

Testimony of Jonathan Zittrain
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Mr. Chairman, Members of the Committee:

Introduction

My name is Jonathan Zittrain. I am the Executive Director of the Berkman Center for Internet and Society at Harvard Law School, where I teach several courses on Internet issues as a Lecturer on Law.

The Berkman Center's research falls roughly into five categories. We look at the way in which the increasing use of the Internet and open networks generally is affecting the openness of code, commerce, education, security and government, and the relationship of law to each. Our research is active— we build out into cyberspace as a means of studying it. The development of the debate over domain names and IP numbers has thus been of great interest to us, and we have developed a perspective both as observer and participant.

In an important sense, these names and numbers are the foundation upon which the Internet as we know it is built. The fact that key elements of the system were developed and managed with little more than a series of handshakes and a set of traditions for so many years speaks to the spirit that built the Internet, kept it running, and ultimately attracted the rest of us to it. The Net is no longer just a convenient means to share research results or a large-scale experiment in applied computer science, but an increasingly important foundation of commerce, social activity, and information exchange.

As the materials I have submitted for the record describe, the Berkman Center has sought to document the process of ICANN's creation and the underlying debates; identify important social issues at stake; present advice on structures for openness and accountability; and develop systems for broad-based participation in ICANN-related activities and deliberation. The latter presents major challenges when the people who have an interest— the so-called stakeholders— are dispersed

around the world, and indeed may have little in common except a link to the Internet and a desire to have some say in its future. In addition, individual Berkman faculty have published their respective views on ICANN, and two Berkman fellows have been drafted as advisors to ICANN.

The Department of Commerce White Paper of last summer is in essence a call for a barn-raising by the Internet community. With a clear sense of the distinctly informal, bottom-up way in which the domain name and IP numbering system was semi-privately, semi-publicly developed, the White Paper called for the Internet community to produce a coordinating organization— a “newco”— that has since been recognized as ICANN. By now you are aware of some of the tugs-of-war that took place in its formation, and competing proposals that to widely varying degrees were reconciled with the ICANN proposal.

My supplemental materials try to give a sense of the few planks we’ve tried to lift ourselves for the ICANN “barn,” the documentary pictures we’ve taken as it has been assembled, the windows we have tried to encourage in it so that one can see inside once it has been completed. To be sure, as you will hear today, there are plenty of people who wish there were a different barn or only an open field, and I would like to speak to some of those issues generally.

I want to quickly touch on three things. First, reflect on the context behind what ICANN has been asked to do. Second, discuss why it is difficult for ICANN to do it. And third, review some of the scenarios that might play out if ICANN fails.

What ICANN has been asked to do

First: the context behind what ICANN has been asked to do. As may be clear from today, there was nothing really like it before. A natural question may be: “If we did not need it then, why do we need it now?” What we had before was something called IANA, the Internet Assigned Numbers Authority. IANA was not incorporated; it had no legal personality. At its core was one figure, Dr. Jon Postel. Jon did pioneering work on domain names and personally managed key aspects of the domain name system, including the vaunted “root.” He was also the steward for the “.us” domain— the country code designated for the United States— until the day (which has not yet arrived) when the U.S. government would seek to manage the domain itself. To many, Jon was a Solomonesque figure who could apply an engineering talent to the various issues that would come up, think hard, and simply do the right thing to keep things running smoothly.

Jon did much of his work with government grants, and, from what we can tell, he put them to good use. In addition to taking the lead in developing the system of domain names as we know it, he was the leader of a process to document standards as they were decided. These standards include the specifications for how domain names can work, along with manifold other aspects of Internetworking. The standards aren’t formally enforced by any commission or governmental entity; and thus in some sense are voluntary. However, each computer on the Internet deviates from these accepted protocols at the peril of incompatibility and thus dysfunction. The protocols have become the lingua franca of the Net thanks to the sum of thousands of individual decisions by network administrators and software designers to hew to them. In this sense they are quite binding.

These standards are actually written down somewhere. They are available online in documents called RFCs (“Requests for Comment,” though often they’re final drafts). No one owns the RFCs in the sense we normally think of as ownership— no private company has a patent on them, and they are open to adoption by anyone

without license. In this sense they are public. Yet they are not developed by governments. In this sense they are private. An organization called the IETF, the Internet Engineering Task Force, itself unincorporated, with no legal personality, for which there is no particular membership fee to join since there is nothing explicitly to join, comprises a group of engineers, most of whom participate in their spare time. These engineers discuss the protocols on email lists with each other. Occasionally they gather in a city for a meeting. They try to develop consensus around what will work best.

Indeed the IETF motto, such as it is, was coined by a colleague at MIT, Dave Clark. He says: “We reject kings, presidents and voting. We believe in rough consensus and running code.” How does the IETF know consensus when it sees it? Well, in a meeting they will actually call for a hum. Since it is difficult to hum particularly loudly no matter how passionately one feels about the issue, it seems a rough way of seeing the room is in agreement.

This is not to say there isn’t leadership. RFCs are shepherded by a leader of some sort. Someone takes it upon himself or herself to help own the document and to manage proposals for revisions to it. That editor, of course, has a lot of power in how the protocol that the document describes will ultimately turn out.

I digress into this area because I think it’s critical to give a picture of how this all used to work— and in most ways, still does. The design of the Internet was accomplished by a bunch of people with a common goal to make the Internet bigger, faster, louder, as it were; people who came from relatively similar backgrounds and had little patience for highly formalized structures (and even less for lawyers). This informal system works best— i.e. it comes to consensus— when the issues under discussion are incredibly boring to everyone but the engineers who have gathered to discuss them, and when any political ramifications of designing a network one way versus another are ignored or forgotten.

In the IETF setting, there are no clear competing interests at stake, at least not competing interests outside the realm of engineering. But I will give two examples of

interests that have catapulted the domain name system out of the sleepy meetings of the IETF and into the public eye. These are exactly the kinds of issues beyond the technical that led Jon to want to see a new, much more structured IANA come about, and which are echoed in the White Paper as a reason for trying to go beyond the status quo.

First, there is significant concern about trademark. Domain names have become the primary way to reach something on the Internet. They're written on buses and coffee mugs, and the easier they are to remember, the more valuable they are when the audience in question is the public at large.

Thus there are fights over what domain name belongs to whom. The old system of "First come, first serve," indeed, for awhile, "First come, first serve, with no fee per name" has come under some fire, as major trademark holders, somewhat late to the Internet themselves, found that *hertz.com* (taken by a domain name speculator) and *mci.com* (taken by Sprint!) had already been registered at the time they were wanting to take up shop online. A major company is not afraid of initiating a lawsuit to claim what it thinks it's entitled to— and I don't mean to suggest today that the law says that every trademark holder pre-emptively owns her own mark plus a ".com" or ".net" at the end of it— but would prefer a simpler way to get to the bottom of the issue, or perhaps a form of dispute resolution whose results are more generous than the results of respective courts. Finally, those who think they deserve a domain name held by another may want to know simply who's behind the name— without solid contact information for the defendant, it's not easy to start a lawsuit. As you might guess, some cheer this fact (if only for privacy protection reasons) while others lament it. Decisions about domain name system architecture, and the handling of domain name registrations, can bear on whether famous mark holders and others can easily try to assert claims over names; this is a good example of a desire by powerful interests to have a means of proposing changes to the architecture of the Internet with justifications that are other than technical.

A second example of pressures on the system beyond the technical is simply the entrepreneurial forces that want to provide domain name registration services. The ministerial act of registration of domain names— associating a holder with a name, and inserting the holder’s desired destination address into a table that helps convert these names to the ultimate IP numbers required to really find a site on the Internet— is itself a lucrative business. When a lot of money is directly at stake, it is very difficult to have IETF-like informality at the apex of the pyramid. The power of the root of the domain name system is the power to designate *who* can register the names under a given “top-level domain” like .com or .org, and it’s also the power to designate *what* top-level domains there are. The root of the system that nearly all of us use declares that there exists a “.com” and that a computer in the custody of Network Solutions will fill in registrations under it. It has no data on a “.biz,” and thus for almost all of us there *is* no .biz domain.

Given the money to be made registering names in existing domains like .com, and the possibility of new territory like .biz, control over the root is more than just a technical function. Those who want a piece of the domain name registration action— and among them there are competing claims to slices of it— may only support ICANN if they think it’ll generate policy that is responsive to them. At the very least, people trying to build or maintain a business like to know where they stand, they like to have it in writing, and they like to have what one would call “calculable rules,” so that they can build a business on predictable forces rather than whether a hum happens to be heard one way or another. Thus the authority to modify the root file or veto attempted changes to it is something that everyone agrees has to be handled more systematically than it had been.

As the White Paper tells it, decisions like these are to be one of newsco’s— now ICANN’s— primary goals: developing policy about things like .biz in a fair and open way, so that decisions aren’t arbitrary. Anyone with an interest ought to be heard, and policies that promote competition would presumably lower the cost of domain name registration and spread what surplus there is to be had on the supply side among multiple competitors. Furthermore, the White Paper structure provides an opportunity to take into account concerns that go beyond the technical— trademark,

for example. ICANN is supposed to act in the public interest, not to be beholden to any one stakeholder, and it is supposed to come to closure on these issues, to develop policies that can be implemented and that put a given debate to rest.

Why ICANN's job is hard to do

Why is this so hard for ICANN to do? First, ICANN needs to be open. The easy part of openness perhaps is the ability of people to have a sense of what is going on, and if decisions are rendered, to know why they were made. Open board meetings seem a good idea, of course. But there will be tendencies still to have private consultations with staff, and perhaps even informal meetings where board members discuss things with each other. After all, there cannot be a microphone everywhere, and it may not even be desirable to have a microphone everywhere all the time. In any event, openness goes far beyond open board meetings. It is an ethos, a way of conducting business, that strives in good faith to be inclusive, clear, and genuine. ICANN here has been somewhat saddled with the baggage of a typical private corporation. After all, in form at least it *is* a private corporation. To call ICANN's chief policymaking body a "board" already endangers the spirit of openness— and obscures the fact that, indeed, ICANN is "governing" in some important sense. ICANN is a private company with a public trust; its contracts are "voluntary" just as much or as little as the IETF's RFC standards are. It makes policies that are explicitly meant to go beyond the technical— even a policy that considers and then refuses, say, to adapt the domain name architecture to be more beneficial to famous mark holders at the expense of other interests is still a political decision.

A second area that is difficult for ICANN is representation. The White Paper calls for ICANN to be a broadly representative body, both geographically and with respect to the interests involved. But how does one weigh the different interests? Consensus defined in this environment as "there does not appear to be any one complaining that much" or "most people seem to agree, with a few outliers" will

mean that consensus is going to be elusive at times. After all, contested issues may often be a zero-sum game, and in such cases someone will “lose” on a given policy decision. When they do, they might say: “There is not consensus. I do not agree with this.” And yet, ICANN cannot be paralyzed when consensus does not exist; maintaining the status quo is itself a decision that may upset some stakeholders. The first goals must be to make sure that the openness and deliberative processes are in place, then to try to forge consensus and compromise wherever possible. But when consensus is impossible ICANN really does have to make a decision, and just how to weigh the different interests will be a difficult challenge.

We tried to help address the question of representation through the Membership Advisory Committee, which laid down possible parameters of a membership for ICANN, mandated to elect half of its board through an electorate largely open to anyone who wants to sign up. A fear is that the only people who will sign up are the people who have direct stakes in the process, and therefore the process might become a race to the ballot box to see who can get the most votes in. In some sense, that is a normal election. But, in another sense, it is a recipe for capture if a number of the interests that ICANN should be looking out for— perhaps the greater interest of the public at large— are not joining ICANN by becoming members.

Jim Fishkin of the University of Texas is fond of telling the story of what happened when a question was put to the Internet at large through a poll open to anyone (this excerpted from the *Guardian*):

TIME magazine’s prestigious Man of the Century should be a global figure, a person of calibre and distinction whose fame transcends frontiers, a Gandhi, perhaps, or a Mao. A man whose influence has shaped the world and whose name is known from Ankara to Zanzibar.

Step forward . . . Mustafa Kemal Ataturk. A household name in Ankara he certainly is—as founder of the Turkish republic 74 years ago— but who knows who he is anywhere else?

TIME magazine, which asked readers to nominate the key people of the century, appears to be falling victim to Today’s Programme Personality of the Year Syndrome: intense lobbying on behalf of an underdog for political purposes. In

Turkey the prime minister, Necmettin Erbakan, and President Suleyman Demirel have joined a frenzied media campaign to have their man win. Offices and banks provided voting forms which members of the public could sign.

Ataturk was streets ahead of the opposition. Diane Pearson, a Time magazine official, said that TIME had received between 500,000 and 1 million votes. "Our fax lines have been tied up for hours."

Ataturk led Bob Dylan in the Entertainers and Artists category. He is more of a Hero and Adventurer than Nelson Mandela or Martin Luther King, Jr. Einstein isn't even close in Scientists and Healers, while Henry Ford and Bill Gates were fighting it out for second place in Builders and Titans. Only in the Warriors and Statesmen category did Ataturk have work to do. Winston Churchill (Man of the Half-Century 50 years ago) led. But one Turkish newspaper claimed many Churchill votes came from Greece in a vain attempt to stop the Ataturk bandwagon.

Assuming the vote wasn't fraudulent— i.e. no one voted twice— was Ataturk deserving of the best "entertainer and artist" mantle, or had there been "capture" in the election? In the end, of course, ICANN will have to move forward with some form of electorate, and being accountable in part to an open membership is a way of ensuring a tethering for ICANN that could lessen the need for direct government intervention. (ICANN's most direct form of accountability right now is to the U.S. government, whose memorandum of understanding phases in responsibilities slowly, and makes those responsibilities provisional for the duration of the MoU. Another source of accountability, or perhaps simply control, is the Internet technical community, which has been allotted several seats on the ICANN board through its "supporting organizations," and which in any event could be hypothetically roused sufficiently to make the current popular, authoritative root file a pariah.)

We see the same phenomenon with due process. Due process is something cherished in Western legal traditions— to make sure that people really do have a formal opportunity to be heard, to meaningfully protest if they think their rights are being trampled upon. The process developing within ICANN right now is one that struggles to adopt internal structures for due process and deliberation. For instance, once a policy proposal is made, it may be referred to one of ICANN's supporting organizations. In the case of the domain name supporting organization, the proposal goes to one or more "constituencies" or cross-constituency working groups; the constituencies think about it, come up with views, and put it back to the DNSO,

which in turn makes recommendations to the ICANN Board. The ICANN Board takes a vote and comes to a decision. At that point an internal reconsideration process can be invoked by someone who feels that the decision is contrary to ICANN's structure and bylaws. If it gets past that, there is a structure emerging—still not here, to be sure— for an independent board of review, which then looks at a disputed issue and has the power to require the Board to explicitly come to a new judgment on the subject.

One sees the same dilemmas arise in civil and criminal litigation, under the Federal Rules of Procedure, balancing the need for due process with the need to create and empower an ultimate closure— preventing abuse by those who might make frivolous claims and simply tie up a policy within a structure for a long time. ICANN faces similar tradeoffs, and it must choose a structure to reach an appropriate balance.

Funding is another issue. Somehow ICANN has to pay for itself. I think the domain name tax is a bad idea because it reinforces the notion that the right structure for domain name registration renewal is to pay by the name, and on an odd installment plan at that. (I'd be curious if anyone present today has any idea, apart from historical accident, why it makes sense to rent names by the year instead of "have" them indefinitely— or at least renew without paying.) However, any entity that pays ICANN more directly could be thought of as having undue influence over the organization, and every funding model will involve trade-offs.

If ICANN fails

So what are the scenarios if ICANN fails? I see three rough possibilities.

First, one can imagine the creation of a "Son of ICANN" which would simply try to reconstitute a new organization to do better than which ICANN has not done so well. I am skeptical about the success of a second attempt because it may be

difficult to energize increasingly cynical parties to this debate to try again for a new ICANN, and also because I am not sure it would be any better. The ICANN we have has plenty of flaws, but has also shown considerable progress since its inception under demanding conditions.

Further, if someone feels he or she is going to lose out as a result of the actions of ICANN or its possible replacement, a perfectly rational approach may be to attempt to undermine the whole organization rather than live under what the person considers an undesirable decision. Therefore, there may always be attempts to destabilize, to restart the process leading to ICANN from scratch, to throw the dice again and see what might come out. This is not to say that any criticism of ICANN is the result of sour grapes; rather, that in a healthy environment there will *always* be criticism, and indeed some of it will call for ICANN's end.

A second possibility is that ICANN's functions would be assigned to an inter-governmental entity. It is hard to imagine the US government alone trying to continue DNS management responsibilities solo for the very reasons stated in the White Paper. An international treaty organization is one possible way that governments could come to agreement on how this particular aspect of the Internet should be run. My personal guess is that this would be the likely outcome if ICANN were to fail. It's not clear to me that such an organization would make policies any more in touch with the Internet at large than a well-function ICANN can. More important, as the historical context suggests, the power of the root derives from the fact that a critical mass of system administrators and "mirror" root zone server operators choose to follow it. A drastic turnaround in the management of Internet top-level functions— either through a sea change in favor of much more aggressive government involvement, or one that purports to literally privatize the whole system (imagine auctioning it off to the highest bidder)— could result in abandonment of the network by the technical community.

A third possibility is that the market is simply left to its own devices. In an important sense, this is already happening. For example, we have heard ICANN's claim that the only reason that root file dictates who gets to run .biz is because everyone chooses to look to the "official" root file— the "IANA legacy" root file intended for ICANN's custody— for the answer to that question. By everyone I mean network providers like AOL, and potentially even you and me. In the network control settings on almost every computer, there is a dialog box which we can edit, and there is software to make it especially easy to edit that box, that says: "This is the computer from which I will get my domain name information." It need not be one that has any allegiance to ICANN or to Network Solutions, for that matter.

The problem is that there is such benefit in interoperability that it is difficult to switch out of a system that everyone now has bought in to. To the extent that it was done, addressing on the Net would become more confusing ("You can reach me at `zittrain@law.harvard.edu@icannroot`, but not at `zittrain@law.harvard.edu@competing root`"). That's why the prospect of so-called multiple roots strikes me as a remote one. What would ultimately happen is "tipping behavior" through which one naming scheme would predominate and somebody would end up with control of a new root— a private actor answerable only to itself or its shareholders— and then antitrust or other mechanisms would have to apply to keep that private actor in line. This is indeed what will happen if current private naming schemes take off.

Conclusion

Is ICANN out of control? If by this one means a bull in the china shop, rampaging this way or that, unaccountable to anything but its own inexplicable motives, the answer is no. I worry about the opposite problem: ICANN has inherited an extraordinarily difficult situation, with high expectations all around, and with almost no discretionary room to move. The set of realistic options for substantive policymaking and procedural structure is quite small: for better or worse,

ICANN faces swift dispatch if it strays too far from the desires of any of the mainstream Internet technical community; the United States and other governments (including executive, legislative, and judicial branches, which in turn may not agree); and powerful corporate interests. Indeed, those representing the “little guy” and/or those wanting a maximally unregulated Net— one where political concerns have no place in technical management— are quick to worry about capture of ICANN by one or another of these interests.

The key in this critical transition period is to give ICANN enough rope to either demonstrate that it can heft what it needs to in order to foster trust and respect among disparate interests (the kind of respect that has even the “losers” in a given policy question know they got a fair shake), or to show a conclusive inability to rise to the challenge. Better that we know now rather than later.

For the Berkman Center’s part, we want to continue to be one voice among many pushing ICANN towards openness, and recognition of public interests that may not be well represented or fully aware of the true stakes of some of the architectural decisions that ICANN— and other elements of the technical community— are coordinating.

I am aware that the Berkman Center’s participation in ICANN— activities such as webcasting its meetings, developing remote participation systems, conducting a membership study— is itself a form of support to the organization. If we thought ICANN were corrupt or renegade, we would cease such support in a heartbeat. So far as I know, ICANN is neither. It is making its share of mistakes, in a territory that is uncharted. Our own faculty have joined others who are pointing out its deficits as they materialize. Oversight of its work is critical, and indeed hearings like these are an important way of helping it identify and correct them. But there will be inevitable letdowns as we shift from the lofty rhetoric of possibility to the hard facts of building an organization that works— retaining or rebuilding the spirit of openness, representation, and trust among stakeholders who have differences that did not materialize yesterday and which will not disappear tomorrow.