“The plan called for a switchover to the DNS in September 1984, but full conversion did not take place until 1987.”).

33. *Id.*

34. *Id.* at 40–41.

35. *Id.* at 41.

36. MUELLER, *supra* note 25, at 80; Memorandum from Jon Postel & Joyce

country received which letters for its ccTLD, Postel tied the Internet's convention for ccTLDs to an existing international convention for country codes: the ISO 3166-1.³⁷ Jon Postel also created the initial policy for deciding who would administer each country's ccTLD registry.³⁸ Generally, he delegated the ccTLD to the first responsible person who came looking for the job.³⁹ Significantly, one consequence of this policy was that institutions that often requested the ccTLD were not the traditional institutions usually in charge of communications.⁴⁰ Later, this result frustrated countries that felt entitled to control their ccTLD.

While international concerns over DNS decisions were increasing, there was also domestic uncertainty and confusion over who should control the root.⁴¹ As civilian use of the Internet grew, the Department of Defense requested that civilian agencies pay for nonmilitary registration activity.⁴² Consequently, in late 1990 the National Science Foundation (NSF) assumed the responsibility of paying for the root.⁴³ The NSF took bids from companies interested in administering the Internet, and in 1993 Network Solutions Inc. (NSI) prevailed with its bid for managing the domain name registration function.⁴⁴ While the NSF's funding initially permitted NSI to provide registration of domain names free of charge, by 1995 NSI had won the right to charge for its services.⁴⁵ For the first time, a for-profit corporation controlled the physical root server and was the sole registrar for the main gTLDs.⁴⁶ Adding further complication to the question of who should control the root, in early 1997 the NSF desired to relinquish its control over NSI and terminate their agreement early.⁴⁷ The Internet's focus was

Reynolds on Domain Requirements (Oct. 1984), <http://www.rfc-editor.org/rfc/rfc920.txt>.

37. ISO 3166-1 Decoding Table, http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/iso_3166-1_decoding_table.html (last visited Oct. 29, 2006). See also MUELLER, *supra* note 25, at 126.

38. Postel & Reynolds, *supra* note 36, at 1.

39. *Id.* at 4; MUELLER, *supra* note 25, at 88.

40. MUELLER, *supra* note 25, at 88.

41. JACK GOLDSMITH & TIM WU, WHO CONTROLS THE INTERNET?: ILLUSIONS OF A BORDERLESS WORLD 40-43 (2006) (pointing out that Ira Magiziner advised U.S. control over the root because of the Internet's commercial potential).

42. MUELLER, *supra* note 25, at 100.

43. *Id.* at 100-01.

44. *Id.* at 101-02.

45. GOLDSMITH & WU, *supra* note 41, at 35.

46. *Id.* (pointing out that NSI was the sole registrar of .com, .net, .org, and .edu).

47. See MUELLER, *supra* note 25, at 155; NSF Bows Out of Domain Names,

clearly shifting from its initial academic origins toward a focus on profit, but the question of who should control the root remained unsettled.⁴⁸

Upset by NSI's de facto monopoly on the most popular gTLDs, several Internet founders attempted to reassert their control over the root.⁴⁹ These founders assembled a panel to "develop and implement a blueprint for a global governance structure for the domain name system."⁵⁰ They named the panel the International Ad Hoc Committee (IAHC); their blueprint was called the gTLD-MoU.⁵¹ Ultimately, the IAHC desired to introduce more competition into the name registration process and hoped to treat top-level domain names as public property not controlled by any one country.⁵² The IAHC appeared to base its claim to the root in both its members' de facto authority as founders of the Internet and in its attempt to gain international legitimacy by teaming up with the International Telecommunications Union.⁵³

Unfortunately, the IAHC had one big problem: the United States did not agree with its plan and had the ability to stop it.⁵⁴ President Clinton's Internet Czar Ira Magaziner believed that the United States alone had claim to the root.⁵⁵ He articulated his position, stating, "The United States paid for the Internet, the Net was created under its auspices, and most importantly everything Jon [Postel] and Network Solutions did was pursuant to government contracts."⁵⁶ Further, Magaziner rejected the IAHC's plan because he believed it was contrary to his goal of commercialization of the Internet.⁵⁷ He believed the IAHC's relationship with the International Telecommunications Union put the Internet at risk of getting taxed and becoming over-regulated and introduced uncertainty into the security of

CNET NEWS.COM, Apr. 23, 1997, <http://www.news.com/2100-1023-279152.html>.

48. GOLDSMITH & WU, *supra* note 41, at 35-36.

49. *Id.* at 36.

50. MUELLER, *supra* note 25, at 142.

51. *See generally id.* at 142-46.

52. *Id.* at 144.

53. GOLDSMITH & WU, *supra* note 41, at 39; MUELLER, *supra* note 25, at 158; Margie Wylie, *Perspective: Who's in Charge of Domains?*, CNET NEWS.COM, Nov. 5, 1997, <http://www.news.com/2010-1071-281026.html> ("The problem is, nobody really knows how much, if any, authority this committee-of-a-thousand-names has to make its plan stick.").

54. *U.S. Rejects Net Name Plan*, CNET NEWS.COM, May 2, 1997, <http://www.news.com/2100-1023-279468.html>.

55. GOLDSMITH & WU, *supra* note 41, at 41.

56. *Id.*

57. *Id.* at 40.

the architecture.⁵⁸

Without the United States Government's support, or at least acquiescence, the IAHC did not have the authority or ability to control the root.⁵⁹ By July 1997, President Clinton had issued an executive order authorizing the Secretary of Commerce to privatize the DNS.⁶⁰ In January of the following year, the National Telecommunications and Information Administration on behalf of the Department of Commerce, published a notice of proposed rulemaking, which would become known as the "Green Paper."⁶¹ In it, the United States Government officially asserted its authority over the DNS root and clarified that it would ultimately transfer its control to a private entity.⁶² Commentators noted that the Green Paper represented a shift in the Internet's development from an academic and governmental communication system to an overarching system with important international and commercial interests.⁶³

C. THE BIRTH OF ICANN

While the Green Paper clarified the United States Government's control over the root and its intention to privatize it, the 650 comments received in response to the proposal caused the government to reassess its approach.⁶⁴ The United States Government's second attempt, which eventually became known as the "White Paper," was a nonbinding "statement of policy" rather than a rulemaking document.⁶⁵ The White Paper set forth four principles to guide the creation of a privatized

58. *Id.* at 40–41; Tim Clark, *Clinton Seeks Expanded E-Commerce*, CNET NEWS.COM, Nov. 30, 1998, http://www.news.com/2100-1017_3-218477.html.

59. GOLDSMITH & WU, *supra* note 41, at 40.

60. MUELLER, *supra* note 25, at 157.

61. *Id.* at 160; Janet Kornblum, *Domain Draft Proposal Released*, CNET NEWS.COM, Jan. 30, 1998, <http://www.news.com/2100-1023-207645.html>.

62. Management of Internet Names and Addresses, Supplementary Information, 63 Fed. Reg. 31741, 31743 (Dep't of Commerce June 10, 1998), available at <http://www.icann.org/general/white-paper-05jun98.htm> [hereinafter *White Paper*] ("As a result of the pressure to change DNS management, and in order to facilitate its withdrawal from DNS management, the U.S. Government, through the Department of Commerce and NTIA [National Telecommunications and Information Administration], sought public comment on the direction of U.S. policy with respect to DNS, issuing the Green Paper on January 30, 1998.").

63. Kornblum, *supra* note 61.

64. Janet Kornblum & Courtney Macavinta, *Domain White Paper Comes Up Short*, CNET NEWS.COM, June 5, 1998, http://www.news.com/2100-1023_3-211978.html.

65. *White Paper*, *supra* note 62, at 31741.

solution: "stability, competition, private bottom-up coordination, and representation."⁶⁶ Instead of setting forth details on how to transition control of the root and the most popular TLDs, such as .com, .net, and .org, the White Paper invited Internet stakeholders "to form a new, private, not-for-profit corporation to manage DNS functions."⁶⁷

In response to the White Paper's request for stakeholders' suggestions, Jon Postel initiated a global online discussion and collected input from individuals and organizations in fifty countries.⁶⁸ Postel himself claimed that the process was "about as public as it could possibly be."⁶⁹ Yet his proposal had no shortage of critics.⁷⁰ Nonetheless, on October 2, 1998, he sent his articles of incorporation and draft of the bylaws to the U.S. Secretary of Commerce.⁷¹ Postel's suggested name for the private organization that would control the DNS root was the Internet Corporation for Assigned Names and Numbers (ICANN).⁷² On November 25, 1998, the Department of Commerce signed a Memorandum of Understanding, agreeing to "jointly design, develop, and test the mechanisms, methods, and procedures" necessary to transfer management of DNS functions to a not-for-profit entity.⁷³ The United States Government was willing to hand off oversight of the Internet's infrastructure, but maintained oversight of ICANN.⁷⁴

ICANN had the United States Government's blessing and the White Paper's assurance that "overall policy guidance and control of the TLDs and the Internet root server system should be vested in a single organization that is representative of

66. *Id.* at 31743.

67. *Id.* at 31749.

68. MUELLER, *supra* note 25, at 179–80; Wolfgang Kleinwachter, *From Self-Governance to Public-Private Partnership: The Changing Role of Governments in the Management of the Internet's Core Resources*, 36 LOY. L.A. L. REV. 1103, 1113 (2003).

69. Kleinwachter, *supra* note 68.

70. Courtney Macavinta, *New Domain Group Faces Critics*, CNET NEWS.COM, Nov. 15, 1998, http://www.news.com/2100-1023_3-217963.html.

71. Kleinwachter, *supra* note 68, at 1114.

72. *Id.*

73. ICANN, Memorandum of Understanding Between the U.S. Dep't of Commerce and Internet Corp. of Assigned Names and Numbers (Nov. 25, 1998), available at <http://www.icann.org/general/icann-mou-25nov98.htm> [hereinafter *ICANN, Memorandum of Understanding*]. Unfortunately, Jon Postel never witnessed the official approval of ICANN as he passed away October 16, 1998, a little over one month before the memorandum of understanding was signed. See Courtney Macavinta, *Postel Eulogized as Humble Genius*, CNET NEWS.COM, Nov. 5, 1998, <http://www.news.com/2100-1023-217586.html>.

74. Courtney Macavinta, *U.S. To Hand Over Net Administration*, CNET NEWS.COM, Nov. 25, 1998, http://www.news.com/2100-1023_3-218428.html.

Internet users around the globe.”⁷⁵ However, Internet stakeholders, both domestically and internationally, questioned the legitimacy and desirability of ICANN’s authority. After all, ICANN was a relatively new addition to the Internet. By the time of its arrival, many Internet stakeholders had already established expectations about their entitlements and obligations. ICANN would have to fight to assert its authority and its greatest ally, the United States Government, was also its greatest obstacle.

D. ENFORCING ICANN’S GOVERNANCE

The legitimacy of ICANN’s governance rests primarily upon its assertion of dedication to achieving “broad representation of global Internet communities; and to developing policy appropriate to its mission through bottom-up, consensus-based processes.”⁷⁶ Structurally, ICANN’s directors, supporting organizations, and advisory committees represent the Internet community’s various interests.⁷⁷ As a policy formation organization, ICANN presumptively makes its decisions on behalf of the Internet community.⁷⁸ However, some members of the community—especially the gTLD and ccTLD registries—did not agree that ICANN acted on their behalf. ICANN ultimately succeeded in enforcing its policies on the gTLDs, but only with the United States Government’s help.⁷⁹ The United States Government’s continued oversight of ICANN has not helped ICANN assert its policies over ccTLD registries. Rather, governmental supervision hinders the international perception of ICANN’s legitimacy.

1. The United States Government Helped ICANN Gain Contractual Authority Over gTLDs

ICANN required the United States Government’s help in exercising authority over the gTLDs. At its formation, ICANN agreed to introduce “competition in [the] domain name

75. *White Paper*, *supra* note 62, at 31749.

76. ICANN Fact Sheet, <http://www.icann.org/general/fact-sheet.html> (last visited Oct. 29, 2006).

77. Peter K. Yu, *The Origins of ccTLD Lawmaking*, 12 CARDOZO J. INT’L & COMP. L. 387, 397 (2004). For a diagram of ICANN’s initial organization chart, see MUELLER, *supra* note 25, at 187.

78. MUELLER, *supra* note 25, at 207.

79. Evan Hansen, *NSI Reaches Net Name Agreement with Groups*, CNET NEWS.COM, Sept. 28, 1999, <http://www.news.com/2100-1040-230733.html>.

registration services.”⁸⁰ But when the Department of Commerce established ICANN, NSI’s government contract allowed it to monopolize domain name registration for the most popular gTLDs—that is, .com, .net, and .org.⁸¹ This position provided NSI with large profits and frustrated both registrants, who felt they paid too much, and companies, who wanted a chance to share in the profits.⁸² ICANN’s solution was a mandatory registrar accreditation system: all registrars would have to meet ICANN specified qualifications before they could sell domain names to the public.⁸³ An accreditation regime would allow ICANN to set standards for all gTLDs and demand payment as a condition of accreditation.⁸⁴

NSI, however, denied that ICANN had authority to force NSI to agree to its accreditation.⁸⁵ NSI had never signed a contract with ICANN, and had already administered the .com top-level domain for six years.⁸⁶ Further, NSI claimed that a relevant provision in its contract with the United States Government—known as Amendment 11⁸⁷—did not require it to comply with ICANN’s registrar requirements.⁸⁸ While ICANN itself had no bargaining power over NSI, the Department of Commerce continued to pressure ICANN and continued to argue that Amendment 11 obligated NSI to recognize ICANN’s authority.⁸⁹ Eventually, NSI agreed to enter into a registrar

80. ICANN, Memorandum of Understanding, *supra* note 73.

81. Hansen, *supra* note 79.

82. Dan Goodin & Sandeep Junnarkar, *AOL Among New Domain Registrars*, CNET NEWS.COM, Apr. 21, 1999, <http://news.com.com/2100-1023-224726.html>.

83. Internet Corporation for Assigned Names and Numbers, Registrar Accreditation: Overview, <http://www.icann.org/registrars/accreditation-overview.htm> (last visited Oct. 29, 2006). See Courtney Macavinta, *ICANN Sets Guidelines for NSI Competitors*, CNET NEWS.COM, Feb. 8, 1999, http://news.com.com/ICANN+sets+guidelines+for+NSI+competitors/2100-1023_3-221384.html.

84. Macavinta, *supra* note 83.

85. Courtney Macavinta, *NSI Won't Sign on with ICANN*, CNET NEWS.COM, June 25, 1999, http://news.com.com/NSI+wont+sign+on+with+ICANN/2100-1023_3-227699.html?tag=st.rn.

86. *Id.*

87. Special Award Conditions, NCR-9218742, Amendment No. 1 (Oct. 7, 1998), available at <http://www.ntia.doc.gov/ntiahome/domainname/proposals/docnsi100698.htm>.

88. MUELLER, *supra* note 25, at 187 (“In Amendment 11, NSI had agreed to provide approved registrars with equal access to its registry services if they licensed Network Solutions’ shared registration system software. ICANN and the Commerce Department, however, came to support a stronger and more active role for the root administrator.”).

89. Letter from the Dep’t of Commerce to The Honorable Tom Bliley, Chairman, Comm. on Commerce (July 8, 1999), available at <http://www.ntia.doc.gov/ntiahome/domainname/blileyrsp.htm> (“Amendment 11 unambiguously contemplates

accreditation agreement and to help fund ICANN.⁹⁰ In return, ICANN agreed to license NSI as the gTLD registry for four years with a conditional four more years if NSI divested the registry from the registrar part of its business.⁹¹

ICANN justified its registrar accreditation regime as a way to introduce competition into the domain naming system.⁹² By splitting up the registry and registrar functions and introducing multiple registrars, competition among the registrars would lower domain names' resale price. The Department of Commerce also fixed the price NSI could charge for its registration service, thereby lowering the overall price.⁹³ But ICANN also attempted to assert its authority over existing gTLDs by establishing minimum criteria that all registrars would be required to meet.⁹⁴

Without the Department of Commerce's backing, however, ICANN had no authority over NSI.⁹⁵ Yet the Department's assistance came at a price—the Department of Commerce explicitly reserved “its policy authority to direct the authoritative root server.”⁹⁶ Under ICANN's initial understanding with the government, the U.S.'s oversight would terminate after two years; however, it continues to this day.⁹⁷ While the United States Government's assistance was helpful, if

a contract between NSI and ICANN under which NSI will recognize that ICANN has the authority to carry out its responsibilities under the White Paper and ICANN will accredit NSI as a registrar and registry.”)

90. See Courtney Macavinta, *Analysts: NSI Remains Dominant*, CNET NEWS.COM, Sept. 29, 1999, http://news.com.com/Analysts+NSI+remains+dominant/2100-1040_3-271335.html. After a series of agreements, NSI agreed to abide by ICANN's registrar accreditation regime, to sell domain names only to accredited registrars, to make timely payments to ICANN and not to implement an alternative root system. See *Approved Agreements Among ICANN, the U.S. Department of Commerce, and Network Solutions, Inc.*, <http://www.icann.org/nsi/nsi-agreements.htm> (last visited Oct. 29, 2006).

91. Macavinta, *supra* note 85.

92. MUELLER, *supra* note 25, at 186.

93. Special Award Conditions, *supra* note 87.

94. *Id.*

95. Froomkin, *supra* note 5, at 89 (“But for pressure from DoC, it is possible that NSI would never have reached a final agreement with ICANN; it had little incentive to do so quickly.”).

96. Agreement Summary Fact Sheet, <http://www.ntia.doc.gov/ntiahome/domainname/agreements/summary-factsheet.htm> (last visited Oct. 29, 2006) (“The Department of Commerce has no plans to transfer to any entity its policy authority to direct the authoritative root server.”).

97. The last amendment extended the Department of Commerce oversight to September 30, 2009. Joint Project Agreement Between the U.S. Department of Commerce and the Internet Corporation for Assigned Names and Numbers, Sept. 29, 2006, available at <http://www.icann.org/general/JPA-29sep06.pdf>.

not essential, in helping ICANN exert authority over the generic TLDs, the assistance would prove to be a hindrance in ICANN's attempt to gain legitimacy over the country-code TLDs.

2. ICANN's Authority Over ccTLDs is Still Disputed

ICANN has been largely unsuccessful in exercising authority over the ccTLDs.⁹⁸ The majority of ccTLD administrators are not contractually bound to ICANN. As national governments began to claim sovereign right to their ccTLDs, they resented their marginalized representation within ICANN's organizational structure.⁹⁹ While some governments attempted to reform ICANN, others suggested that responsibility for the root should be transferred to an international organization.

ICANN's ccTLD delegation policies did not require ccTLD registries to sign a contract. Initially, Postel handed out ccTLDs on a first-come, first-serve basis to the first responsible person who asked for a ccTLD.¹⁰⁰ Postel did not publish an official delegation policy until 1994.¹⁰¹ The official delegation policy emphasized that the administrative contact must reside in the country, that ISO 31661 would decide which letters would be delegated, and that IANA would interfere only when the manager had substantially misbehaved.¹⁰² Because countries had low interest in the Internet when it was just starting, and because the delegation policy allowed delegation to the "first responsible person," some nation's ccTLDs were delegated to private individuals. While ICANN has attempted to get all ccTLDs to sign contracts recognizing ICANN's role in managing DNS, the majority have refused.¹⁰³ As a result, ICANN's authority over the majority of country code managers remains ambiguous.¹⁰⁴

National governments also play an expanding role in the ccTLD debate. As ccTLDs become more important, national

98. MUELLER, *supra* note 25, at 208.

99. Yu, *supra* note 4, at 403.

100. *Id.* at 388-92.

101. Memorandum from Jon Postel, USC/Information Science Institute (Mar. 1994), available at <http://www.isi.edu/in-notes/rfc1591.txt>.

102. *Id.* at 3. ("The key requirement is that for each domain there be a designated manager for supervising that domain's name space. In the case of top-level domains that are country codes this means that there is a manager that supervises the domain names and operates the domain name system in that country.")

103. Yu, *supra* note 4, at 401.

104. MUELLER, *supra* note 25, at 207.

governments increasingly claim the right to control their ccTLD.¹⁰⁵ To their frustration, ICANN's founders intentionally marginalized the influence that national governments could have over ICANN's decisions.¹⁰⁶ The function of national governments in the Government Advisory Committee (GAC) was limited to a purely advisory role. The bylaws completely forbade government officials from serving as directors.¹⁰⁷ Arguably, the GAC did as much to keep governments out of ICANN as it did to let them in.¹⁰⁸

Several GAC members have pressed for more control of their ccTLDs and for more influence in ICANN. The new ICANN bylaws require that when the GAC gives advice it "shall be duly taken into account, both in the formulation and adoption of policies."¹⁰⁹ If ICANN's Board decides to take action inconsistent with the GAC's advice, the Board must "state the reasons why it decided not to follow that advice."¹¹⁰ In this case, the GAC and the ICANN Board must try, in good faith and in a timely manner, "to find a mutually acceptable solution."¹¹¹ Additionally, the new bylaws allow the GAC to send a non-voting liaison to the Board.¹¹²

As a result of these reforms, the GAC plays an increasingly significant role in defining ICANN's delegation policies.¹¹³ Since ccTLD delegation is a power that is ultimately left to ICANN (and the Department of Commerce), having influence over this process is of great significance for the GAC.¹¹⁴ Not surprisingly, the ccTLD registries that were not associated with their respective governments have largely disapproved of the GAC-led

105. Yu, *supra* note 4, at 403.

106. Kleinwaechter, *supra* note 68, at 1114 (quoting Postel saying "the Internet should not be managed by any government, national or multinational").

107. Bylaws for Internet Corporation for Assigned Names and Numbers, art. V § 5, Nov. 6, 1998 (effective date), available at <http://www.icann.org/general/archive-bylaws/bylaws-06nov98.htm#VI> ("Notwithstanding anything herein to the contrary, no official of a national government or a multinational entity established by treaty or other agreement between national governments may serve as a Director.").

108. MUELLER, *supra* note 25, at 206.

109. Bylaws for Internet Corporation for Assigned Names and Numbers, *supra* note 107.

110. *Id.*

111. *Id.*

112. *Id.*

113. Principles and Guidelines for the Delegation and Administration of Country Code Top Level Domains, Government Advisory Committee (Apr. 5, 2005), available at http://gac.icann.org/web/docs/cctld/ccTLD_Principles_MDP_Final.rtf.

114. SIGNPOSTS IN CYBERSPACE, *supra* note 16, at 255 ("Yet, through its control of the root zone file, ICANN does have the sole responsibility for recommending delegation and redelegations of ccTLDs to the DOC.").

changes in delegation principles.

While some national governments continue to push for more reform, others argue that ICANN should altogether transfer control to an international organization.¹¹⁵ Some suggest the International Telecommunication Union since it is an international organization and has expertise in communications.¹¹⁶ Some governments argue that control over one's ccTLD is a matter of national sovereignty.¹¹⁷ If a ccTLD is a part of a nation's sovereign identity, then nations should not have to request permission from the United States, or a United States corporation, to decide who controls the ccTLD.¹¹⁸ Even if the United States did not maintain control over ICANN, ICANN is subject to U.S. laws because it is within the United States' jurisdiction.¹¹⁹ For these governments, the Department of Commerce's relationship to ICANN serves to discredit ICANN's authority and legitimacy as an institution that represents the interests of all stakeholders.¹²⁰

115. Declan McCullagh, *U.N. Summit Revives Concerns About Net Control* (Oct. 27, 2006), available at http://news.com.com/U.N.+summit+revives+concerns+about+Net+control/2100-1028_3-6130087.html (referring to Brazil, India, China and African countries as countries that support international Internet governance).

116. See Declan McCullagh, *The U.N. Thinks About Tomorrow's Cyberspace* (Mar. 29, 2005), available at http://news.com.com/2102-1028_3-5643972.html?tag=st.util.print.

117. See, e.g., Open Consultations of the Fourth Meeting of the Working Group on Internet Governance (June 14, 2005) (statement of Shahid Akhtir) available at <http://www.wgig.org/June-scriptmorning.html> ("First, we would like to propose a principle of subsidiarity, where local solutions are found to local problems where possible. This is particularly the case for language issues, the questions of national sovereignty, such as crime, cctlds, and intellectual property."); The Continued Transition of the Technical Coordination and Management of the Internet Domain Name and Addressing System, National Telecommunications and Information Administration (contribution from Nabil Kisrawi, Permanent Representative of the Syrian Administration to the ITU), available at http://www.ntia.doc.gov/ntiahome/domainname/dnstransition/comments/dnstrans_comment0081.htm ("This arrangement is not consistent with national sovereignty (for some countries), in that a sovereign country who wishes to change the operator of its national ccTLD must first agree the change with IANA (a unit of a US corporation), and then wait until it is approved by DoC and implemented by Versisign (also a US corporation).").

118. See, e.g., INTERNET ASSIGNED NUMBERS AUTHORITY (IANA) Report on the Redlegation of the .ly Top-Level Domain (Oct. 2004), available at <http://www.iana.org/reports/ly-report-05aug05.pdf>.

119. *Id.*

120. Kenneth Neil Cukier, *Who Will Control the Internet?*, FOREIGN AFF., (Nov.–Dec. 2005), available at <http://www.foreignaffairs.org/20051101facomment84602/kenneth-neil-cukier/who-will-control-the-internet.html?mode=print> (claiming that other stakeholders say ICANN is a way for Washington to maintain its hegemony by placing Internet governance in the U.S. private sector).

II. A PROPOSAL FOR ASSISTING THE INTERNET'S INDEPENDENCE

When the United States first created ICANN, it made clear that it intended to relinquish control over the root.¹²¹ As time has passed, however, the United States has become increasingly hesitant to relinquish control.¹²² Currently, the United States claims that its ultimate goal is still the privatization of ICANN.¹²³ While the European Commission has approved of the United States' recommitment to ICANN's independence, the plan is insufficient to those nations who believe that the United Nations should have ultimate control over the root.¹²⁴

A. THE UNITED STATES SHOULD NOT RETAIN CONTROL OVER THE ROOT

Controlling the root gives the United States undue influence over the Internet. The Department of Commerce retains ultimate authority over ICANN, and therefore can ultimately compel or veto ICANN's decisions. Because communication between the Department of Commerce and ICANN is not necessarily transparent,¹²⁵ the United States' level of influence over ICANN is hard to discern. Nonetheless, the United States' control over ICANN provides it the opportunity to influence the Internet's development in at least three ways: (1) influence over which new TLDs are created, (2) influence over redelegation of ccTLDs, and (3) the ability to erase a country's ccTLD altogether.

1. *The United States has Undue Influence over New Top-Level Domains*

The United States' influence over ICANN enables it to veto

121. *White Paper*, *supra* note 62, at 31744 ("The U.S. Government would prefer that this transition be complete before the year 2000. To the extent that the new corporation is established and operationally stable, September 30, 2000 is intended to be, and remains, an 'outside' date.")

122. Declan McCullagh, *U.S. to Retain Control of Internet Domain Names*, CNET NEWS.COM, June 30, 2005, http://news.com.com/U.S.+to+retain+control+of+Internet+domain+names/2100-1028_3-5770937.html.

123. McCullagh, *supra* note 115.

124. Gow, *supra* note 3.

125. See, e.g., Kieren McCarthy, *.xxx Probes US Government Interference*, THE REGISTER, June 30, 2006, available at http://www.theregister.co.uk/2006/06/30/icm_registry_foia_three (detailing how the FOIA requests regarding DoC's interaction with ICANN have been unproductive).

ICANN's approval of new top-level domains. The United States recently demonstrated this authority over ICANN by vetoing the approved .xxx domain.¹²⁶ The .xxx domain would be a domain for adult websites,¹²⁷ allowing Internet users to identify what type of site a domain is.¹²⁸ The domain was to remain optional and registries would monitor only for child pornography.¹²⁹ Admittedly, the plan has had no shortage of critics. Domestically, conservative critics view the domain as legitimizing the pornography industry, while civil liberty critics are concerned that new legislation could make the domain mandatory, thereby limiting free speech.¹³⁰ However, what frustrated international governments was the United States' ability to make the final decision about whether ICANN approved or rejected the domain.¹³¹

Ultimately, the United States' domestic politics have more control over the DNS root than international input.¹³² After ICANN voted to approve the creation of the .xxx domain, the Bush administration, under pressure from the Family Research Council, required that the new domain be placed on hold.¹³³ Countries and the European Union were frustrated that the United States Government could bypass the typical ICANN

126. Declan McCullagh, *Perspective: The Internet Again in the Political Crosshairs*, CNET NEWS.COM, Aug. 29, 2005, http://news.com.com/The+Internet+again+in+the+political+crosshairs/2010-1071_3-5843843.html ("Michael Gallagher, assistant secretary at the Commerce Department, asked for .xxx to be put on hold. Now its future is uncertain.")

127. Eric J. Sinrod, *Perspective: Time for a .xxx Domain?*, CNET NEWS.COM, Dec. 28, 2005, http://news.com.com/Time+for+a+.xxx+domain/2010-1028_3-6002925.html?tag=st.bp.story.

128. *Id.*

129. Declan McCullagh, *Perspective: The Battle over Triple 'x'*, CNET NEWS.COM, Mar. 22, 2004, http://news.com.com/The+battle+over+triple+x/2010-1026_3-5176611.html.

130. Declan McCullagh, *Porn-friendly '.xxx' Domains Approved*, CNET NEWS.COM, June 1, 2005, http://news.com.com/Porn-friendly+.xxx+domains+approved/2100-1030_3-5728713.html?tag=st.rc.targ_mb.

131. Gow, *supra* note 3 ("The EU has consistently criticized US control over internet governance, condemning the Bush administration's interference in the proposed creation of a new .xxx domain for online pornography."); Declan McCullagh, *Bush Administration Objects to .xxx Domains*, CNET NEWS.COM, Aug. 15, 2005, http://news.com.com/Bush+administration+objects+to+.xxx+domains/2100-1028_3-5833764.html. *But see* Seth Finkelstein, *Why the .xxx Would Anyone Want a Top-level Domain for Porn?*, THE GUARDIAN (London), Jan. 25, 2007, available at <http://technology.guardian.co.uk/opinion/story/0,,1997674,00.html> (claiming that no one besides the .xxx register wants a top-level domain for pornography).

132. *See, e.g.*, Anne Broache, *Senators Renew Call for .xxx Domains*, CNET NEWS.COM, Mar. 17, 2006, http://news.com.com/Senators+renew+call+for+.xxx+domains/2100-1028_3-6050973.html.

133. McCullagh, *supra* note 122.

procedures and veto decisions that were allegedly made for the good of the entire Internet community.¹³⁴ Since the Internet plays an increasingly important role as part of the economic and social infrastructure of the world, it is increasingly inappropriate that the U.S.'s national interests determine governance policy of the DNS.¹³⁵

2. *The United States Could Influence to Whom ICANN Redelegates ccTLDs*

U.S. control over ICANN enables the United States to unilaterally decide when and where to redelegate countries' ccTLDs. Control of a top-level domain's registry is directly related to freedom of speech. Whoever controls a country's ccTLD has the power to approve or censor individual websites on that domain. While controlling a country's registration is primarily about money in some countries, in other countries it plays a pivotal role in freedom of speech.

One example of a redelegation concerning censorship involves Kazakhstan's ccTLD.¹³⁶ In July 2005, with the consent of the former delegate, ICANN redelegated control of the .kz top-level domain to a government-approved company.¹³⁷ Having gained control of the country's top-level domain, the Kazakh Government removed the Borat.kz domain.¹³⁸ With regard to

134. EU Welcomes Autonomy Plan for Net Governance, posting of chconline to APH Networks, <http://aphnetworks.com/node/2211> (Oct. 2, 2006, 06:46).

135. Declan McCullagh, *Backer of .xxx Adult Domain Tries Again*, ZDNET NEWS, May 19, 2006, http://news.zdnet.com/2100-9595_22-6074653.html (attempting to figure out the extent of the United States' influence, the .xxx registry sent several FOIA requests). The results of the FOIA requests can be found at <http://www.internetgovernance.org/pdf/xxx-foiaprogram.pdf>. Interestingly, the .xxx domain is not dead and might be subject to another vote. See Anick Jesdanun, *Plan Would Create '.xxx' Web Porn Domain*, ABC NEWS, Jan. 6, 2007, available at <http://abcnews.go.com/Technology/wireStory?id=2775401>.

136. Kieren McCarthy, *2005: The Year the US Government Undermined the Internet*, THE REGISTER, Dec. 29, 2005, available at http://www.theregister.co.uk/2005/12/29/us_undermines_internet/ ("Within months of the government-run 'Association of Kazakh IT Companies' getting control of Kazakhstan's internet domain, it shut down the website of British comic Sacha Baron Cohen (best known as Ali G).").

137. INTERNET ASSIGNED NUMBERS AUTHORITY (IANA), REPORT ON REDELEGATION OF THE .KZ TOP-LEVEL DOMAIN (July 2005), <http://www.iana.org/reports/kz-report-05aug05.pdf>, at 2 ("In 2004 the Kazakhstan Government chose to take a more active role in the management of the ccTLD, and during meetings with Mr. Gusev it was agreed that the Government would be given control of the domain.").

138. Kenneth Neil Cukier, *No Joke*, FOREIGN AFF. ONLINE, Dec. 28, 2005, available at <http://www.foreignaffairs.org/20051228faupdate85176/kenneth-neil>

suspending the website, the president of the Association of Kazakh IT Companies said, "We've done this so he can't bad-mouth Kazakhstan under the .kz domain name. He can go and do whatever he wants at other domains."¹³⁹ The site has since been reopened at Borat.tv.

Currently, the only documented example of the United States actually using its power to influence ICANN's redelegation is with its own ccTLD, the .us domain.¹⁴⁰ The United States Government required ICANN to redelegate control of the .us top-level domain from Verisign to NeuStar. While arguably this exercise of authority was trivial, it revealed that, when convenient, the United States is willing to leverage its authority to bypass ICANN procedures that other countries are required to follow.

Lastly, since the United States has actual power over ICANN, some of ICANN's decisions are possibly influenced by the potential use of that power. For example, twice United States-backed governments (namely Iraq and Afghanistan) have petitioned for redelegation of a country's ccTLD.¹⁴¹ Both requests were approved. While there is no evidence that the United States explicitly instructed ICANN to redelegate the .iq or the .af top-level domains, it is reasonable to conclude that ICANN felt pressure to comply because the Department of Commerce still has authority over it.¹⁴²

cukier/no-joke.html ("But the Kazakh government found the material disparaging, and—after murky government orders; no one publicly says how—the address was deleted and the site disappeared from cyberspace."). Borat is a fictional character from Kazakhstan played by the actor-comedian Sacha Baron Cohen on the television sketch show *Da Ali G Show* (TalkBack Productions 2000), and in the film *BORAT: CULTURAL LEARNINGS OF AMERICA FOR MAKE BENEFIT GLORIOUS NATION OF KAZAKHSTAN* (Dune Entertainment 2006).

139. *Kazakhs Shut Ali G Star's Website*, BBC NEWS, Dec. 14, 2005, available at <http://news.bbc.co.uk/2/hi/entertainment/4527516.stm>.

140. Announcement, ICANN, Redelegation of .us Country-Code Top-Level Domain (Oct. 26, 2001), <http://www.icann.org/announcements/announcement-19nov01.htm> ("This redelegation occurred before the completion of the normal IANA requirements.").

141. Brian Whitaker, *.iq Test*, THE GUARDIAN (London), July 5, 2004, available at <http://www.guardian.co.uk/elsewhere/journalist/story/0,,1254550,00.html>.

142. See, e.g., Kieren McCarthy, *Iraq, Its Domain and the Terrorist-funding Owner*, THE REGISTER, Apr. 9, 2003, available at http://www.theregister.co.uk/2003/04/09/iraq_its_domain/ (arguing there was suspicious paperwork with the .af and .iq delegations).

3. *Theoretically, the United States Could Use its Authority to Completely Erase a Country's ccTLD*

In theory, the United States could demand that a specific country's ccTLD be erased. Because the Department of Commerce still has ultimate authority over ICANN, it is able to bypass ICANN procedure and make demands. Erasing a top-level domain would effectively erase all websites using that suffix and prevent anybody from e-mailing any such addresses. An entire country's Internet presence would disappear for the majority of Internet users. This may be the reason why some of the main critics of ICANN are countries with poor relationships with the United States.¹⁴³ The United States should not have the ability to unilaterally erase another country's ccTLD from the root.¹⁴⁴

B. THE INTERNATIONAL COMMUNITY SHOULD SEEK TO MAINTAIN A SINGLE ROOT

The United States' refusal to relinquish the root leaves the international community with few practical alternatives. There is no international court with jurisdiction to adjudicate who should control the DNS root. Thus, nations critical of the U.S.'s control over the root have two primary remedies: (1) exert diplomatic pressure to give up or limit control, or (2) create their own root server. Unfortunately, both remedies possess significant limitations. Exerting diplomatic pressure has had limited effect on the United States' decision to control the root.¹⁴⁵ Creating a second root risks fragmenting the root and ultimately balkanizing the Internet.¹⁴⁶ Because fragmenting the

143. Declan McCullagh, *U.N. Debate Swirls Around Domain Name Power*, CNET NEWS.COM, Nov. 1, 2006, http://news.com.com/U.N.+debate+swirls+around+domain+name+power/2100-1028_3-6131746.html ("Call it the Iran and Syria problem. In theory, the Bush administration could order that the domain names of allegedly hostile or terrorist-friendly nations be deleted from the Internet—a unique authority that troubles many developing nations and became a source of contention at a United Nations summit here on Wednesday.")

144. *But see* Froomkin *supra* note 5, at 49 (arguing that such a ploy would work only once before the international community would immediately stop mirroring ICANN's root server regardless of whether it split the root).

145. Stan Beer, *US Keeps Control of ICANN Until 2009*, ITWIRE, Oct. 3, 2006, <http://www.itwire.com.au/content/view/5964/53/> ("The US has resisted increasing pressure from the rest of the world to loosen its control over the assignment of internet domains and there is no certainty that come 2008, the US Government will voluntarily relinquish complete control of the world's most powerful communications medium.")

146. Declan McCullagh, *Perspective: Will the U.N. Run the Internet?*, CNET

root would make the Internet less effective as a global resource, the international community should seek to maintain a single root.

The DNS naming hierarchy requires a single DNS root to ensure that each domain name refers to only a single Internet address. This uniformity unites the Internet and makes it a single, global network.¹⁴⁷ A single root allows Internet users anywhere in the world to navigate to the same website when they click the same link and to e-mail the same person when they send email to the same email address. Having a single, global network facilitates and simplifies Internet communication and ultimately makes the Internet a global resource.

Fracturing the root would greatly diminish the Internet's ability to connect people from around the world. A fragmented root—that is, an Internet with more than one root server—could create a balkanized Internet where Internet users referencing different roots cannot navigate to the same site or e-mail each other.¹⁴⁸ Under this system, one root might choose to register a new top-level domain (like the .xxx domain) while the other root decides not to. The more the two roots diverge from each other, the more difficult cross-root communication would become. Fracturing the root risks splitting the Internet into individual clusters, which would ultimately make it less useful for users.

The ability to connect people and nations is one of the Internet's primary strengths. Fragmenting the root and creating multiple domain-naming systems ultimately hinders the Internet's ability to connect people. Given the benefits of maintaining a single domain-naming system, the international community should exercise caution before moving forward with a plan that would fragment the Internet's root.

NEWS.COM, July 11, 2005, http://news.com.com/Will+the+U.N.+run+the+Internet/2010-1071_3-5780157.html ("Beyond the usual levers of diplomatic pressure and public kvetching, Brazil and China could choose what amounts to the nuclear option: a fragmented root. That means a new top-level domain would not be approved by ICANN—but would be recognized and used by large portions of the rest of the world.").

147. Memorandum from the Internet Architecture Board, IAB Technical Comment on the Unique DNS Root (May 2000), <http://www.rfc-editor.org/rfc/rfc2826.txt> ("To remain a global network, the Internet requires the existence of a globally unique public name space.").

148. Declan McCullagh, *Perspective: Power Grab Could Split the Net*, CNET NEWS.COM, Oct. 3, 2005, http://news.com.com/Power+grab+could+split+the+Net/2010-1071_3-5886556.html?tag=st.bp.story ("If it spirals out of control, we could end up with a Balkanized Internet in which the U.S. attempts to retain control of its root servers and a large portion of the world veers in an incompatible direction.").

C. THE INTERNATIONAL COMMUNITY SHOULD FOCUS ON LIMITING THE UNITED STATES' INFLUENCE OVER THE ROOT

The international community should propose a legally binding agreement that would provide clear limits on the United States' authority over ICANN and allow an international organization to have oversight over the ccTLDs of countries that opt for the change of control. Such a proposal would have to pass at least two significant hurdles: (1) the United States would still need to consent to the agreement, and (2) the international community would need to agree that this was at least a reasonable initial step.

1. *The United States Ought to Approve this Agreement*

A legally binding agreement that limits the United States' authority over the root presents fewer risks than transferring the entire root over to another organization. Since the Internet's birth, the United States has sought to leverage private sector leadership as a way to "promote the Internet as an engine of commerce."¹⁴⁹ Transferring control of the root to another agency presents risks that the new root administrator would attempt to impose burdensome regulations, attempt charge new taxes,¹⁵⁰ or even attempt control free speech.¹⁵¹ While some scholars argue that the root administrator's ability to enforce Internet governance is exaggerated,¹⁵² there is still a risk that the administrator could intentionally or negligently disrupt the entire Internet. These risks are not present by merely signing an agreement restricting what authority the United States legally has over the root. The agreement would primarily restrict the United States' power and would transfer authority only over specified ccTLDs. Since the agreement

149. GOLDSMITH & WU, *supra* note 41, at 40 (stating that Internet policy czar "Magaziner later said that he had several distinct ideas about how best to foster the growth of the Internet and promote the Internet as an engine of commerce.").

150. Maria Seminerio, *UN 'Bit Tax' Proposal Draws Fire*, ZDNET, July 15, 1999, http://news.zdnet.com/2100-9595_22-515159.html?legacy=zdn.

151. Anne Broache & Declan McCullagh, *Tech Firms Back Bush Net Effort*, CNET NEWS.COM, Nov. 3, 2005, http://news.com.com/Tech+firms+back+Bush+Net+effort/2100-1028_3-5931684.html ("Business groups have long expressed worry that greater U.N. control could usher in higher taxes, curbs on free speech and reams of new regulations.").

152. Jonathan Zittrain, *A Domain by Any Other Name*, THE GUARDIAN (London), Oct. 4, 2006, available at http://commentisfree.guardian.co.uk/jonathan_zittrain/2006/10/jonathan_zittrain.html ("Control over domain names is too casually taken to mean control over the internet itself, and Icann doesn't even exercise much control over domain names.").

would primarily limit power, not transfer it, the United States would not have to worry about another agency imposing an anti-commerce vision or governance upon the Internet.

The proposed agreement is consistent with the United States' intention to preserve security and stability of the Internet's DNS.¹⁵³ To ensure the security and stability of the Internet, the United States committed to taking no action that would potentially adversely impact the effective and efficient operation of the DNS; thus it justified maintaining its historic role overseeing the work of ICANN.¹⁵⁴ Arguably the United States' unfettered control over ICANN itself undermines both the DNS's security and its stability. After all, the United States' unlimited authority places other nations at its mercy and could cause nations to feel insecure about their Internet investments. Additionally, if ICANN is merely a tool of the United States Government, then it is unlikely to gather international support, and nations will seek alternative solutions like setting up their own roots, an option that clearly risks making the DNS unstable.¹⁵⁵ Thus, by limiting the United States' ability to control the root, the proposed agreement would promote security and stability.

2. The International Community is Likely to Approve of this Agreement

While there is no clear international consensus over who should govern the root, the vast majority of nations believe that the United States has too much control over the Internet.¹⁵⁶ Therefore, even if several nations believe that this agreement would not sufficiently limit the United States' power, most should agree that it is a reasonable starting point. Further, this starting point would provide the international community with a common ground, allowing nations to create a preliminary organization to govern the ccTLDs and to prove their ability to provide an alternative governing body. Perhaps after assembling a functioning, international Internet-governing

153. National Telecommunications and Information Administration, Domain Names: U.S. Principles on the Internet's Domain Name and Addressing System, http://www.ntia.doc.gov/ntiahome/domainname/USDNSprinciples_06302005.htm (last visited Sept. 24, 2007).

154. *Id.*

155. M. STUART LYNN, INTERNET ASSIGNED NUMBERS AUTHORITY (IANA), PRESIDENT'S REPORT: ICANN—THE CASE FOR REFORM (Feb. 24, 2002), <http://www.icann.org/general/lynn-reform-proposal-24feb02.htm>.

156. McCullagh, *supra* note 148.

body, the United States would be more inclined to acknowledge that a more international approach to root administration is possible.

Besides providing a starting point for the international community, the agreement would provide assurances that national ccTLDs are secure. After the agreement was in place, any violation by the United States would not only be an abuse of power, but also a violation of international law. Further, the agreement would largely remove ICANN from the United States' domestic politics. With the agreement in place, voters would no longer be able to exert pressure on their representatives to interfere with basic decisions such as which new gTLDs should be approved and whether a country's presence should be removed from the Internet.

CONCLUSION

The ability to edit the DNS root entails the power to remove a nation's Internet presence. The power to remove includes the ability to redelegate and to grant conditional permission, and thereby to control the terms of the use. Currently, the Department of Commerce's legal authority over ICANN places the United States in a privileged relationship to root management. This privileged relationship enables the United States to edit the root, if it desires, and in general gives the United States undue influence over changes made on the Internet. Since the United States has outright refused to transfer control of the root to the United Nations and continues to postpone relinquishing its control over ICANN, the international community should attempt to negotiate agreements with the United States that limit its authority over ICANN.

