



August 24, 1999

The Honorable Fred Upton  
Chairman  
Subcommittee on Oversight and Investigations  
Committee on Commerce  
U.S. House of Representatives  
Room 2125, Rayburn House Office Building  
Washington, DC 20515-6115

Dear Chairman Upton:

Here are my answers to your followup questions for the record in response to my testimony before your subcommittee on July 22, 1999, concerning ICANN and the management of the prevailing Internet domain name and IP numbering system.

- 1. In your opinion, what would be the impact of the failure of ICANN on the domain name system transition process? What different scenarios do you foresee for transition of domain name system management if ICANN were to fail?**

In the short term, the failure of ICANN would extend the status quo through a halt to the domain name system transition process; no growth in the number of open generic top level domains; a continued paralysis in the evolution of certain critical aspects of the namespace; and the continued absence—for better or worse—of contractually-enabled substantive policies such as alternative dispute resolution for domain name challenges.

Over a longer term, as described in my testimony, plausible alternative options are these:

- (a) **Creation of a “Son of ICANN”** to build a new organization improving on that which ICANN had not done so well. This strikes me as unlikely, particularly if the failure were seen as structural, since the interested parties would doubt a successor organization could do any better. Further, any parties who feel disadvantaged as a result of the actions of ICANN—or its very existence—could perpetually undermine the organization in hopes that the next incarnation (or the status quo of none) might be more advantageous.
- (b) **An international treaty organization.** One could imagine an attempt to assert management over top-level Internet names and numbers by individual sovereigns (most likely the United States) or, with sovereigns’ acquiescence, a treaty organization such as the International Telecommunications Union. The

governments represented through ICANN's "Government Advisory Committee" (GAC) have already agreed that the Internet naming system is a public resource to be managed in the public interest. (See, for example, the GAC statement of August 24, 1999, at <<http://cyber.law.harvard.edu/icann/santiago/archive/GAC-Comminuque-mtg3.html>>.) Such an approach is directly contrary to the current U.S. government policy of transition to non-governmental management, but it is this policy which would be most called into doubt were ICANN to fail. Orchestrating the cooperation of a critical mass of non-governmental system administrators and "mirror" root zone server operators (see my answer to 2(c), below, for details) would be delicate, and might encourage the coordinated (but unincorporated) Internet engineering community, along with commercial software developers, to hasten work on integrating completely different technical architectures for naming.

- (c) **Market left to its own devices.** In the absence of alternatives (a) and (b), above, a battle would be fought by existing market players for control of the current root. Either through technical or legal maneuvering, some private party would end up running the root, and it would likely not be structured as self-consciously intending due process, checks and balances, and consensus building the way ICANN had been in the ideal. (In other words, the winner would be truly "private," rather than "private, public trust.") Network Solutions would likely continue to operate the .com, .net, and .org top level domains.

The new "owner" of the existing root would then compete against the for-profit and non-profit entrepreneurs who are experimenting with alternative naming schemes. These schemes would also substitute their respective proprietary decisionmaking for "public trust" authority in allocating names to a particular entity or site.

Internet users and their respective Internet service providers can specify where they want to get their domain name information and they can choose any alternative root authority that the market might offer; or they can choose to adopt entirely separate directory and naming architectures that work entirely independently of the domain name system. The problem is that there is such enormous benefit in having a single repository that it is difficult to switch out of a system that nearly everyone—and everyone's software—has inherited. Because of this, what would likely happen is either a continued dominance of the legacy system (and the private party controlling it), or "tipping behavior" through which a new naming scheme would predominate, and a different private party would end up with control of a new root. Either way, Internet naming would thus be run by a private actor presumably answerable only to itself or its shareholders, insensitive to market forces to the extent that its dominance is locked in through everyone's use of the system. Enforcement of individual countries' antitrust laws or other ad hoc mechanisms would be the primary instruments of preventing abuse of this new de facto "essential facility."

## **2. Regarding the possible addition of new generic Top Level Domains (“gTLDs”):**

### **a. What concerns do you think those trademark holders have regarding the addition of new gTLDs?**

It might be useful to consider the interests of famous mark holders separately from other trademark holders.

Famous mark holders tend to aggressively seek out all uses of their marks or strings of characters that might be confused with those marks. To many of them, then, new generic top level domains represent yet new areas that will have to be secured for their names. Coca-Cola, for example, might seek to reserve coke.biz, coke.nom, etc.—and might dislike the prospect of having to fight for such names against those who register them first, whether “cybersquatters” warehousing the names for profit and/or others who simply claim equal right to have them.

Holders of nonfamous marks may actually look forward to the introduction of new generic top level domains, since they would allow easier coexistence of easy-to-recognize domain names for overlapping brands. For example, Erol’s Internet could have erols.net, while Erol’s supermarket could have erols.shop. Non-commercial users and ordinary citizens could also benefit from this expanded name space.

Many in the engineering community have pointed out that the use of domain names as first-order marquee identifiers on the Internet—things one types into a browser window after seeing them in magazine advertisements or on the sides of buses—was never fully contemplated by those who designed them. They would like to see directory services or other naming schemes take the place of domain names for marquee purposes, returning domain names to the more limited role of appearing within online browser links or email addresses. Were this to happen, trademark issues wouldn’t go away entirely; rather, they’d shift away from domain names to whatever scheme served as the new marquee—perhaps privately-held naming systems such as RealNames or Netscape and Microsoft’s “browser keywords.” (Try typing in words like “government” or “Congress” to a modern browser window, and the names are mapped to a web site or selection of links by the browser company, rather than by the domain name system.)

Until domain names are eclipsed by other schemes—creating new battlegrounds as the old ones are abandoned—trademark holders represent a powerful interest in the domain name debates, and one of the principal reasons that the evolution of the domain name system generally and the introduction of new top level domains specifically can’t, from a practical standpoint, be thought of as merely technical or ministerial tasks.

### **b. How would the addition of new gTLDs increase competition in the registration and use of domain names?**

### Competition “within” open gTLDs

Top level domain registries may be best suited to respective administration by single entities. A traditional means of lowering prices is to simply regulate such entities, which are in monopoly positions with respect to the registries they maintain. Thus has Network Solutions’s maintenance of .com, .net, and .org been structured through an ongoing cooperative agreement with the United States government, which originally proscribed any charging of consumers for names, later capped consumer name charges at \$35/year, and most recently allows only \$9/year to be collected by the registry from a limited group of registrars—with market rates determining “add-on” fees charged by those registrars who in turn charge a fee to consumers wishing to register names.

Network Solutions is both a registry and registrar under this model, collecting the \$9 registry fee per name per year registered or renewed by any registrar in .com, .net, and .org (registrars in turn register names for consumers), and currently collecting \$35 per year when used as a registrar by consumers. To the extent that such agreements shift the cost of domain name registration into a competitive environment—customer service and other components are handled by registrars who vie for consumer business instead of a single registry—while reducing registry fees to mere cost recovery, competition is increased.

Under this model, Network Solutions is also proscribed from subsidizing or unduly benefiting its registrar arm through its registry services; in practice, ambiguities in the cooperative agreement seem to have caused disagreement about what does and doesn’t count as a subsidy. It’s also unclear whether Network Solutions claims as its exclusive *registrar* customers the millions of entities who registered (and must regularly renew) names in .com, .net, and .org before the introduction of the shared registry system and the implementation of the registry/registrar distinction.

The cooperative agreement between Network Solutions and the U.S. Government contemplates that ICANN will take on the U.S. Government’s role in the agreement if it meets certain benchmarks; however, there also appears to be a thought that competition through new open gTLDs will lessen or completely eliminate the need for price caps or other oversight of individual registries.

### Competition through new open gTLDs

The longer-term plan for competition appears to be through the introduction of new generic top level domains. The theory is that once there are plenty of top level domains to choose among, run by different registries, market competition will minimize registry prices, or at least converge to market-desired combinations of price and service, however service might be defined.

This theory is true to some extent, and new gTLDs seem desirable for a number of reasons, but there are limits to the competitive benefits to be expected. The most important limit is that of domain name portability. Someone choosing a new domain name from scratch can shop among all open TLDs; once the domain name is selected, however, and goodwill is built up around it, it can be difficult to switch. The online merchant Amazon.com, for example, presumably could not lightly abandon its domain name even if Amazon.biz were readily available. Perhaps initial selection of a domain name could take into account what promises a registry is willing to make about the future (“We promise never to charge you more than \$30/year for a name”), but there is already substantial lock-in for existing names, with contracts that to my knowledge make no such promises.

Registries might be asked to at least allow for a time period of domain name forwarding should a consumer registrant wish to switch from one TLD to another; such a policy would promote portability of names and therefore make competition among TLDs more keen. Presumably ICANN would be in a position to seek to make such a policy—and enforce it through contracts with respective registries—but the scope of ICANN’s substantive policymaking power is still untested, and will be determined by an odd hybrid of its own bylaws, any superseding national laws, and the terms of its contracts with registries.

Finally, a drastic increase in the number of gTLDs could render enough so there is one or more gTLD per entity rather than multiple entities sharing space under a single gTLD—AT&T, for example, might have [www.att](http://www.att) instead of [www.att.com](http://www.att.com). In such a case AT&T (and everyone else) need not be a registrant “under” a TLD, but could be a holder of a TLD that could manage the TLD on its own. My sense of the technical community’s view of this is that a flattening of the domain name hierarchy is difficult from an engineering standpoint, and that at least in the short term new TLDs should number at most in the hundreds rather than the thousands or millions. However, the introduction of at least some new TLDs under the traditional registry model would presumably help reduce technical load on the file that points to registrants within the .com domain, which is by far the busiest.

### **c. Does ICANN presently have the authority to add new gTLDs?**

Questions of legal authority are difficult here, since the system has evolved without a comprehensive treaty-based, statutory, or contractual framework. But the short, literal answer to the question appears to be “no, not without the concurrence of the United States government.”

gTLDs “exist” under the prevailing system because they are reflected in a “root zone file” distributed across thirteen “root zone servers” around the world. As consumers seek to use domain names to get around the Internet, their respective internet service providers typically choose how to “resolve” the name to a unique Internet IP address.

Virtually every internet service provider ultimately consults one of those thirteen root zone servers about whether a particular gTLD exists, and if so who manages it.

The thirteen servers return identical answers because twelve of them mirror a single “authoritative” root—currently operated by Network Solutions wholly apart from its duties as registry (and registrar) of names under .com, .net, and .org. To my knowledge Network Solutions has not claimed “ownership” of this authoritative root zone file, nor the right to make changes to it. In practice, changes had been made at the request of Jon Postel/IANA, at times through the somewhat formal but unincorporated “RFC” processes of the Internet Engineering Task Force, described in my prior testimony. More recently, only ministerial changes to gTLDs have been made to the file, and the October 7, 1998, Amendment 11 to the cooperative agreement between NSI and the Department of Commerce explicitly provides both that (1) NSI will continue to operate the primary root server until instructed by the government to transfer it to ICANN (“NewCo”) or elsewhere; and that (2) NSI will currently only make changes to the root with the written authorization of an “authorized USG official” and that, at some future time, the U.S. government may instruct NSI to accept ICANN’s changes to the root. (See <http://www.networksolutions.com/nsf/agreement/>>.)

This is consistent with the Department of Commerce’s policy “white paper” of June 5, 1998, “Management of Internet Names and Addresses,”  
<[http://www.ntia.doc.gov/ntiahome/domainname/6\\_5\\_98dns.htm](http://www.ntia.doc.gov/ntiahome/domainname/6_5_98dns.htm)>:

The new corporation ultimately should have the authority to manage and perform a specific set of functions related to coordination of the domain name system, including the authority necessary to [...] oversee policy for determining the circumstances under which new TLDs are added to the root system[.]

The November 25, 1998, memorandum of understanding between the U.S. Department of Commerce and ICANN (see <http://www.ntia.doc.gov/ntiahome/domainname/icann-memorandum.htm>>) contemplates that the two parties will jointly develop processes for “[o]versight of the policy for determining the circumstances under which new top level domains would be added to the root system[.]” and that ultimately this function will be performed solely by ICANN.

In practice, then, the major parties in this area seem to agree that the addition of new gTLDs is something that the U.S. government has the authority to assign; that it currently is sharing these responsibilities with ICANN; and that ultimately—but not presently—ICANN is slated to have the authority to manage the addition of new gTLDs and the custody of the authoritative root zone file.

It is noteworthy that some of the twelve mirror root servers might hypothetically choose to cease mirroring the authoritative root zone file and provide an alternative file, or that internet service providers or even their downstream individual customers

could seek domain name resolution from “alternative” roots not within the IANA/USG/NSI/ICANN chain. This is unlikely thanks to the lack of interoperability such decisions would entail, but I know of no legal authority preventing it.

**3. Regarding registration of one of the so-called “seven dirty words” as part of a domain name:**

**a. Should registrars have the right to refuse to register domain names containing any of these words?**

Registrars’ actual legal rights to refuse registration would be defined by the contracts, if any, by which they enter the registration business—contracts with the registries in which they seek to register names, and accreditation contracts from ICANN, as currently implemented in .com, .net, and .org. Their rights may also be limited by law as developed and enforced by sovereigns who can assert jurisdiction over them. I do not know of any existing restrictions in either category.

To some, the ideal of freedom of speech means that registrars ought not to refuse a request to register a particular name. To others, free speech protection means that private entities (including registrars) can choose to say—or not say—what they like. In practice, allowing registrars the “right” to refuse registration (or renewal) of particular names isn’t controversial so long as there are a variety of them—registrars could individualize their registration policies to allow for differences of opinion on such issues, and chances would be high that sibling registrars will be available to register words that others reject.

**b. Should registries have the right to refuse to accept a registration containing any of these words?**

Registries’ legal rights to refuse registration would be defined by the contracts, if any, by which they were commissioned to undertake their work by whoever manages the root (see 2(c), above). Their rights may also be limited by law as developed and enforced by sovereigns who can assert jurisdiction over them. I do not know of any existing restrictions in either category.

In my view—and this doesn’t represent a legal judgment—registries should not make any judgments of name suitability anymore than a registry of deeds should refuse to register property based on a perceived offensiveness of the title owner’s name. There are many words in many languages that offend natives; enforcement of such concerns should, if it happens at all, be a matter of local law.

To the extent that a multiplicity of registries come to exist, one can imagine amongst registries the kind of competition that diminishes controversy over registrar refusals

to register names in a given domain described in 3(a), above. Indeed, one could imagine a “.kids” domain for which certain second-level domains are left unregistered, while anything goes in “.xxx.” Problems with this approach include (1) the apparent distaste for it by the Internet administrators and engineers whose support might be needed to implement it and (2) the fact that Internet content found objectionable by some is truly found much more *within* Internet sites than in the single-string identifiers used to label and find them.

**4. Does the Department of Commerce have the authority to recompute the .com, .net, and .org registries? How would such recompetition affect the Internet’s stability and competition for domain name registration and related services?**

I believe so. As my answer to 2(c) explains, all major parties appear to agree that the U.S. government has authority over the “root” file that determines whether there will be .com, .net, and .org, and if so, who will manage them. (A separate matter is whether the Department of Commerce has the authority to act for the U.S. government in these matters after rather explicit direction from the President’s June 1, 1997 directive on electronic commerce, but absent specific authorizing legislation.)

Redirecting the root file to point to a .com, .net, and .org run by a new entity is not enough. To effectively recompute these registries, the Department of Commerce will have to ensure that most of the existing registry data—for example, what existing names in these domains are already assigned and to whom—are available for seamless transition to a new registry operator. This does not appear to represent a difficult technical problem if Network Solutions were to cooperate in the transition. Absent such cooperation the Department of Commerce might resort to filing a lawsuit to attempt to compel it, or to less certain technical means to “route around” an attempt to withhold the data. If the latter were to occur, Network Solutions might itself file suit to attempt to establish its rights against such circumvention.

I have reviewed Network Solutions’s letter of August 11, 1999 to Chairman Bliley, which describes NSI’s legal claims to registry data which, if upheld in their entirety, would preclude an effective recompetition of the registries NSI operates. I am skeptical of NSI’s position because (1) the data in question appears to fall outside the scope of copyright (see *Feist Publications Inc. v. Rural Telephone Service, Inc.*, 111 S.Ct. 1282 (1991)) and (2) the data in question—at least that data necessary to maintain the technical functioning of the registries—is publicly available and appears to fall outside the scope of trade secret. To be sure, the relevant contracts do not speak directly to the issue, except for the recent Amendment 11 to the original NSI/NSF cooperative agreement—which, as NSI points out, simply affirms an undetermined status quo.

A hastily called-for recompetition—and the brinksmanship between the Department of Commerce and NSI that it might entail—would be a danger to Internet stability. The current agreement between the two parties is now extended through October, 2000; were a recompetition to take place now—with NSI fully entitled to submit a bid



for retention—there would likely be sufficient time as a technical matter to ensure that whoever was awarded the new registry contract could effect a transition. Such a move might prompt a lawsuit as described above, which could then require resolution before the recompetition could fully proceed.

The best way to arrive at fair deal promoting long-term stability—with attention to the public interest at stake, and with terms going forward that can incorporate all that has been learned about domain name management since the original cooperative agreement was signed—may be through a competitive bid process rather than through a one-on-one negotiation where the government has not developed a viable alternative to an agreement with its negotiating partner. Neither the government nor NSI should have to settle for any less than what their actual rights are, and continued uncertainty or lack of resolution about these claims could impair the settled expectations and competitive parity desired by additional prospective registries and downstream registrars within .com, .net, and .org. Even a “leisurely” recompetition would, of course, entail administrative, technical, and legal effort among all the parties that is bypassed by longer-term agreement between the Department of Commerce (and perhaps later, ICANN) and NSI.

**5. Regarding domain name disputes among legitimate trademark holders, is this an appropriate area of policy for ICANN to consider? Are such policies needed by the entire Internet community, and not merely by the trademark or business community?**

Name disputes will, in many cases, be less a moral issue than one of simple baseline “ownership”: under some prevailing law, is the challenger entitled to use of the name even if the name holder was first to register it? A uniform dispute resolution policy may make sense generally in a space where disputants can be far from each other both physically and jurisdictionally, and where the commerce affected is global since the domain name at issue is available globally. But the devil will be in the details: what “law” shall the dispute resolvers apply? Wherever arguably applicable substantive law can enhance a party’s rights, the advantaged party will seek to bypass dispute resolution procedures. A mandatory dispute resolution policy (coupled with a waiver of traditional right and remedies) written into domain name contracts could unilaterally limit the rights of the initial domain name holder—who, since the policy is uniform, would have little choice about entering into the contract short of abandoning the name registration to begin with.

What scant data there are suggests that relatively few domain name disputes—in proportion to the millions of names registered—actually proceed to litigation. This may be a fix in search of a problem, or one derived from a legacy problem: initial registrations in gTLDs before the commercial potential of the Net was fully appreciated by those holding trademarks. The real challenge will be to avoid an “Oklahoma land rush” as new gTLDs are introduced; IBM, for example, might seek

privileged registration as “ibm.biz” without having to hope its request for registration is the first one received were the .biz TLD introduced.

In addition to the trademark and business communities, one might think that uniform dispute resolution—were it more accessible and less expensive than litigation—would assist individual domain name owners in arguing their own causes for retention of challenged names they hold. This, again, would depend on the substantive “law” used within the ADR procedure to settle the dispute.

Finally, the registrar and registry communities appear eager to implement uniform dispute resolution policies so as not to be entangled in domain name disputes. However, one could imagine fairly uniform substantive law by which such entities adopt a basic policy—first-come, first-served—and then agree to reassign names on the basis of judicial decrees—a kind of “quasi in rem” proceeding. To be sure, certainly at the registrar level, if there is to be a dispute resolution policy at all it only makes sense as a uniform one; otherwise, domain name registrants will tend to “race to the bottom” to register names with the registrar offering the most generous terms (or no policy at all).

**6. There has been much discussion about the role of the Governmental Advisory Committee (“GAC”) to ICANN. Regarding the GAC:**

**a. Has the GAC taken any actions to date that are inconsistent with its official role?**

None of which I am aware. The ICANN bylaws charter the GAC to “... consider and provide advice on the activities of the Corporation as they relate to concerns of governments, particularly matters where there may be an interaction between the Corporation's policies and various laws, and international agreements.” (See <<http://www.icann.org/general/bylaws.htm>>.) Its chief actions appear to have been holding both closed and open discussions, certifying who is and is not a member of the GAC, and generating communiqués about its collective views on particular domain name issues.

**b. Is the GAC subject to its own rules or to the rules of ICANN?**

ICANN’s bylaws, once establishing that there is to be a GAC and providing for its membership criteria and advisory relationship to ICANN, suggest that the GAC makes its own rules to govern its internal actions, including the selection of its successive chairs. Since the GAC exists under the ICANN bylaws, it technically could be eliminated or altered in character by an amendment to those bylaws; therefore it might literally be subject to rules ICANN could seek to impose. It has no explicit power over ICANN other than as a recognized resource for information and advice, but as a matter of realpolitik it is not difficult to imagine that the governments

of the world expressing their views collectively through the GAC would be difficult for ICANN—new, and at the end of the day, weak—to ignore.

**c. What reforms to the GAC, if any, should be made to ensure that it will act only as an advisory body to ICANN and not as a policy-making body?**

I believe that the current bylaws adequately limit the GAC to offering advice and recommendations, which the Board may adopt at its own discretion. ICANN bylaws [Article VII Section 3(a)] state that the Governmental Advisory Committee should consider and provide advice on the activities of the Corporation as they relate to concerns of governments, particularly matters where there may be an interaction between the Corporation's policies and various laws, and international agreements. The Board will notify the chairman of the Governmental Advisory Committee of any proposal for which it seeks comments under Article III, Section 3(b) (policy changes that would substantially affect the operation of the Internet) and will consider any response to that notification prior to taking action.

Governments not only have responsibility for protecting their citizens who use the Internet, but they are Internet users themselves. However, ICANN's bylaws (Article V Section 5) prohibit any government official from sitting on ICANN's Board of Directors. An advisory committee, which serves as a conduit for the expression of governmental interests, seems a reasonable compromise. To eliminate the GAC would simply be to shift governmental pressures on ICANN sub rosa. Interestingly, the only way to truly limit the GAC's de facto influence—since its de jure power is technically limited to producing advice that ICANN is free to ignore—would be to cement ICANN's own authority and independence, something many are chary about doing until ICANN has more of a track record. Limiting government influence to that which takes place through the structure of the ICANN bylaws is thus, in practicality, a matter of voluntary abstention by those legislatures and other government authorities in a position to compel or at least affect ICANN's behavior on the basis of something as simple as a phone call.

The U.S. government has a distinct role in relationship to ICANN both because ICANN is headquartered in the United States and because the authority underlying the entire “privatization” of domain name and IP number management has been exercised by the United States. Alone among sovereigns and apart from a simple attempt to exercise raw jurisdiction over ICANN's activities, the United States has an additional formal route by which to express views and apply pressure to ICANN—whatever legitimacy ICANN has at this time flows from the formal recognition and subsequent memorandum of understanding entered into with the U.S. Department of Commerce. The circumstances under which this route might be used are, presumably, to ensure that ICANN's structures remain free from capture, rather than to push for or against specific substantive policies.

**7. If ICANN ultimately does not charge its now-suspended \$1 per domain name fee, how should ICANN fund its operation?**

ICANN (and IANA, such as it is; it is not clear if IANA, never formally incorporated, has been wholly subsumed into ICANN) provides coordination services to different network constituencies and these are also potential sources for revenue. ICANN allocates Internet Protocol addresses to the three current regional Internet registries (RIRs), who charge fees when they assign IP addresses to Internet access providers. A portion of these fees could be paid to cover ICANN's expenses. ICANN's supporting organizations (SOs) and the at-large membership could charge membership fees to cover the expenses of coordinating protocol parameters and providing membership services.

Concern over undue taxation might be alleviated by (1) an explicit cap on the total amount ICANN will, in fact, collect in a given year, limited to cost recovery; should a surplus be collected, ICANN's subsequent fees would be adjusted downward; (2) flat fees rather than per-name taxes. ICANN could simply charge registrars a yearly fee based on some metric calibrated to ability to pay. Individual country-code TLDs, were they to enter into memoranda of understanding with ICANN, might also provide for some contribution to the organization.

Any structure that eliminates the necessity for a per-name per-year fee may be helpful in broadening the possibilities for experimentation with different kinds of registry and registrar fees. As I expressed in my spoken testimony, there is no particular economic reason why Internet users who register a name and then "leave it alone" should have to pay recurring yearly fees to anyone.

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Please don't hesitate to contact me if you have additional questions.

Sincerely,

Jonathan Zittrain