

Linking Governance and Performance: ICANN as an Internet Hybrid

Maeng Joo Lee

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Karen M. Hult

Joseph V. Rees

Patrick S. Roberts

Angela M. Eikenberry

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ABSTRACT

The Internet Corporation for Assigned Names and Numbers (ICANN) is a hybrid organization managing the most critical Internet infrastructure - the Domain Name System. ICANN represents a new, emerging Internet self-governance model in which the private sector takes the lead and the government sector plays a more marginal role. Little is known, however, about what is actually happening in this new organization.

The dissertation (a) systematically assesses ICANN's overall performance based on a set of evaluative criteria drawn from its mission statements; (b) explores possible factors and actors that influence ICANN's overall performance by tracing the governance processes in three cases based on a preliminary conceptual framework; and (c) suggests practical and theoretical implications of ICANN's governance and performance in its broader institutional context.

The study finds that although differing governance processes have led to different performance outcomes (Lynn et al. 2000), "stability" has been the defining value that has shaped the overall path of ICANN's governance and performance. The study characterizes ICANN as a *conservative* hybrid captured, based on specific issues, by the technical and governmental communities. It also proposes the concept of "technical capture" to suggest how technical experts can have significant, but often implicit, influence over the policy development process in organizations.

Dedication

To My GOD, For Your Glory

And

To My Best Friend, SODAM, For Your Well-Being and Success

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I acknowledge that what I have achieved here is not mine. I would like to thank all interviewees for telling me their experiences with ICANN, an unknown organization. I learned a lot from them.

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Acronyms

AfriNIC - African Network Information Center
ALAC - At-Large Advisory Committee
APNIC - Asia Pacific Network Information Centre
ARIN - American Registry for Internet Numbers
ASO - Address Supporting Organization
CCNSO- Country-Code Names Supporting Organization
CCTLD - Country Code Top Level Domain
DARPA- Defense Advanced Research Projects Agency
DNS - Domain Name System
GAC - Governmental Advisory Committee
GTLD - Generic Top Level Domain
GNSO - Generic Names Supporting Organization
IAB – Internet Architecture Board
IANA - Internet Assigned Numbers Authority
ICANN - Internet Corporation for Assigned Names and Numbers
ICC - International Chamber of Commerce
ICRA – Internet Content Rating Association
IDN - Internationalized Domain Name
IETF - Internet Engineering Task Force
IP - Internet Protocol
ISOC - Internet Society
ISP - Internet Service Provider
ITU – International Telecommunication Union
IWF - Internet Watch Foundation
LACNIC - Latin American and Caribbean Internet Addresses Registry
NSF - National Science Foundation
RFC – Request for Comment
RFP – Request for Proposal
RIR - Regional Internet Registry
RIPE NCC – Réseaux IP Européens (“European IP Networks”) Network Coordination Center
RSSAC – Root Server System Advisory Committee
SSAC - Security and Stability Advisory Committee
SO - Supporting Organizations
sTLD – Sponsored Top Level Domain Name
TLD - Top-level Domain
TLG – Technical Liaison Group
UNCITRAL – United Nations Commission on International Trade Law
UDRP - Uniform Dispute Resolution Policy
W3C - World Wide Web Consortium
WIPO - World Intellectual Property Organization

Chapter 1 Introduction

Research Purpose

The Internet Corporation for Assigned Names and Numbers (ICANN) is an international nonprofit incorporated in 1998. Under contract with the U.S. Department of Commerce, it has managed the Internet domain name system (DNS), the most critical infrastructure of the Internet. Although ICANN's mission is limited to the technical management of the DNS, its technical decisions and policies have had a broad range of economic, social, cultural, and political governance implications.

This dissertation (a) systematically assesses ICANN's overall performance based on a set of evaluative criteria drawn from its mission statements; (b) explores possible factors and actors that have influenced ICANN's overall performance by tracing governance processes in three cases based on a preliminary conceptual framework; and (c) suggests practical and theoretical implications of ICANN's governance and performance in the broader institutional context.

The rise of the Internet has posed a classic but thorny governance question in the borderless Internet community: by whom and on what conditions should the Internet be governed (Keohane and Nye, 1998)? This governance question is not trivial because whoever governs the Internet will be in a better position to decide who gets what in the Information Age (Cukier, 2005).¹

As the importance of the Internet has grown, Internet governance has drawn extensive political and intellectual debates between and within governments, businesses, and nonprofits at both the national and international levels (Wilson 2005). Yet, neither political nor intellectual debates have produced any global consensus on a good

¹ For example, unequal distribution of domain names and addresses between developed and developing countries; domain names dispute resolution policy in favor of intellectual property holders over domain holders.

governance model for the Internet. Politically, the Internet has too many competitive stakeholders whose governance philosophy and socio-economic interests are heterogeneous and often conflicting. Intellectually, the concept of Internet governance is too broad to render meaningful discussion.²

Table 1-1: Examples of Internet Governance

Private Sector	Hybrid	Public Sector	
		International Treaty Organization	National/Regional Government
IETF/W3C Technical standards IWF/ICRA Internet hotline/ parental control	ICANN Internet Domain Names System Management	UNCITRAL E-commerce law WIPO Copyright protection WTO Intellectual property ITU Technical standard	U.S. FTC: Cyber squatting FBI: Online Fraud Iran/China Content Regulation EU Online privacy

Source: Mueller 2004

In practice, many public and private organizations have undertaken various experiments to deal with specific public policy issues involving the Internet within their jurisdictions, exploring and setting rules, standards, and best practices applicable to the Internet (see Table 1-1).³ None of these organizational experiments, however, has been in the spotlight more than a unique hybrid, the Internet Corporation for Assigned Names and Numbers. ICANN is a hybrid because it has the mixed characteristics of private- and

²Internet governance can be interpreted as either governance of the Internet (e.g., making rules for Internet usage, in Klein 2003, shaping the evolution and use of the Internet, in WGIG 2005) or governance by the Internet (e.g., using the Internet as a means of facilitating governance, in Rose 2006), or both. Whoever engages in shaping the use of the Internet or using the Internet to facilitate the interaction between state and civil society governs the Internet in one way or another.

³Internet governance has fallen under multiple jurisdictions –e.g., international and national governments, business corporations, and nonprofits. However, no single entity can govern the Internet as a whole. Rather, Internet governance is a network of a multitude of actors. Table 1 indicates many varied governance regimes of the Internet operating in both the public and private sectors. Not surprisingly, international treaty organizations and national governments are crucial, if not dominant, actors (Drezner 2004; Collins 2006) in shaping the rules or usage of the Internet. Private organizations also play roles in the global governance of the Internet. Private standard organizations (e.g., Internet Engineering Task Force) have shaped the evolution and usage of the Internet by setting technical standards and parameters. Many private organizations take voluntary actions to address common problems of the Internet (e.g., promoting parental control over Internet pornography).

public-sector institutions (Koppell, 1999, p. 641).⁴ As a private entity, it performs public missions, ranging from technical operation to globally applicable rule- or policy-making relevant to the domain name system (e.g., the Uniform Dispute Resolution Policy). ICANN represents a new, emerging self-governance model in which the private sector takes the lead, and the government sector plays a more marginal role.

Problem Statement

Due to its hybrid characteristics, ICANN is probably the most controversial governance regime in the Internet. Many national governments have criticized ICANN as “an instrument of American hegemony over cyberspace,” arguing that its function should be transferred to an international treaty organization like the International Telecommunications Union (Cukier, 2005, p. 7).

Internet user groups have criticized ICANN as being captured by business interest groups, while business groups complain that ICANN overly regulates business practices beyond its technical responsibility. Civic organizations contend that ICANN is unaccountable to the public. Altogether, ICANN is an “online political institution” besieged by multiple stakeholders whose interests and concerns rarely converge (Hunter, 2003). However contentious they may be, such political assessments of ICANN’s performance lack rigorous analysis.

Very few empirical studies systematically evaluate ICANN’s overall performance based on multiple criteria and explain that performance by tracing the ICANN governance process. In particular, nobody has paid attention to the mission statements in which ICANN has stressed four guiding principles since its inception. Few have attempted to assess ICANN’s performance using these principles as evaluation criteria.

⁴ One can easily find mixed views of ICANN. The media have sketched ICANN as a private “technical coordinator” (AP/MSNBC 7/15/05) on the one hand and as a public “Internet governing body” (Reuters/MSNBC 2/22/04) on the other. Informed scholars have seen ICANN as a “quasi” or “pseudo” governmental agency to regulate the Internet on behalf of the U.S. government (Koppell, 2005) and “a private nonprofit that has the capabilities to govern the Internet by administering technical coordination of the DNS - a point of central control of the Internet” (Klein 2002, 193-194).

Nor have scholars tried to explain ICANN's overall performance by tracing its governance process in which multiple actors and factors converge and interact with each other in complex ways. ICANN's governance and performance occur in a black box. Little is known about what is really happening inside ICANN.

Significance

The dissertation is significant for several reasons. First, ICANN itself is a special, if not a unique, organization (Koppell 2005). It is a hybrid distinct from existing public and private organizations we are familiar with. It is a new creature created to govern one of the most important aspects of the Internet. Just as Hunter described it as a "hippogriff," a grafting of multiple animal parts (2003, p.1171), ICANN may be a strange type in organization theory. Yet, we need a better understanding of ICANN, not only by describing what it looks like, but also by explaining how it acts and why.

Second, ICANN represents an on-going institutional experiment in which a private entity serves as the center of a transnational network, while the role of governments appears rather minor. ICANN illustrates a new, emerging governance model for the Internet in which the private sector leads and the government sector assists; typically, the government sector leads while the private sector assists with advice and expertise in other international policy domains. Tracing ICANN's governance and performance should allow us to better understand the Internet's emerging governance regime (Klein 2002).

Third, ICANN provides a novel testing ground to reexamine the validity of existing governance theories developed in an off-line context. For example, using ICANN, Drezner (2004) tested a state-centric theory of global governance and a global network governance theory that emphasizes the enhanced role of civil society in the Information Age. In addition to examining existing theories, the study of ICANN provides a material basis to elaborate or modify such theories.⁵

⁵ For example, the defining feature of network governance is "coordination characterized by informal social systems rather than by bureaucratic structures" (Jones, Hesterly, and Borgatti 1997, 911). However, even though many organizational features of ICANN can be characterized by network ideas, it relies on formal, "flow-down" (Klein 2002) contractual relationships and acts like an "executive agency" (Hunter 2003, p.1175). This kind of empirical finding may simply lead one to treat ICANN as a deviant case, but it

Fourth, study of ICANN's governance and performance is timely. ICANN is an ongoing – and frequently contentious - institutional experiment in efforts to find a workable model of Internet governance. Whereas the ten year old Internet hybrid is still evolving, alternative institutional models are being proposed from various quarters in the Internet community (e.g., WGIG's four governance models, see WGIG, 2005). Arguably, it is unwise to theorize a good governance model for the Internet domain name system without fuller evaluation of how the existing governance model - ICANN - has performed so far. ICANN has acknowledged the need to assess its performance (ICANN, 2006b, p. 6). Yet, systematic evaluation of ICANN's governance and performance is rarely available either inside or outside the organization.

Organization

The dissertation is organized as follows. First, I survey the literature on ICANN in chapter 2. Second, I sketch the research design including the research strategy and logic, conceptual framework, data collection and analysis, and limitations (chapter 3). Chapter 4 includes background information on ICANN. Fourth, I assess ICANN's overall performance on the four evaluative criteria (chapter 5). Fifth, based on the conceptual framework introduced in chapter 3, I closely trace ICANN's governance processes in three cases to identify significant variables and relationships that have influenced ICANN's governance and performance (chapter 6). Then, linking ICANN's governance and performance based on the analytic comparisons among the three cases, chapter 7 offers explanations for ICANN's overall performance. Lastly, based on the findings, I draw several conclusions, suggest practical ways of improving ICANN's governance and performance, and offer broader theoretical implications proposing the concept of technical capture and future research areas.

also may suggest classifying it as a “network administrative organization (NAO)” that is a “disseminator of funds, administrator, and coordinator of the network” (Provan & Milward, 2001, p. 418).

Chapter 2 Literature Review

In this chapter, I survey the literature on ICANN and Internet governance. A growing literature has sketched ICANN as a hybrid, multiple stakeholder organization whose mission is to manage the Internet DNS in technically complex and politically divided environments. Due to its hybrid characteristics, ICANN has a dual face. On the one hand, it acts like a private technical standardization organization (Klein 2002), but on the other hand it acts like a “political online institution” (Hunter, 2003). Most criticisms of ICANN’s governance and performance have been politically charged. Yet, empirical studies of ICANN are mostly lacking. In the following sections, I examine the nature and complexity of ICANN as a hybrid multiple stakeholder organization and suggest the literature gap that the dissertation fills.

ICANN as an Internet Hybrid

The literature on Internet governance⁶ has viewed ICANN as a hybrid (a private entity that performs public mission), representing an emerging self-governance model in the Internet DNS (Hunter, 2003; Klein, 2002; Koppell, 2005).

⁶ I distinguish between two groups of scholars in the literature on ICANN and on Internet governance. The first has studied ICANN from its inception and deemed it a central piece of Internet governance. They have analyzed ICANN and Internet governance from legal, communication, and information policy perspectives. They tend to advocate the private sector’s role in Internet governance and actively monitor ICANN’s activities and decisions (e.g., Froomkin, Mueller and Klein). Their works have mostly appeared in law journals, [info](#), and [the Information Society](#). They recently have organized the GigaNetwork (Global Internet Governance Academic Network) to promote an interdisciplinary approach to studying Internet governance. The other group of scholars has contributed to the literature on ICANN and Internet governance more recently. They emphasize the role of national/regional governments in Internet governance. Their works have appeared in, e.g., the [Journal of Public Policy](#) (Wilson, 2005), [Political Science Quarterly](#) (Drezner, 2004), and [Cambridge Review of International Affairs](#) (Drissel, 2006). Mueller defined Internet governance as “collective action, by governments and/or the private sector operators of *TCP/IP networks*, to establish rules and procedures to enforce public policies and resolve disputes that involve multiple jurisdictions” (Mueller, Mathiason, & McKnight, 2004, p. 4, emphasis added). While Mueller interpreted Internet governance as governance *of* the Internet, Rose interprets it as governance *by* the Internet, defining “e-governance” as “the use of information technology, and especially the Internet, as a means of facilitating [governance -] interactions between the state and its citizens” (Rose, 2005, p. 2). Mueller argued that “the concept of Internet governance is too big,” because “Internet governance has the potential to encompass virtually anything and everything that involves communication and information” through the Internet (Mueller 2004, p.8). The broadest definition of Internet governance is

Koppell defines a hybrid as “an entity created by the federal government (either by act of Congress or executive action) to address a specific public policy purpose. It is owned in whole or part by private individuals or corporations and/or generate revenue to cover its operating costs” (2003, p. 12). He noted that hybrid organizations have become important tools for implementing federal public policies in the U.S. He has studied several hybrid organizations such the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac), the Export-Import Bank and Overseas Private Investment Corporation (OPIC), and investment funds such as Enterprise Funds and OPIC investment (Koppell, 2003).

ICANN fits Koppell’s definition of hybrid organizations. It was created by the U.S. Department of Commerce to address a specific public policy purpose (DNS management) and was incorporated by private individuals as a nonprofit organization. ICANN also generates revenue to cover its operating costs. Two distinct (the technocratic and institutional) perspectives on Internet governance are useful in helping to better understand the hybrid nature of ICANN’s identity and its role in the governance of the Internet Domain Name System.

The technocratic perspective was prominent in the early stage of Internet governance. This perspective emphasizes that technology shapes governance institutions (see Klein 2002, pp. 205-206). Pioneers of Internet technology have viewed the Internet as “a unique electronic frontier” or a “parallel universe” that “steadfastly resists all attempts at governmental control or state-imposed regulation” (Drissel, 2006, p. 105). In their eyes, the Internet is a new technology, and it thus needs a new governance structure and process distinct from traditional governance institutions such as national or international governments’ control over radio, television, and telephone within or across states. Due to the Internet’s technically idiosyncratic characteristics (e.g., transnational network), self-governance has been deemed as the best form of Internet governance. This perspective represents local knowledge about or experience of Internet governance

the one suggested by the Working Group on Internet Governance of the International Telecommunications Union: “the development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programs that shape the evolution and use of the Internet” (WGIG 2005, p.4).

among technical engineers who have been involved in the development and daily operation of the Internet.

The technocratic perspective has been influential in shaping ICANN's identity and role in Internet DNS governance. Although ICANN governs the DNS, it should not act like a quasi-governmental agency regulating the Internet community. Rather ICANN is expected to behave as a private entity focusing on technical standardization, a process in which ICANN is primarily concerned about technical requirements or parameters necessary for the stable and reliable operation of the DNS (e.g., NTIA, 1998). ICANN's role is limited to its narrowly defined technical mission so that it needs to distance itself from "politics" (e.g., government involvement). In the ICANN community, politics is not welcomed. Particularly to the technical expert community, politics often means arbitrary and irrational hindrances to the optimization of Internet development and operation.

However, the institutional perspective also is prominent in more recent studies of Internet governance (Wilson, 2005; Rose, 2005a; Drezner, 2004). This perspective has emphasized that governance institutions shape technology (Keohane & Nye, 1998; Wilson, 2005). Internet governance does not occur in a "vacuum but in political space that is already occupied" (Keohane & Nye, 1998, p. 84). Therefore, extant political institutions (e.g., states, see Drezner 2004; national governments, see Wilson 2005, Collins 2006) still matter in Internet governance.

For example, Collins contends that even though the Internet is an innovative technology, it is "not a distinct new medium but is rather a stage in a continuing process of transformation" in which established media are integrated into a digital network. In his view, Internet governance is not necessarily "new, unprecedented, and distinct from governance of legacy media" (Collins, 2006, p. 355), because "there is no technological imperative that [the Internet] requires self-governance" (Collins, 2006, p.339).

The institutional perspective emphasizes the political, social, and economic aspects of Internet governance beyond the technical idiosyncrasy of the Internet itself. The appropriate form of governance of the Internet is determined by political negotiation among societal actors within extant jurisdictions such as government, the private sector, research and development, and civil society, called the "quad" (Wilson, 2005, p. 36). This perspective represents a broader governance view of the Internet in the traditional

governance community (e.g., government). In the institutional perspective, Internet governance is defined as broadly as possible so that most issues involving the Internet – both technical and policy - can be within the purview of existing governance institutions at both the national and the international levels.

The institutional perspective also has been influential in defining ICANN's identity and role. Although ICANN is a private entity, it is expected to take into account broader public policy issues and concerns when it decides something related to the Internet. In this policy capacity, ICANN is forced to behave as a public organization. Although ICANN's formal role is limited to a technical mission, its decisions have a broad range of public policy implications so that it often needs to embrace politics in its decision-making.

While the technocratic perspective represents the views of ICANN of a more local and technical community, the institutional perspective taps the view of the broader political community. The two perspectives have constituted mixed cultural understandings of ICANN's identity and role in DNS governance. ICANN has showed “contingent hybridity” (Stolle-McAllister 2003). Contingent on the relevant issues, one perspective prevails over the other in ICANN's governance process.

ICANN as a Multiple Stakeholder Organization

In the contemporary governance literature, governance is distinct from government. Governance goes beyond government. Keohane and Nye defined governance as “the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group” (Keohane & Nye, 2002, p. 12).⁷ Government is only “the subset that acts with authority and creates formal obligations” (Wilson, 2005, p.32). Thus, governance need not necessarily be conducted exclusively by governments. Private firms and nongovernmental organizations (NGOs) can engage in and create governance, often in association with governmental bodies and sometimes without governmental authority (Peters & Pierre, 1998).

⁷ Lynn, Heinrich, and Hill define governance in the public sector as a “regime[s] of laws, rules, judicial decisions, and administrative practices that constrain, prescribe, and enable the provision of publicly supported goods and services” (2000, p. 7).

Many argue that there is a general shift in governance from the principal established institutions of governance - hierarchy and market - to the network: an emergent form of governance between hierarchy and market (Milward & Provan, 2000a, 2000b; Thompson, 2003).⁸ If networks are complementing or supplementing both hierarchy and markets as dominant contemporary forms of governance in the off-line world, then this is more likely to be so in Internet governance. Historically, the Internet has been made possible through voluntary interconnections between heterogeneous networks - both public and private - without centralized formal authority. Thus, a “network culture” is strong in the Internet (Taylor, 2001, p. 20). Indeed, Collins argues that the Internet is both constitutive and representative of network governance in contemporary society (Collins, 2006, p.338).

Since a network involves multiple actors among whom power is shared, it requires interdependence and collaboration among multiple societal actors. That is the case with ICANN when governing the Internet DNS. ICANN is a multiple stakeholder organization. It has multiple parties that affect, or can be affected by, its actions or inactions. For example, the ICANN Board of Directors is constituted by various constituent groups; its resources are acquired through volunteers and donations and fees from the Internet community; its policy is developed through a bottom-up consensus process in which government, business, and nonprofit interests are coordinated.

In a network context, everything can relate to everything else. Organizational boundaries become blurred. Klein understood ICANN as “a set of semi-autonomous institutions,” including not only ICANN as a corporation but also some external entities such as advisory committees, supporting organizations, and accredited registries and registrars. He distinguished between “ICANN-the-set-of-institutions and ICANN-the corporation,” referring to the former as the “ICANN system” and the latter simply as ICANN (Klein, 2002, p.201). In this study, I refer to ICANN as the corporation and “ICANN system” as “ICANN network.”⁹

⁸ However, some scholars contend that networks have not replaced government; rather government still matters in Internet governance (e.g., Drezner 2004; Collins 2006).

⁹ ICANN, the corporation, consists of five distinct formal bodies: the Board of Directors, executive committees (their members are from the Board), the office of ombudsman, administrative staff, and policy bodies (SO/advisory committees) established by ICANN. Even though ICANN’s governance and

Literature Gap in Empirical Research on ICANN

Little is known about what is happening inside ICANN. So far, most studies have concentrated on theoretical and normative issues involving ICANN. Most early studies described its historical origin (Mueller, 1999, 2002b), legal status (Froomkin, 2002), institutional design (Froomkin, 2003b; Johnson, Post, & Crawford, 2003) and overall potential as a global Internet regulator (Klein 2002). Other works have evaluated ICANN from the perspectives of legitimacy (Weinberg, 2000), democracy (Hunter 2003) and accountability (Koppell, 2005). Some studies examined how a specific ICANN policy (e.g., the domain names dispute resolution policy) has been implemented in favor of intellectual property holders' interests over those of domain name holders (Mueller, 2001).

As a whole, these studies help us understand what ICANN should look like and to some limited extent how it works. To some extent, these studies evaluated ICANN's overall performance by describing a specific aspect of performance based on a single criterion (e.g., democracy, accountability or legitimacy) and explained that performance using one or two theoretical concepts. However, these studies have problems. First, single criterion-based assessments of ICANN's overall performance often conflict with each other (see Koppell 2005, Hunter 2003). Lacking a full analytic investigation of multiple facets of ICANN's performance, most previous studies cannot help one comprehend the dynamic complexity of ICANN's performance. Nor have there been many empirical tests of these conflicting assessments. Second, since these studies rely on one or two factors to explain ICANN's overall performance (e.g., Koppell's "MAD" syndrome), they exclude other possible influences.

Most scholars have criticized ICANN in one way or another because it does not fit a governance model that they suggest as an ideal. Readers of ICANN have been well informed about why ICANN should be criticized and what should be done to improve its governance and performance on the Internet DNS.

performance are a part of the ICANN network's governance and performance, one can distinguish ICANN's governance and performance from that of other network actors by focusing on the five bodies' actions and decisions. In this study, ICANN – the corporation – is the main unit of analysis rather than the ICANN network.

The existing literature, however, is somewhat misleading because it has failed to convey the complexity that ICANN must face in governing the DNS, embedded in a technically complex and politically divided environment. Focusing on normative concepts (e.g., democracy, legitimacy, and accountability), the extant literature is skewed toward criticism rather than appreciation of ICANN as a new global institution. It encourages one to overlook or underestimate what occurs in practice (e.g., diverse representation in the Board of Directors), and it overemphasizes what does not occur that may be of minimal importance (e.g., lack of direct election of Board members by the Internet community) (Hunter, 2003).

To get a more balanced, fairer view of ICANN, we should know both the ideal and the reality of ICANN's management of the DNS. Often, when we more deeply understand the actual complexities that an organization encounters in operation, we can ameliorate our criticism and sometimes foster a more favorable view of the organization. Only a few scholars have shed light on the difficult reality and complexity that ICANN must deal with in governing the Internet Domain Name System (see, e.g., Koppell 2005, Hunter 2003).

For example, Hunter observes that ICANN has been routinely criticized as failing to be democratic - lacking legitimacy, acting improperly, and behaving arbitrarily. Defending ICANN from the accusation that it is undemocratic, Hunter argues that "there is no problem with ICANN, but the problem is with our understanding of 'democracy'" (2003, p. 1153). He contends that Western conceptions of democracy – representative, deliberative or participatory democracy - should not be used as the "normative standard" against which online political institutions like ICANN are judged (p. 1163). Hunter notes that these Western conceptions are infected by the concept of direct democracy developed in Athenian or Italian city-states. However, he argues that "cyberspace should not be ruled like the Athenian senate, and neither should ICANN" (p. 1183). Online political institutions must serve a wider range of stakeholders in the online community whose interests are heterogeneous and often, not surprisingly, conflicting. As a global and multiple stakeholder institution, ICANN frequently fails to meet all democratic expectations from diverse, multiple stakeholders whose conceptions of democracy vary. Hunter praises ICANN, however, as a reasonably responsive, open, transparent and

representative global, multiple stakeholder institution: that is, ICANN meets at least the bottom-line political commitments that Western democracy considers important.

Similarly, Koppell (2005) reports on the gap between theoretical conceptions and the actual application of accountability within ICANN. According to Koppell, organizations like ICANN with “MAD” (multiple accountabilities disorder) will behave inconsistently from time to time and issue to issue. When ICANN tries to meet one or two dimensions of accountability in favor of a group of stakeholders and then later tries to satisfy other groups of stakeholders, its behavior looks inconsistent and arbitrary to overseers and stakeholders. In the long run, no one is pleased (Koppell 2005).

Hunter’s and Koppell’s accounts are useful in helping one understand why ICANN is endlessly accused of lacking accountability or democracy: the nature of such a global, multiple stakeholder hybrid inevitably invites multiple and conflicting expectations that ICANN cannot satisfy all at once. However, the two scholars use ICANN as a vehicle to illustrate misconceptions of Western democracy or multiple conceptions of accountability, as an instrumental case to support their arguments about theoretical concepts. They did not look closely at how ICANN governs the DNS and at the results of its governance in a systematic, comprehensive manner.

This dissertation fills the literature gap so as to better understand ICANN’s governance and performance. Its findings also might be used for theorizing about other hybrids’ governance and performance in different contexts.

Chapter 3 Study Design

This chapter sketches the study design for examining ICANN. The following sections discuss the rationale, conceptual framework, data collection and analysis, and limitation of the research.

Intrinsic Case Study

The research design was that of an “intrinsic case study.” Its primary purpose is to better understand ICANN as a particular organization operating in specific contexts (Stake, 2000).¹⁰ At the end, to some extent, I also can use the findings of the study as a vehicle for understanding something else, including, but not limited to, other hybrid organizations like ICANN. The research involved three tasks: evaluation of ICANN’s performance, exploratory explanation linking ICANN’s governance and performance,¹¹ and implications seeking applicability to other cases. The first and second were more intrinsic, inductive and case-centered tasks, while the last was more instrumental, deductive, and theory-oriented (see Table 3-1).

Table 3-1: Research Strategy

Research Tasks	Research Interest	Research Focus	Research Approach
Evaluation	Intrinsic	Case-centered	Inductive
Exploration	Intrinsic	Case-centered	Inductive
Implications	Instrumental	Theory-centered	Deductive

References: Stake 2000, Yin 2003, and George & Bennett 2005

¹⁰ Robert Stake described case studies as being “intrinsic” or “instrumental” based on the researcher’s primary interest. In intrinsic case studies, the researcher focuses on better understanding of the particular case in question; in instrumental case studies, the researcher examines a particular case “mainly to provide insight into an issue or to redraw a generalization,” and “the choice of case is made to advance understanding of other interests [than the case itself]” such as generalizability (Stake 2000, p.137).

¹¹ It is not easy to fully explain the dynamics of ICANN’s governance and performance. It is probable that that ICANN’s performance can be explained by more than one governance process (termed “equifinality” in George & Bennett, 2005). Straightforward linear causality is not appropriate for making sense of ICANN’s complex performance. Rather, ICANN’s performance can be explained in a more complex process of causality in which “several conditions, independent variables, or causal chains” converge and interact at the same time (George & Bennett, 2005, p.212).

Conceptual Framework

Based on the literature and preliminary study, I have developed a conceptual framework as a device to conceptualize ICANN's governance and performance while being aware of the broader institutional, organizational and technical contexts in which ICANN operates. The framework served as a heuristic that captures the dynamics of ICANN's governance and performance.

Conceptualization of ICANN's Governance and Performance

Governance is not an end in itself but a tool to deliver public goods and services to customers/citizens.¹² It is widely accepted that the governance regime working in an organization makes a difference in organizational performance and that "some governance regimes are better than others in the performance of public service delivery" (Ingraham and Donahue 2000, p.297). However, it is not easy to conceptualize ICANN's governance and its performance in a complex, multi-layered network context.¹³

In the conceptual framework used here (Figure 3-1), ICANN's performance is viewed as the general outcome or result of ICANN's governance.¹⁴ ICANN's governance refers to *the processes by which a chain of interrelated collective actions (decisions, policies, and programs) are taken by formal ICANN bodies to address common problems related to the Domain Name System on behalf of the Internet community.*¹⁵ Multiple

¹² Many view governance as a means for "achieving direction, control, and coordination of wholly or partially autonomous individuals or organizational units on behalf of interests to which they jointly contribute" (Lynn et al. 2000, p.6).

¹³ Many scholars have recognized that there are multi-levels of governance and performance within an organization or across hierarchical units of government (Lynn et al., 2000; Meier, O'Toole, & Nicholson-Crotty, 2004; Parsons, 1960; Thompson, 1967). Heinrich and Lynn have developed a "logic of governance" as "a schematic or heuristic framework that identifies how the values and interests of citizens, legislative enactments and oversight, executive and organizational structures and roles, and judicial review are linked through a dynamic, interactive, and continuous sociopolitical process" in the public sector (Heinrich & Lynn, 2000, p. 5). Their conceptualization of public governance illustrates that governance can occur at the multiple levels – institutional, organizational (managerial), and technical – in a hierarchically interactive process.

¹⁴ Hill et al. argue that "[a]ny governance regime – [both public and private] - is the outcome of a dynamic process" in which several aspects of collective action hierarchically interact (Hill, Lynn, Proeller, & Schedler, 2005, p. 205).

¹⁵ Even though the meaning of governance is not always clear (Peters & Pierre, 1998), many view it as "processes of decision-making focusing on the distribution of public responsibility across multiple

stakeholders participate in these processes, interacting with and influencing ICANN's governance to advance their own interests and objectives. The arrows indicate that ICANN's governance process proceeds from the left to the right of the diagram. The dotted box in Figure 3-1 indicates the boundary of ICANN's governance and captures its complexity; ICANN's governance is embedded in broader institutional, organizational and technical contexts. Inside the box, I have identified multiple – institutional, organizational and technical - factors and relationships in ICANN's governance process that may explain variations in ICANN's performance. At the top of the box, I identify two sets of stakeholders – actors in the U.S. and outside of the U.S. They often have distinct governance philosophies and interests so that they tend to pull ICANN's governance in different directions.

Even though the conceptual framework was developed based on observations from preliminary study,¹⁶ the factors and relationships it includes have been recognized as significant in organization theories. The framework helps one to think about ICANN's governance and also to compare it with other hybrid organizations in similar contexts. The terms “institutional,” “organizational,” and “technical” in the framework have lengthy histories that can be traced to Parsons (1960), Thompson (1967), and Lynn et al. (2000). These scholars, however, used the terms somewhat differently. While Parsons and Thompson used them at the organizational level, Lynn et al. applied them to the public sector more generally.¹⁷ The former scholars employed the terms to refer to distinct activities inside organizations, but the latter apply the terms to activities that mostly are outside organizations. The conceptual framework here views them as distinct kinds of activities and influences inside ICANN – the corporation. However, institutional and technical factors are treated as environmental conditions over which ICANN has

stakeholders” (Christian Huillet 2004, p. xv) or “a set of processes that are employed to assess, weigh, and balance the different (and possibly competing) values and objectives inherent in societies’ diverse interests and actors” (O Siochru, Girard and Mahan 2002; cited in Wilson 2005, p. 32).

¹⁶ The preliminary study included an extensive analysis of archival documents, media reports and scholarly accounts of ICANN's governance and performance.

¹⁷ Lynn et al. understand the institutional level of governance as being related to establishing governing relations, or broad strategic alignments; the managerial level as related to further shaping of governing relations, or the elaboration of strategies; the technical level as related to further shaping of governance at the technical core level, where strategic alignments are given their operational expression (Lynn et al., 2000, p. 35).

little control, while organizational factors are something that ICANN can change more easily.

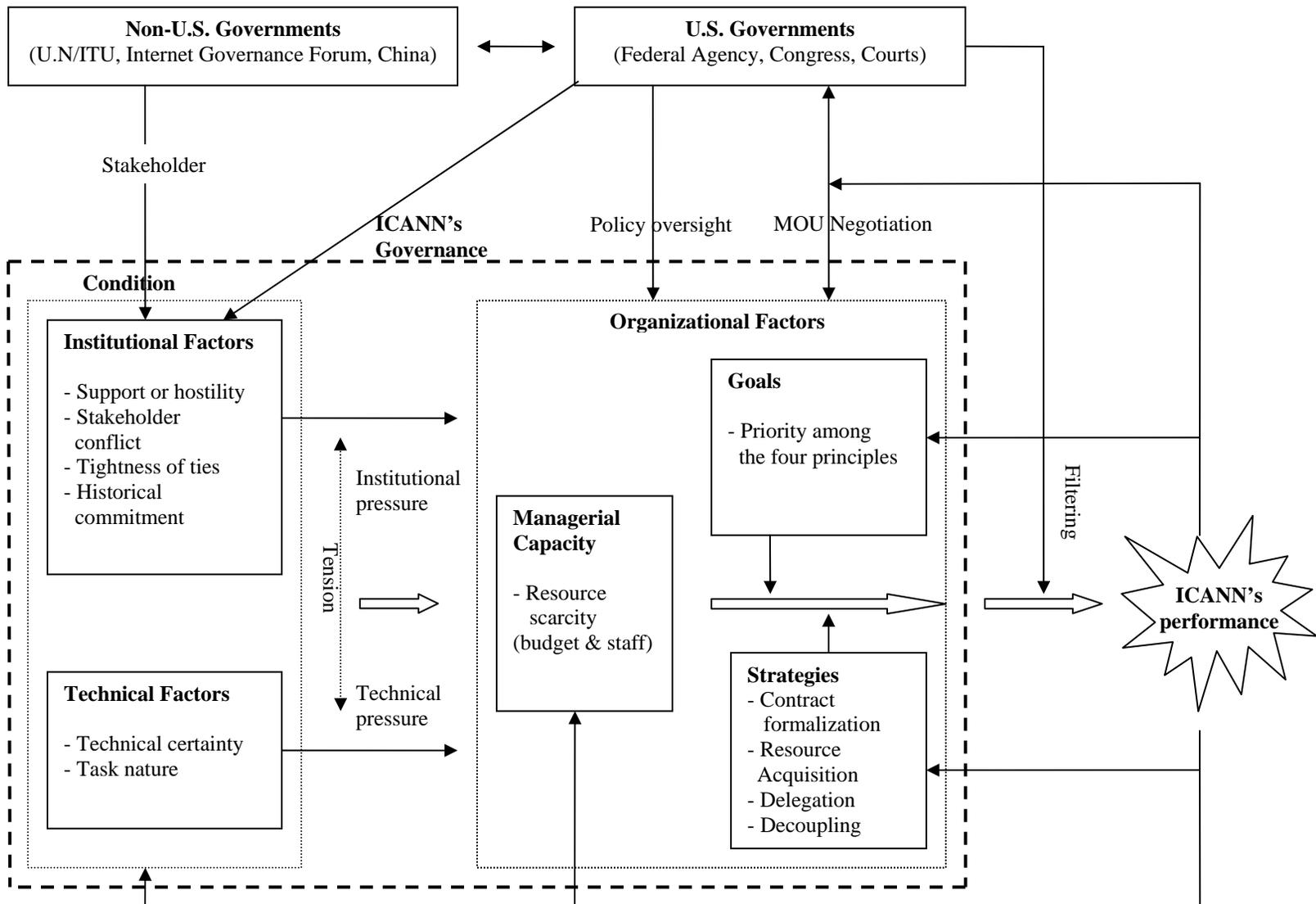
Framework, Not a Model

The conceptual framework is not a model. It was not developed as an analytical model that includes only a handful of theoretical variables to explain ICANN's governance and performance. Such a model might provide a theoretically coherent explanation of ICANN's governance and performance. However, focusing on a few variables, it would oversimplify the organizational phenomena in question and exclude alternative explanations (George & Bennett, 2005).

Rather, the primary purpose of the conceptual framework is to locate ICANN in broader institutional, organizational and technical contexts and to suggest possible influences of ICANN's governance on its performance. Since the framework contains numerous variables, it may lack the theoretical coherence of many models. At the same time, however, the conceptual framework allows us to explore a variety of variables that may help explain ICANN's governance and performance.

By including a large set of variables and relationships in the framework, I do not mean to suggest that all of the factors and links will be significant in all of ICANN's governance decisions or actions. I expect that some factors and relationships will be important in exploring some governance processes, but others will not be. Given the nature of this sort of exploratory research, among the study's outcomes are propositions about the contexts or conditions that may be significant in explaining ICANN's governance and performance. However, such propositions will require further testing.

Figure 3-1: Conceptual Framework Linking ICANN's Governance and Performance



Evaluating ICANN's Performance

Several important questions should be addressed in evaluating ICANN's overall performance. What are the criteria for evaluating its performance?¹⁸ How can the selected criteria be justified? What are the meanings of the criteria? What are the indicators tapping the criteria? (Scott, 2003, pp. 350-372). To systematically evaluate ICANN's overall performance, I needed to define a set of evaluative criteria that allowed me to capture the complexity and multiple facets of ICANN's performance.

Selection of Evaluative Criteria

The evaluative criteria that I chose are the four “guiding principles” stated first in the “Statement of Policy” (“the White Paper”) by the U.S. Department of Commerce in 1998 - stability, competition, representation, and private bottom-up coordination (NTIA, 1998). The White Paper has been considered the “holy grail” of DNS management. It dictated the formation and operation of the new internationally-constituted nonprofit organization, ICANN (U.S. Senate, 2002). The four principles were deemed consistent with core values, norms, and beliefs that the Internet community has long cherished (NTIA 1998).¹⁹ They were introduced in the Memorandum of Understanding between the U.S. Department of Commerce (NTIA) and ICANN as the principles guiding implementation of their joint project of transferring the DNS to the private sector (ICANN & NTIA, 1998 November). Abstract and ambiguous as the principles are, they have been repeatedly referred to as performance evaluation criteria for assessing overall ICANN activities (ICANN, June 1999; NTIA, 2007 October).²⁰

Operational Definitions of the Evaluative Criteria

Given the nature of ICANN as a multiple stakeholder organization, the meaning of each evaluative criterion could be interpreted differently depending on who interprets

¹⁸ Due to the hybrid features of ICANN, there is disagreement over whether it should be assessed using public or private criteria. Klein argued that “if ICANN makes global public policy, then it is appropriately evaluated by such policy criteria as legitimacy, accountability, and equity” (Klein 2002, 204). But Frankel contends that ICANN needs to be evaluated as a private corporation might be assessed, using standards such as responsible management (Frankel, 2002, cited in Hunter 2003, p.1173).

¹⁹ Then and now, few seem to oppose the principles as guidelines for assessing ICANN's performance. In a response to a recent NTIA survey, a group of academic researchers of Internet governance concurred that the four principles are still relevant for guiding ICANN's performance (IGP, 2006).

²⁰ According to the Memorandum, ICANN has to submit yearly or quarterly status reports to the U.S. Department of Commerce on its progress in light of the four principles. The spirit of the four principles also is incorporated in ICANN's internal documents such as the Bylaws that constitute the structure and process of ICANN governance (ICANN, November 1998).

it. I chose ICANN's perspective as an initial lens to interpret what each evaluative criterion means.²¹

I identified several external and internal documents that help in understanding what the four principles mean to ICANN. ICANN's existence is an outcome of U.S. policy to privatize the DNS. The underlying philosophy and language of the U.S. policy statements have helped frame the overall meaning of the four principles in ICANN's internal documents. Appendix A shows how, chronologically, the meanings of the four principles have been delineated or specified over time, moving from the policy formulation to the policy implementation documents.²²

The next step was to develop more operational meanings of the four principles. First, *stability* means that ICANN should ensure no disruptions to the functioning of the DNS for the stable and reliable operation of the Internet. Second, *competition* means that whenever necessary and appropriate, ICANN should introduce market mechanisms to promote consumer choice, lower cost, and efficiency in the DNS name space and its management structure and process. Third, *representation* means that ICANN should reflect, e.g., the geographical, cultural and functional diversity of Internet users and their needs in the DNS name space and its management structure and process. Finally, *private bottom-up coordination* means that ICANN should establish a non-governmental consensus process that is flexible and rapid enough to meet the changing needs of the Internet and Internet users. ICANN's performance on each of these criteria will be tapped based on multiple indicators (see details below in the section on data collection).

²¹ I had two reasons for this choice. First, I was interested in evaluating ICANN's performance against what it has promised to do on behalf of the Internet community. To see whether or not ICANN has succeeded in keeping its promises to advance the four principles through its work, I needed to take ICANN's perspective to understand how it interprets the principles and defines what should be considered success or failure. Second, the four principles were first articulated by the U.S. Department of Commerce in a policy document – the White Paper. However, the meaning of each principle remains somewhat abstract and often ambiguous in the policy documents until it is specified by ICANN for policy implementation. As an implementing agency, ICANN has experience in and knowledge of what each criterion can actually mean in the Internet context.

²² For example, in the White Paper, stability is broadly defined as “security and reliability of the DNS.” Later, in the Memorandum, stability is defined more specifically as “transition to the private sector without disruptions to the functioning of the DNS” and later narrowed to “operational stability” to meet increasing demand for domain name services in ICANN's first status report. Each document has its own historically grounded perspective on the four principles (NTIA, 1998).

Explaining ICANN's Performance

Once I evaluated ICANN's performance on the four criteria, I closely examined ICANN's governance processes focusing on whether and how ICANN's particular governance processes might have affected its performance.

Within-Case Analysis

Explaining ICANN's performance required "within-case analysis"²³ that focuses on "internal evidence about patterns of causation connected with an overall outcome distinctively associated with a particular case" (Brady & Collier, 2004, p. 312). Here, ICANN's performance is an overall outcome to be explained by its governance processes. I explored evidence within ICANN that differing characteristics of specific governance processes led to different levels of performance.

Process-tracing is a useful tool for exploring the complex causal processes that evidently link ICANN's governance with performance. Process-tracing is "a procedure for identifying steps in a causal process leading to the outcome of a given dependent variable of a particular case in a particular historical context" (George & Bennett, 2005, p. 176). This method attempts to "identify the intervening causal process – the causal chain and causal mechanism – between an independent variable (or variables) and the outcome of the dependent variable" (George & Bennett, 2005, p. 206).

The conceptual framework (Figure 3-1) guided the research in tracing ICANN's specific governance processes and exploring possible factors that might lead to different governance outcomes. The framework suggests that ICANN's performance cannot be explained by two or three independent variables, but by multiple independent variables interacting in a complex, dynamic process in which one step is related to the next. I use multiple narratives structured by the conceptual framework to trace the causal processes specific to ICANN's governance and performance in particular instances and attempt to explain why ICANN performed as it did on the evaluative criteria (George & Bennett, 2005, p. 210).

²³ According to Brady and Collier, there are two types of within-case analysis. The first focuses on "internal evidence about patterns of causation within a particular case or cases," while the second type increases the number of observations within the original case as a means of gaining inferential leverage.

Cases within the Case

Although the study involves ICANN as the main unit of analysis (the case), it is impossible to examine every aspect of ICANN's governance and performance. I have chosen key "cases within the case" (Stake 2000, p.153) or "embedded units of analysis" (Yin, 2004, p. xvi) to explore particular causal processes in specific contexts and conditions. Tracing the processes involved in these key cases, I suggest plausible explanations of how ICANN's governance affected its performance on the evaluative criteria.

The cases were selected based on several characteristics. First, they reflect differing performance levels on the four evaluative criteria. Second, the selected cases have the potential to illustrate how ICANN's governance decisions promoting one criterion can affect other criteria –both positively and negatively. Lastly, the cases are distinct in terms of the focal issue and the degree of controversy among various stakeholder groups in the Internet community. Based on these criteria, I chose three ICANN governance decisions. I hoped to explain ICANN's performance on the four criteria in these cases by tracing the specific governance processes related to that performance. The cases are the Internationalized Domain Names (IDN) project, ICANN's settlement with VeriSign, and ICANN's rejection of the "dot XXX" proposal.

The IDN Project Internationalized Domain Names (IDNs) are domain names represented by local language characters. Such domain names could contain letters or characters from non-ASCII scripts (for example, Arabic or Chinese).²⁴ The IDN project is an ongoing effort initiated by ICANN's resolution of September 2000, which recognized that "it is important that the Internet evolve to be more accessible to those who do not use the ASCII character set" (ICANN, 2007b). Since then, the IDN project has received broad support from the Internet community as a whole. The biggest issue is technical stability: how to implement IDNs without disruption to the functioning of the DNS.

The VeriSign Settlement In February 2006, ICANN decided to extend its contract with VeriSign, the registry operator for ".com," to 2012 to settle long-standing litigation. The extended contract has received strong opposition from the Internet

²⁴ Originally, the domain name system was designed to read only letters in the Roman alphabet and typographic characters coded in ASCII (American Standard Code for Information Interchange) scripts. ASCII is "a standard for assigning numerical values to the set of letters in the Roman alphabet and typographic characters" (The American Heritage Dictionary, Online edition).

community for various reasons. In particular, it seemed to directly undermine the principle of competition.

The ICM “XXX” Application In May 2006, the ICANN Board voted against a proposal for an adult domain name “.XXX” sponsored by a private organization (ICM Registry Inc.). Dot XXX was intended to provide an online “red light zone” for adult materials. The proposal itself was extremely controversial in the Internet community. Initially, the ICANN Board examined and seemed to approve it. ICANN encountered strong opposition from many governments, including the U.S. government. The “XXX” proposal illustrates how far ICANN can go in the name of bottom-up coordination and at the same time how vulnerable its bottom-up consensus is to being interrupted by powerful stakeholders.

Table 3-2 compares the three cases in terms of the nature of the primary task and the degree of controversy. The IDN project is characterized as a highly technical, less controversial; the 2006 settlement with VeriSign, which mostly involved business, is moderately controversial; finally, the 2006 dot XXX proposal is a social or moral issue that was highly controversial. The three cases showed that ICANN has used somewhat distinct governance processes to deal with different tasks under consideration.

Table 3-2: Three Cases

Tasks/Issues	Nature of Task			Controversy
	Technical	Business	Social	
Internationalized Domain Name	High ²⁵	Low	Low	Low
VeriSign Settlement	Medium	High ²⁶	Medium	Medium
ICM XXX proposal	Low	Medium	High ²⁷	High

Data Collection and Sources

Data on ICANN’s performance and governance were collected at the institutional, organizational and technical levels. I collected qualitative and quantitative data on indicators that tapped ICANN’s performance and governance at the three levels. I collected the data from ICANN’s internal documents (e.g., budget/financial documents, strategic plans, annual reports, and Bylaws), external documents on ICANN (e.g., policy

²⁵ For example, more traffic due to new queries with IDN encoding (Liman, 2003, p. 15).

²⁶ Great impact on the dot.com market (dot com consists of 60-70% of the domain market).

²⁷ The proposal received broad attention from various communities (government, technical, business, and civic) in the Internet.

comments, complaints, a watchdog website, and U.S. Congressional hearing), and interviews with those who have been involved in ICANN. I also collected data from direct participation in ICANN meetings.

Multiple indicators are desirable, because “within a single research project, the combination of qualitative and quantitative data increases inferential leverage” – known as triangulation (Tarrow, 2004, p. 174). When multiple indicators converge around the same value, it gives greater confidence in the findings. When indicators did not converge, I needed empirical refinement of measures or conceptual elaboration of what I meant to measure (Hult, 1987). Most indicators converged. For instance, the increasing number of staff and size of budgets supported the improvement of ICANN’s managerial capacity over time.

Appendix B lists the indicators that tapped each evaluative criterion at the three performance levels.²⁸ At the institutional level, the indicators tapped governing relationships or strategic alignment between ICANN and key stakeholders in each of the four performance areas (e.g., formal and informal agreement with key DNS operators for the stable operation of the DNS). At the organizational level, indicators measured ICANN’s policies, programs and managements related to promoting its performance on each of the four criteria (e.g., capacity of ICANN staff to support stable Internet DNS operation). At the technical level, indicators tapped ICANN’s technical standards or procedures (sometimes known as best practices) related to each performance criterion (e.g., routine and operational procedures to respond to a DNS attack). Some indicators directly measured whether or not ICANN had met the performance criterion in question. Others, however, indirectly measured ICANN’s performance by tapping prerequisite or contributing factors that affected performance on the criterion.²⁹

For attempts to explain ICANN’s performance, I needed to collect two types of data: on the processes and on the independent variables suggested in the conceptual

²⁸ I identified these indicators by examining ICANN’s status reports to the U.S. Department of Commerce from 1999 to 2006, in which ICANN reported ongoing progress on the four principles employing both qualitative and quantitative information.

²⁹ For example, stability indicators at the technical level in Appendix B (Performance Indicators, Data Collection and Data Sources) – e.g., the number of breakdowns of the DNS – directly measure ICANN’s performance on the stability criterion. The number of breakdowns indicates how well ICANN has done in promoting the stable operation of the DNS without disruption. In contrast, stability indicators at the institutional and organizational levels – e.g., smooth governing relationships with other key DNS operators and managerial capacity to handle technical coordination among them – may not directly relate to ICANN’s performance in providing for stable operation of the DNS without disruption. However, these indicators are prerequisites or contributing factors that may improve ICANN’s performance in the stable operation of the DNS.

framework. Data on ICANN's governance processes related to the three cases were obtained from various sources such as ICANN's Bylaws and the ICANN Board's meeting minutes and transcripts.

The conceptual framework suggests three clusters of independent variables in ICANN's governance process that may explain variations in ICANN's performance. These multiple variables can affect ICANN's performance directly and indirectly in combination with other variables. Appendix C lists indicators that tapped independent variables at the institutional, organizational, and technical levels.

The institutional factors include a set of variables that reflect or shape ICANN's relationships with its key stakeholders with whom it must deal for the operation of the Domain Name System: support or hostility, stakeholder conflict, tightness of ties, historical commitment. *Support or hostility* tapped key stakeholders' overall reaction to ICANN's handling of specific governance issues. *Stakeholder conflict* tapped the possibly divergent interests or norms among various stakeholder groups. *Tightness of ties* tapped how strong or weak ICANN's ties were with stakeholder groups in dealing with specific governance issues. *Historical commitment* examined whether there were critical decisions or agreements in the past that ICANN must follow. Such decisions or agreements condition ICANN's governance.

Technical factors capture the characteristics of the tasks that ICANN must take into account in the operation of the Domain Name System. The *nature of tasks* identified the types of issues (e.g., technical, managerial and institutional). *Technical certainty* tapped the degree of consensus among various technical groups regarding the technical requirements (e.g., best practices, technical standards) that ICANN must meet to effectively deal with specific tasks.

Organizational factors included performance goals, strategies and managerial capacity. *Performance goal* tapped the primary goal that ICANN tried to achieve through its governance processes. ICANN's possible goals are manifested in the four guiding principles – stability, competition, representation and bottom-up consensus. I observed several *strategies* that ICANN often uses in dealing with specific tasks, including resource acquisition, contract formalization, delegation, and decoupling. ICANN's actions can differ depending on which of strategies it selects. *Managerial capacity* measured resource scarcity (e.g., ICANN's staff and budget), which is important in implementing ICANN's performance goals and strategies.

For each indicator, I tried to use multiple data collection methods and sources so that I could provide more evidence on what I claim to observe. Both Appendixes B and C show the data collection methods and sources for examining ICANN's performance and governance. Documents and interviews were two major data sources for the study. Documents included, for example, ICANN's internal documents, the U.S. Department of Commerce's policy documents, testimony in U.S. congressional hearings, U.S. courts' decisions, international/national governments' proposals (e.g., ITU/WSIS proposed reform to ICANN), written comments/criticisms by ICANN watchdog organizations, and media reports. For the overall evaluation of ICANN's performance, I mostly relied on ICANN's internal documents such as strategic plans, budget and finance reports, contractual agreements, procedures and standards. Often, I had to reorganize the data for research purposes. For the explanation of ICANN's governance processes in the three cases, I mostly used the ICANN Board's meeting minutes, transcripts, and correspondence with key stakeholders on specific issues.

After reviewing documents, I turned to interviews. I conducted ten interviews: with two ICANN Board members, two ICANN staffers, one council member of the Address Supporting Organization, one member of the At-Large committee, one member of the Nominating Committee, two CCTLD operators, and one business entrepreneur who had invested in .com domain names. In selecting Board members, I first examined the Board's meeting minutes and transcripts so as to choose two members who voted differently for some decisions. Interviews were semi-structured and respondents were further probed as interviews proceeded (see sample interview questions in Appendix G). Five interviews were performed in person, while five took place over the telephone. Most interviews lasted about an hour. For some interviews, I was able to tape-record. For others, I used a note book to record comments and typed a transcript right after the interviews. I used the interviews primarily to triangulate and supplement the findings from the documents.

I also attended several meetings relevant to ICANN. First, I attended a symposium hosted by academic groups regarding DNS security issues in Washington, D.C. in May 2007. Second, I attended an ICANN annual meeting in Los Angeles from October 29 to November 2, 2007. At the L.A. meeting, I attended several meetings such as those of the Governmental Advisory Committee, the At-Large Committee, the Address Supporting Organization, Generic Name Supporting Organization, and Country Code Name Supporting Organization council meetings, a public forum and the ICANN Board

meeting. Lastly, in February 2008, I attended a public meeting in Washington, D.C. hosted by the U.S. Department of Commerce to receive public comments on ICANN's mid-term performance on its missions defined in the "Joint Project Agreement" (which used to be known as the "Memorandum of Understanding") between ICANN and the Department of Commerce. These meetings provided opportunities for participant observation by meeting attendants and engaging in conversations about how ICANN actually handles specific issues.

Data Analysis and Inference

For evaluating ICANN's performance, the data collected were analyzed to see how ICANN performed on each of the four criteria. Based on the indicators, I made summary judgments about the degree of ICANN's accomplishment of each criterion (see an example in Appendix D). Then, I compared ICANN's performance across the four criteria (see Chapter 5).

Finding that ICANN has performed better on some criteria than on others, I looked more closely at the governance processes in three cases. Tracing ICANN's decisions and its performance in these cases, I found that some independent variables had greater or lesser influence over ICANN's governance processes than others. I measured the independent variables by assigning ordinal or nominal values to each independent variable in the three governance processes. Finally, I suggested plausible explanations concerning how ICANN's differing governance processes affected its performance by identifying patterns of relationships between the independent variables and ICANN's governance processes, ICANN's governance processes and its performance, and among ICANN's performance on the four criteria. Karen Hult (1987) noted that this assessment of descriptive data has several advantages. First, "it simplifies the task of comparison making relationships and patterns easier to identify." Second, it makes one be "explicit about the judgments one makes in examining the data" (Hult 1987, p.37).

The research involved descriptive inference based on the data on ICANN's performance and causal inference based on the data about processes related to ICANN's governance and performance in the three cases. Descriptive inference allowed me to reach conclusions about ICANN's overall performance, while causal inference permitted me to suggest possible ties between ICANN's governance and performance in the key cases. However, inferences based on a single case study are so contextually particular that they are difficult to apply to other contexts or situations without modification. The

three within-case cases may not apply to all of ICANN's activities. Therefore, the conclusions about ICANN's governance and performance are "limited," "contingent," and "conditional" rather than "universal" (George & Bennett, 2005).

Limitations

It is impossible to understand the complexity of ICANN's governance and performance completely in a single study. The findings of the study could be somewhat different depending on the criteria chosen for the evaluation of ICANN's performance and on the cases selected for tracing the processes linking ICANN's governance and performance. Therefore, the findings here should be treated as plausible explanations that await further testing.

In terms of data collection, I had few problems with document availability except for some "off-the-record" voting transcripts that were not available for the public on ICANN's website. I had difficulties in having interviews with some interviewees such as members of the ICANN Board. At the ICANN Los Angeles meeting, I was told to contact them after the meeting, but I did not get responses back from some of them. Some interviewees did not want the interviews to be recorded. Although many interviewees indicated that "personality" issues are important in understanding ICANN, they were reluctant to talk about the details.

Chapter 4 ICANN as a Technical Hybrid

To evaluate ICANN, one first needs to know something about it. This chapter provides background information on ICANN such as its mission, function, structure, decision making process, stakeholders, and environment.

Mission

Five documents describe what ICANN is supposed to be and do: (1) the Clinton administration's "Framework for Global Electronic Commerce" of July 1, 1997; (2) the White Paper of the U.S. Department of Commerce ("DOC") of June 5, 1998, known as the "Statement of Policy"; (3) the Memorandum of Understanding between DOC and ICANN of November 25, 1998; (4) the revised "Article of Incorporation" of ICANN ("the Articles") of November 21, 1998; (5) and the Bylaws of ICANN ("the Bylaws") of December 15, 2002 (known as the "New Bylaws"). One may call these the constitutional documents for ICANN, which eventually led to its creation and evolution and are relevant to its daily operation today.

On July 1, 1997, the Clinton administration released the report, "Framework for Global Electronic Commerce" (Clinton & Gore, 1997), proposing five principles to guide the administration's policy for advancing global electronic commerce:

- The private sector should lead.
- Governments should avoid undue restrictions on electronic commerce.
- Where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce.
- Governments should recognize the unique qualities of the Internet
- Electronic Commerce over the Internet should be facilitated on a global basis".

As part of the framework, on July 1, 1997 President Clinton issued a presidential memorandum, directing the Secretary of Commerce to shift DNS management to the private sector (Clinton, 1997; ICANN & NTIA, 1998 November). In response, the U.S.

Department of Commerce proposed the Green Paper and the White Paper, stating “its intent to enter an agreement with a not-for-profit entity to establish a process to transition current U.S. Government management of the DNS to such an entity based on the principles of stability, competition, bottom-up coordination, and representation” (ICANN & NTIA, 1998 November).

The private sector submitted several proposals to the Department of Commerce, and the Department approved the ICANN proposal made by Jon Postel of IANA. The framework of the White Paper was incorporated into ICANN’s corporate documents – the Articles and Bylaws – that defined its mission, principles and structures as an international nonprofit organization. After reviewing the Articles and Bylaws, the Department of Commerce entered into an agreement with ICANN to transfer the technical management authority of DNS. Although the Memorandum and Bylaws subsequently were revised to reflect environmental changes, the core principles underlying ICANN have changed little.

The Articles of Incorporation³⁰ define ICANN’s mission as follows:

ICANN shall ...pursue the charitable and public purposes of lessening the burdens of government and promoting the global public interest in the operational stability of the Internet by (i) coordinating the assignment of Internet technical parameters as needed to maintain universal connectivity on the Internet; (ii) performing and overseeing functions related to the coordination of the Internet Protocol (“IP”) address space; (iii) performing and overseeing functions related to the coordination of the Internet domain name system (“DNS”), including the development of policies for determining the circumstances under which new top-level domains are added to the DNS root system; (iv) overseeing operation of the authoritative Internet DNS root server system; and (v) engaging any other related lawful activity in furtherance of items (i) through (iv).

ICANN’s mission as prescribed in the Articles can be summarized using two categories: core and peripheral missions. Its core mission is characterized as “technical” coordination and oversight of various functional/regional elements to maintain the

³⁰ Articles of Incorporation - often referred to as a “corporate charter”- usually contain the corporation’s name, purpose, type of business activity, and other basic information. Bylaws regulate the internal affairs of an organization, typically including rules concerning the election of directors, organizational powers and structure, and other information.

operational stability of the Internet Domain Name System (DNS).³¹ The secondary mission is related to residual activities such as policy development and litigation related to the core mission. The Articles also enumerate certain activities that ICANN should not engage in (e.g., political campaigns).

The Bylaws, however, did not explicitly state ICANN's mission until they were revised on December 15, 2002. There was no mission statement at all in the original ICANN Bylaws of November 6, 1998. The "New Bylaws" were an expression of ICANN's reform efforts to limit its role and to enhance the transparency of its decision process. Basically, the New Bylaws confirmed that ICANN's primary mission is technical coordination, and policy development is a secondary function undertaken only when "reasonably and appropriately" related to technical coordination. There is little substantive difference in the mission statements between the Articles and the New Bylaws. Interestingly, however, the New Bylaws employ the term "coordinate" to characterize the core mission of ICANN. Based on this mission statement, ICANN can be understood as the "coordinator" of the DNS to ensure the stable and secure operation of the Internet. According to the New Bylaws:

The mission of [ICANN] is to coordinate, at the overall level, the global Internet's systems of unique identifiers, and in particular to ensure the stable and secure operation of the Internet's unique identifier systems. In particular, ICANN:

1. Coordinates the allocation and assignment of the three sets of unique identifiers for the Internet, which are
 - a. Domain names (forming a system referred to as "DNS")
 - b. Internet protocol ("IP") addresses and autonomous system ("AS") numbers; and
 - c. Protocol port and parameter numbers.
2. Coordinates the operation and evolution of the DNS root name server system
3. Coordinates policy development reasonably and appropriately related to these technical functions.

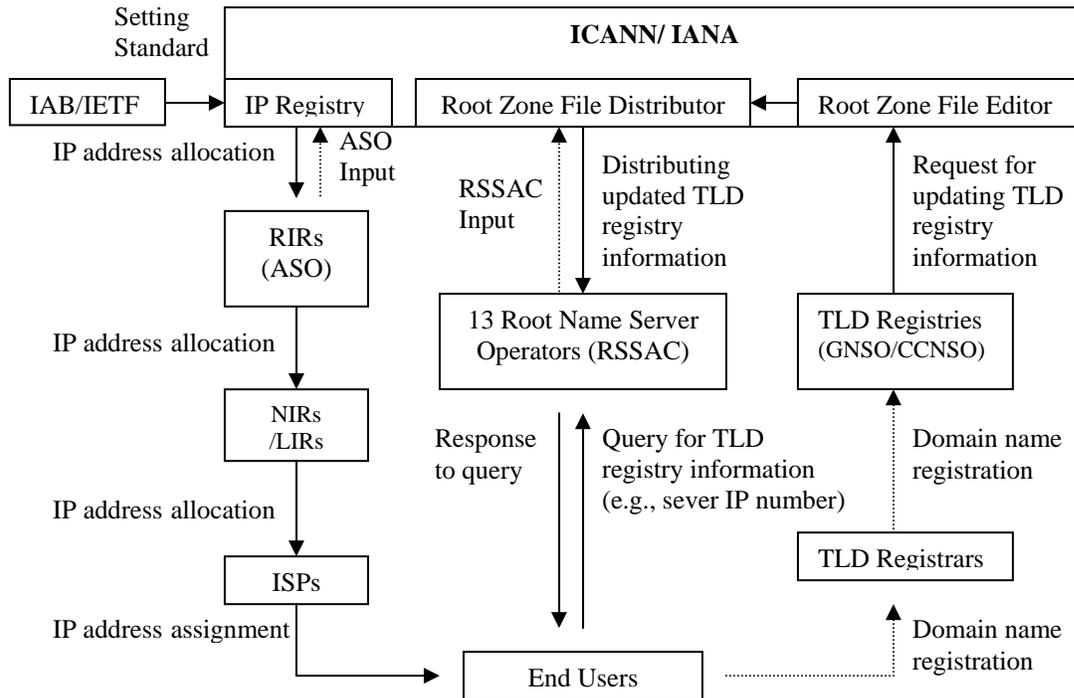
The New Bylaws refrain from using the terms "performing" and "overseeing," which often were used in the Articles of 1998 to define the missions. Instead, the New Bylaws replaces them with "coordinate." This implies that the reformed ICANN under the New Bylaws should not perform operational functions directly, nor take positions to oversee others as if it were a regulatory agency (U.S. Senate, 2002). This is a substantial clarification of, if not a setback for, the role of ICANN in the Internet DNS community.

³¹ See Appendix E for background information on the structure of the Domain Name System (DNS) and its historical development.

ICANN is responsible for four technical functions necessary for the operation of the DNS – setting technical standardization, allocating IP addresses, assigning domain names, and running root name servers. IANA (Internet Assigned Numbers Authority) – ICANN’s technical unit – mostly performs these functions.

Figure 4-1 shows IANA’s four technical functions and relevant stakeholders in the DNS process.

Figure 4-1: ICANN’s Functional Involvement in the DNS



*Internet Registry (IR); Regional Internet Registry (RIR); National Internet Registry (NIR); Local Internet Registry (LIR); Internet Service Providers (ISPs)

Structure

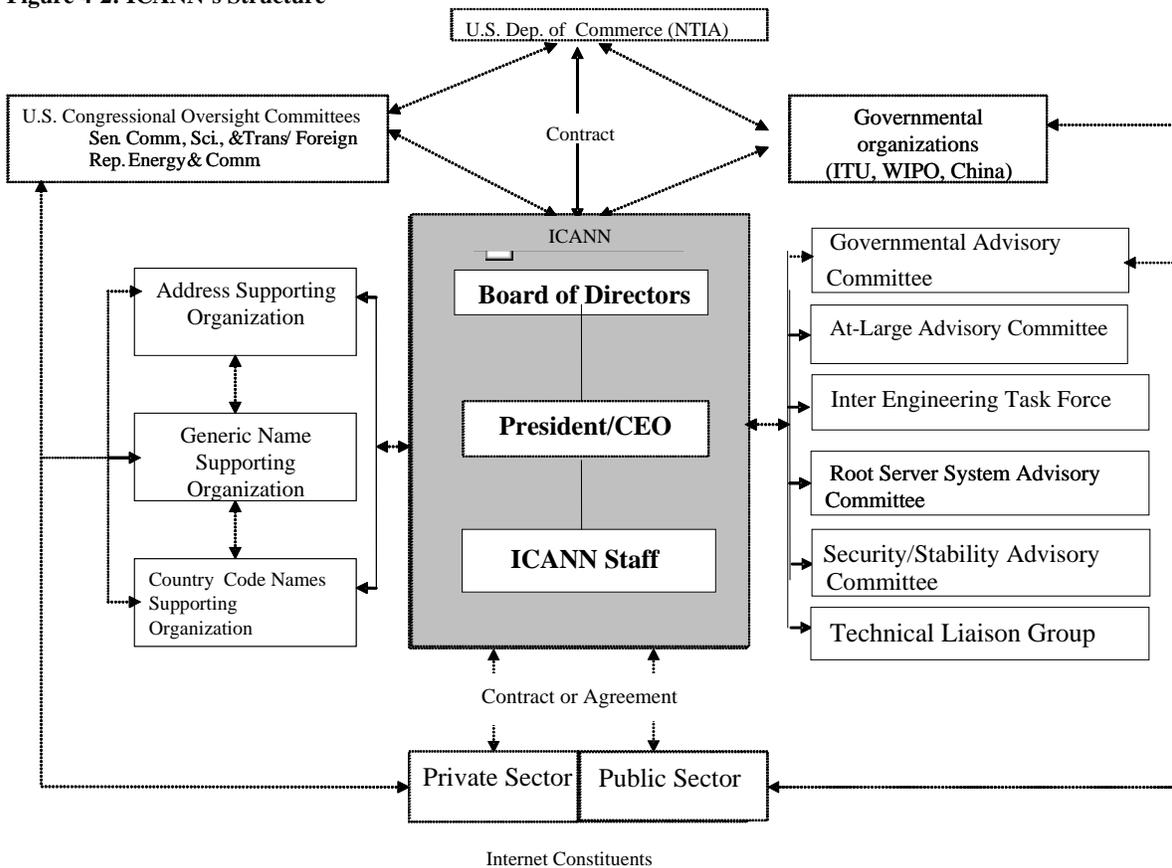
ICANN has multiple identities: as a private nonprofit acting on behalf of the Internet community³², as a contractor of the U.S. Department of Commerce and as principal coordinator of the DNS network.

Figure 4-2 shows that ICANN has multi-layered institutional arrangements and is linked with various external entities.³³

³² I conceptualize the internet community as consisting of those who have interests and concerns about the usage of the Internet and “the ICANN community” as stakeholders who are affected by ICANN’s decisions and actions (see footnote 37, p.42 and Table 4-1). The Internet community is broader than the ICANN community.

³³ ICANN’s structure in Figure 4-2 differs from the current organization chart on the ICANN website (www.icann.org/chart), which presents a simpler organization chart. The official organization chart does not provide a full picture of ICANN’s structure embedded in a larger institutional context. The organization chart has changed over time as ICANN created new entities such as the Office of Ombudsman, the

Figure 4-2: ICANN's Structure



The Board of Directors

The Board of Directors is the supreme decision-making body that retains all residual powers not assigned to other components of ICANN. To ensure broad international representation on the Board, seats are distributed across five geographic regions: Europe, Asia/Australia/Pacific, Latin America/Caribbean Islands, Africa and North America. The Board currently consists of six directors from Supporting Organizations (two directors from each Supporting Organization), eight directors from the Nominating Committee, and the president.³⁴ In addition to the directors, there are six non-voting Board members from advisory committees. These non-voting members serve as liaisons between the Board and advisory committees. With three year terms, Board members are replaced through a complicated “revolving system.” Except for the

Nominating Committee, and other advisory committees (e.g., TLG, IETF). Some of these entities are not reflected in Figure 4-2.

³⁴ The New Bylaws reformed the structure of the ICANN Board of Directors in a substantial way. Under the original Bylaws of 1998, the Board was supposed to consist of 19 members: nine from three Supporting Organizations, nine from At-Large elections and the president. In 2000, five directors were elected At-Large by Internet vote. But in 2002, the New Bylaws introduced the Nominating Committee instead of direct election.

president, Board directors serve as volunteers without salary other than compensation of their mission-related expenses (ICANN, 2006a).

Supporting Organizations

The Supporting Organizations (“SO”) serve as advisory bodies to the Board. The SOs are responsible for developing and recommending substantive policies and procedures regarding those matters within their jurisdictions as prescribed in the Bylaws. Each SO has its own governing body (“council”) and rules. The ICANN Board approves these governing rules. Membership in an SO is supposed to be open to any individual or organization that meets the minimum qualifications adopted by the SO and ratified by the Board. Some view SOs as ICANN’s subordinate entities.³⁵ In ICANN’s governance, however, SOs play a very important role as resource channels for political support, human capital (e.g., experienced and knowledgeable directors) and funding.

Committees

Two kinds of committees operate in the ICANN process. Whereas committees of the Board act as “executive” committees, advisory committees are “expert” committees that provide expertise to the Board. The Board appoints only Board members to executive committees and directors and non-directors to advisory committees.

Officers and Staff

The current Bylaws establish three officers: president, secretary, and chief financial officer (ICANN, 2006a). The officers are elected annually by the Board and can be removed by a two-thirds vote of all Board members. The president is chief executive officer and supervises all officers and staff. The secretary is to keep the minutes of Board meetings and to issue all notices of meetings in a timely manner. The Chief Financial Officer is responsible for all of ICANN’s financial matters, including financial planning, management and bookkeeping. There are over 80 full-time staff, and the number of staff is expected to increase as ICANN expands its role and relationships with external stakeholders (ICANN, June 2006).

Decision-making Process

³⁵ In the original Bylaws, Supporting Organizations were described as “subordinate” entities to ICANN (Section 3 of Article III). However, with the New Bylaws, each Supporting Organization is described as either an “advisory” (ASO) or a “policy-development” body (GNSO and CCNSO).

Since its inception, ICANN has emphasized bottom-up consensus, openness, transparency, fairness, and accountability in its decision making process. Prior to adoption of any policies, ICANN is supposed to provide public notice on its website, explaining what policies are being considered for adoption and why, and to provide a reasonable opportunity for parties to comment on the proposed policies. After a reasonable comment period, ICANN’s Board takes action (e.g., vote, resolution) on the proposed policies, publishing the reasons for the action taken and establishing an effective date for any action (ICANN, 2006a). ICANN and the Supporting Organizations make all minutes of their meetings publicly available on ICANN’s website except for some personnel and legal matters. A party affected by an action of ICANN can seek “reconsideration” and “independent third-party review” of that action (ICANN, 2006a).

ICANN’s decisions are made through a “consensus development process” (U.S. Senate, 2002) characterized by a “consensus rule” (ICANN, 1998 November) that has developed over time. The consensus rule in the original Bylaws prescribed that the Board was to accept the recommendations of a Supporting Organization if the recommended action, policy or procedure (1) complied with ICANN’s Articles and Bylaws, (2) was arrived at through fair and open processes, (3) was not reasonably opposed by any of the Supporting Organizations and (4) furthered the purposes and the best interest of ICANN. When there was any dispute between the Supporting Organizations, however, the Board had the final authority to initiate, amend or modify and then approve a specific action, policy or procedure.

The consensus rule in the original Bylaws was too vague and left a lot of room for ICANN to justify its own decisions against bottom-up recommendations. One can argue that since many policy issues often encountered disagreement among different stakeholders, ICANN could easily take the lead in the policy-making process based on the consensus rule. Over time, the “consensus development process” has evolved, with more specification of vote requirements and procedures for ICANN to determine not to act in accordance with a bottom-up recommendation (e.g., “GNSO policy-development process,” “CCNSO policy-development process”).³⁶

Stakeholders

³⁶ For example, when a Supporting Organization’s council recommends a policy by a supermajority vote (more than 66% percent of the members), the Board has to adopt the recommendation unless it determines that the recommended policy is not in the best interests of the ICANN community or ICANN by a supermajority vote of Board members.

Multiple stakeholders are involved in the ICANN process. Their interests and beliefs differ and often conflict with each other.³⁷ These distinctive stakeholders can be grouped based on the kind of overall interests they pursue - technical, business, civic/non-commercial, and governmental interests (Table 4-1).

Stakeholders with technical interests are concerned with the operational optimization and innovation of the Internet. These technical interests are represented by prominent Internet technical organizations such as IETF (the Internet Engineering Task Force), ISOC (the Internet Society), and W3C (the World Wide Web Consortium). These technical expert groups have their own governance bodies. Their technical expertise is influential in ICANN’s decision-making process. Prominent Internet pioneers (e.g., Vinton Cerf) often are elected as members of the ICANN Board. They also participate in various technical advisory committees.

Table 4-1: ICANN’s Stakeholder Groups

Interest (examples)		Stakeholder Groups (examples)	Formal Influence Channels
Technical (optimization/innovation)		Technical community (ISOC, W3C, IETF)	Advisory Committees (TLG, SSAC)
Business	Non-Domain Name Business (trademark protection)	Trademark holders, Industrial associations	GNSO Intellectual Property Constituency
	Domain Name Business (competition)	Domain registries/registrars(VeriSign) Internet entrepreneurs: Individual Domain Name Owners (IDNO), International Congress of Independent Internet Users (ICIU)	GNSO Commercial and Business Constituency
Civic/Non-Commercial (governance/consumer/ free speech)		Civil society and civil liberties organizations: ICANNWatch.org, Computer Professionals for Social Responsibility, Consumer Project on Technology	GNSO Non-Commercial Users Constituency, At-Large Committee
Governmental (regulation and privacy)		U.S. government (Congress, DOC, and Courts)	Government Advisory Committee
		Governments, intergovernmental organizations: U.N. (ITU/WSIS)	

Reference: Koppell 2005 (see the appendix), modified

Stakeholders with *business* interests are so diverse that it is impossible to define who they are in a simple manner. However, there are two distinct business groups with regards to the ICANN decision process: non-domain name businesses and domain name businesses. I use non-domain name businesses to refer to those who are concerned with the online protection of their extant trademark rights or intellectual property. Non-domain

³⁷ Koppell identified eight groups of prominent stakeholders: the technical community, VeriSign Inc. (a “.com” registry), the U.S. government, other governments around the world, trademark and Internet protocol interests, Internet entrepreneurs, civil society and civil liberties organizations, and Internet users (2005, p.108). These stakeholders consist of the ICANN community. All seek to shape and alter the system of Internet governance in a way that advances their own material and ideological interests through various policy venues and forums.

name businesses have pushed ICANN to arrange inexpensive dispute resolution mechanisms (e.g., the Universal Dispute Resolution Policy) against domain name holders who are believed to violate trademark rights. However, domain name businesses (e.g., domain name registries, registrars) are those who are involved in selling or brokering domain names. They tend to advocate loose regulation of the use of domain names so as to respond to diverse, often innovative, market demands.

Stakeholders with *civic/noncommercial* interests are represented by a variety of civil society and civil liberties organizations. They often criticize ICANN as being more likely to reflect commercial and business interests than other civic and noncommercial interests in the policy-making process. They monitor ICANN's activities and share information through forum websites such as "ICANNWatch.org." They emphasize that the Internet is for free speech and any kind of regulation is not only unnecessary but also impossible. They use mass media, anti-ICANN websites, e-mail list-servers, the GNSO Non-Commercial Users Constituency and the At-Large Committee as major influence channels.

Stakeholders with *governmental* interests include the U.S. government, inter-governmental organizations (e.g., the International Telecommunications Union [I.T.U.] of the United Nations) and other national governments. Even though all are concerned about broad governance/regulatory issues such as child pornography, spam mail, and privacy, their problem-solving approaches differ. The U.S. government emphasizes private sector leadership and market-driven problem-solving approaches, while the I.T.U. stresses the role of the government sector in addressing a broad range of public problems that the international Internet community faces. The latter argues that the ICANN regime is not adequate to fully address international public problems. The Governmental Advisory Committee is the formal channel through which governments discuss issues and provide advice to the private ICANN Board.

Hybrid Environment

Because of its hybrid characteristics, ICANN has been nested in two distinct environments. One is a more private technical environment and the other a more public institutional environment. In the technical environment, ICANN mostly needs to collaborate with private entities (technical, business, and civic groups) to address more

technical issues such as technical standardization, guidelines and policy. In the second, institutional environment, ICANN needs to collaborate with governmental and intergovernmental entities such as the U.S., E.U., and U.N. to address the public policy aspects of the issues under consideration.

Both environments are critical to ICANN's survival. The technical environment supplies ICANN with essential resources, expertise, and volunteers for its daily operation, while the institutional environment provides the political support necessary for its survival as an organization. Although governments do not engage in ICANN's daily operation, they have power to alter its institutional arrangements. ICANN needs to ensure broad support from the technical and institutional environments. On technical issues, ICANN is more attentive to private actors in the technical environment; on public policy issues, it focuses on governments in the institutional environment. However, as the three cases below highlights, ICANN's issues often are a mixture of technical and institutional concerns.

Sometimes, ICANN has experienced environmental hostility. Many have questioned why a private standard organization assumes a broad range of policy responsibilities for the DNS beyond mere technical standardization management; usually, governments make public policies. For example, the World Summit for Information Society in 2005 proposed four alternative proposals to replace or alter the ICANN governance system. Yet, this external threat had little to do with ICANN. Rather, the proposals were initiated by those countries (e.g., the E.U.) that opposed the U.S. government's unilateral oversight of ICANN. Since the U.S. government has not changed this unilateral oversight policy, ICANN's legitimacy often is challenged by the broader government community.

Conclusion

ICANN is a complex organization whose structure and decision-making processes are not easy to understand at first. Its stakeholders are so diversified that ICANN finds it hard to satisfy them at the same time. ICANN's hybrid nature also has been a significant source of the public's misunderstanding of how it governs and performs. As a result, assessments of ICANN have been varied and often shortsighted. For those who favor more formal regulation of the DNS, ICANN seems to be an ineffective private governance body. For those who want more deregulation, it seems to act like a powerful quasi-governmental agency, hindering innovation in the Internet. In the next chapter, I

examine ICANN's overall performance in a more systematic manner so as to better understand how ICANN has performed.

Chapter 5 ICANN's Performance

Based on the data on multiple indicators, I assess ICANN's overall performance on the four evaluative criteria – stability, competition, bottom-up coordination, and representation. Each performance criterion will be examined at the institutional, organizational and technical levels as discussed in the study design (chapter 3).

Stability

According to the principle of stability, ICANN is supposed to avoid any disruption to the functioning of the DNS so as to ensure the stable and reliable operation of the Internet. To achieve this goal, ICANN needs to ensure institutional and organizational stability as well as the technical stability of the DNS.

Institutional Stability

As a new organization, ICANN needed to develop and maintain stable governing relationships with key stakeholders in the ICANN community, so as to avoid any disruption to the functioning of the DNS. After the U.S. government's official recognition of ICANN as the international self-governance body for the Internet DNS, ICANN needed to take over relevant responsibilities for DNS operation and management from private DNS entities under contract to the U.S. government prior to its establishment (ICANN & NTIA, 1998 November).

To smooth the transition, ICANN made a series of agreements known as “transition agreements” that were intended to transfer DNS responsibilities from existing private DNS entities to ICANN. For example, ICANN entered into an agreement with the University of Southern California (a former contractor with the U.S. government) to transfer its DNS technical operation unit (IANA) to ICANN (ICANN & USC, 1999). ICANN also entered into a series of agreements (known as “implementation agreements”) to define or redefine functional roles and procedures between ICANN and other DNS stakeholders. For example, ICANN reached an agreement with IETF (the technical standardization organization) to continue IANA's technical work within IETF's protocol standards. This agreement defined the formal relationships between ICANN and IETF in developing and applying technical standards for the DNS (ICANN & IETF, 2000). ICANN also entered into a cooperative agreement with the U.S. Department of

Commerce to define the terms and conditions for the evaluation of ICANN's IANA function (ICANN & U.S. Department of Commerce, 1999).

After incorporating IANA, ICANN has made substantial efforts to formalize previous informal relationships between IANA and its DNS working partners. ICANN entered into agreements or Memoranda of Understanding with IANA's partners such as regional Internet registries (ICANN, 2002 April), root name –server operators (e.g., the F root server operator in 2008), and CCTLD registries. As of March 2008, ICANN had made nine sponsorship agreements, signed seven manager MOUs, and exchanged 39 letters with CCTLD registries (see ICANN CCTLD website). These agreements or MOUs usually contain mutual recognition and responsibilities between ICANN and its partners regarding DNS operation and management. As ICANN evolved, it continued to establish formal relationships with new self-organizing bodies emerging in the ICANN community. For example, ICANN entered into agreements or MOUs with supporting organizations (e.g., ASO, GNSO, and CCNSO), GTLD registries (e.g., VeriSign), and over 900 ICANN-accredited registrars.

Since its creation in 1998, ICANN has successfully established formal governing relationships, collectively or individually, with other key DNS stakeholders through binding agreements or MOUs in which ICANN and its partners defined or clarified their responsibilities and procedures for collectively achieving the stable and reliable operation of the DNS. These formal agreements did not exist prior to ICANN. Rather, IANA handled DNS management in voluntary collaboration with its partners such as IETF, RIRs, and root server operators under the U.S. government's oversight. No formal agreements existed between IANA and its partners. Such informal management was adequate for running a small set of closed networks in the early days of the Internet. But, as the Internet has grown, a kind of formal management system was needed to respond to any risk or emergency threatening the stable operation of the Internet (see details in Appendix E).

In summary, ICANN has made a smooth transition from the informal DNS to a rather formal DNS management system without any disruption to the overall functioning of the DNS. Formal agreements with key DNS stakeholders also helped stabilize the relationships between the new self-governance nonprofit and its multiple stakeholders in the ICANN community.

Organizational Stability

As a self-governance body, ICANN also needed to develop and maintain its managerial capacity to fulfill its technical mission. ICANN has successfully built organizational capacity to support various community activities such as technical standardization and the policy development necessary for the stable operation of the DNS.

One measure of capacity is financial resources. Table 5-1 shows ICANN's annual budget and audit data from 1998 to 2007. When ICANN started in 1998, it had to borrow over 1 million dollars to cover its costs. However, its annual revenue has multiplied over time to adequately cover its annual expenditures. For example, ICANN's 2006-2007 budget was six times larger than its first budget in 1999-2000. For the last three years, revenue has increased at an average rate of 60%. Every year, ICANN has achieved budgetary surpluses. At the end of ICANN's fiscal year July 2006- June 2007, it had accumulated \$35.2 million in net assets.

Table 5-1: ICANN's Revenues and Expenses (in thousands of U.S. dollars)

Fiscal ³⁸ Year	Adopted Budget			Year-end Audit				NOTE
	Revenue	Expense	Surplus	Revenue	Expense	Surplus	Net Assets	
1998-99	-	-	-	\$708	\$1,467		\$-759	In 1999, ICANN borrowed \$1,025 to cover start-up costs incurred in 1998 -1999
1999-00	\$5,900	\$4,300	\$1,600	5,501	2,852	2,784	1,958	
2000-01	5,024 (-15%)	4,219	745	7,459	5,899	1,604	2,989	
2001-02	5,030 (0%)	6,030	1,000	5,966	5,956	73	3,047	
2002-03	6,015 (20%)	6,857	843	7,242	6,310	688	3,735	
2003-04	8,618 (43%)	8,273	345	9,973	9,569	404	4,140	
2004-05	16,032 (86%)	15,834	198	17,807	13,715	4,092	8,232	
2005-06	23,556 (47%)	22,988	568	29,821	19,647	10,174	18,406	
2006-07	34,079 (45%)	30,977	3,202	43,471	26,641	16,830	35,236	
2004-2007	24,556(59%)	23,266	1,322,667					

Source: ICANN's annual budget and audit documents, www.icann.org/general/financial.html

The revenue sources have diversified and stabilized over time. Table 5-2 shows ICANN's funding structure. In the early years, donations from individuals and telecom firms were important in covering ICANN's costs. In recent years, however, most of ICANN's revenues have come from the GTLD registry and registrar fees that ICANN collects from domain name registries and registrars that sell domain name registration services to domain name users. Therefore, ICANN's revenue is strongly associated with the growth of the domain name registration market.

³⁸ ICANN's fiscal year starts in July and ends in June of the next year.

Table 5-2: ICANN's Revenue Sources (in thousands of U.S. dollars)

Fiscal Year	GTLD registrar	GTLD registry	CCTLD registry	IP address registry	Other income	Total Revenue
2003-04	\$6,936 (80%)	\$747 (8.6%)	\$600 (7%)	\$535 (6%)	\$50 (0.6)	\$8,618
2004-05	13,184 (82%)	1,453 (9%)	1,022 (5%)	823 (5%)	50 (0.3%)	16,032
2005-06	16,452(70%)	5,724 (24%)	1,022 (4%)	823 (3.5%)	35 (0.1%)	23,454
2006-07	19,627 (57%)	13,749 (40%)	1,500 (4.3%)	823 (2.4%)	40 (0.1%)	34,179

Source: ICANN's budget documents, available at <http://www.icann.org/general/financial.html>

ICANN has improved its funding structure by shifting the majority of its revenues from one time transactions (e.g., registrar application fees) to a more permanent base (e.g., annual fixed and transactional registry/registrar fees). Although regional internet registries (RIRs) and CCTLD registries continue to pay fees to ICANN, their portion of ICANN's revenue has decreased. Compared to voluntary donations, such fees are considered to be permanent and stable funding sources to cover ICANN's future activities.

A second indicator of organizational capacity is staff size. As Table 5-3 shows, the size of ICANN staff also has increased over time. During the first eight month start-up period from November 1998 to June 1999, ICANN had no full time staff. Instead, it relied on outside legal and technical experts. However, the number of full time staff has multiplied from 14 in fiscal year 1999-2000 to 89 in 2006-2007.

Table 5-3: ICANN's Staff Size and Expenses (in thousands of U.S. Dollars)

Fiscal Year	Full Time Staff	Professional & Technical Services
Nov.1998- Jun.1999 ³⁹ (8 month startup period)	0 (\$0)	\$1,075
Jul. 1999- Jun. 2000	14(\$1,600)	\$1,000
Jul. 2000- Jun. 2001	15.3 (\$1,611)	\$984
Jul. 2001- Jun. 2002	21(\$2,217)	\$734
Jul. 2002- Jun. 2003	27 (\$2,701)	\$715
Jul. 2003- Jun. 2004	38 (\$3,891)	\$664
Jul. 2004- Jun. 2005	59 (\$5,668)	\$2,977 (litigation with, e.g., VeriSign, Pool.com, Snapnames.com, and Registersite.com)
Jul. 2005- Jun. 2006	69(\$8,312)	\$5,665 (litigation with, e.g., VeriSign, CFIT)
Jul. 2006- Jun. 2007	89 (\$12,453)	\$7,205 (litigation with, e.g., Itoh, Registryfly.com)

Source: ICANN's budget documents, available at <http://www.icann.org/general/financial.html>

Hiring legal and technical experts, ICANN increased managerial capacity to support professional tasks such as contracting, litigation, accounting, engineering, and public relations (see ICANN's staff profile, at www.icann.org/general/staff.htm). ICANN

³⁹ Reference: Appendix A in ICANN (October 30, 1999) "Task Force on Funding Draft Report" retrieved at www.icann.org/committees/tff/final-report-draft-20oct99.htm.

also has hired more staff to serve as liaisons to support various constituencies such as governments and to reach out to local and regional constituencies. Since 2004, professional expenses had steeply increased on account of several major lawsuits from such as VeriSign Inc., Registryfly.com, and Snapnames.com.

Volunteerism is an important legacy in the history of the Internet. In the ICANN process, volunteers have been important resources in helping ICANN's technical operation and policy development of the DNS. Except for ICANN staff, all participants in the ICANN process are volunteers, including the members of the ICANN Board, supporting organizations, advisory committees, and technical groups. ICANN is supposed to compensate only volunteers' actual expenditures on ICANN's work.

Sometimes, volunteers have demanding jobs. For example, the members of the Board are known to spend an average of 17-20 hours a week reading emails and documents and attending ICANN meetings (Interview with a member of Nominating Committee, 2007 November). The members of the Supporting Organizations' council are expected to spend 50 hours a month to handle its business when they take charge of any committee or taskforce (www.nomcom.icann.org). Volunteers' motivations vary. Some contribute to "making the Internet work," "preserving stability of the Internet," or providing "information beyond commerce." Others volunteer to advance their business interests (e.g., intellectual property). Still others volunteer to advocate free speech or internet governance (Interviews with a member of the ASO Council, 2007 November). In any case, I observed that many volunteers had serious commitments to their roles and responsibilities in the ICANN process.⁴⁰

In summary, ICANN has successfully developed and maintained its managerial capacity as measured by increases in funding and staff despite its initial resource constraints. It has become a capable organization equipped with adequate funding, a professional staff, and committed volunteers.

Technical Stability

ICANN needed to develop and maintain technical standards or procedures (sometimes known as best practices) among multiple stakeholders to avoid any disruption to the functioning of the DNS. It has coordinated the development of technical standards,

⁴⁰ For example, I met a member of the Address Supporting Organization's council who attended the L.A. meeting in November 2007. He was on his honeymoon. His wife stayed in the hotel room while he attended the ASO council meetings.

procedures and policy among relevant multiple stakeholders involved in the daily operation of the DNS. ICANN has published technical policies and procedures to ensure the stable operation of the DNS without any disruption to the Internet. For example, IANA published a series of “Internet Coordination Policy” documents to specify technical requirements for new regional IP address registries (known as ICP-2) and technical procedures on CCTLDs delegation (ICP-1) in which it defined the procedure for CCTLDs to update information contained in the root-zone file.

Since ICANN took over responsibility for overseeing the daily operation of the DNS, no major breakdowns or disruptions have occurred despite numerous threats.⁴¹ Rather, ICANN has made a smooth transition from the IPv4 to the IPv6 protocol in the DNS. ICANN is testing internationalized domain names in non-English letters without any technical disruption to the DNS. It also has developed a comprehensive response system to deal with cyber-attacks (e.g., denial of service attacks and cache poisoning) on the Internet’s DNS root name servers. For example, ICANN developed the “anycast” scheme to mitigate the impact of a distributed denial of service attack on the root servers. It also formulated contingency plans in the event of organizational disruption of key DNS operators (ICANN’s contingency plan).

ICANN has performed research and development to enhance the security and stability of the DNS. For example, it initiated the Cooperative Research and Development Agreement (CRADA) project with the U.S. Department of Commerce to improve the management of the Internet root server system. ICANN has introduced an enhanced architecture for the root name-server system, including, e.g., the use of a closed master zone file management system and authentication technologies such as cryptography known as DNSSEC (DNS Security, an extension to DNS protocol developed by IETF). ICANN has held many workshops to raise public awareness regarding what can go wrong with the DNS and to address security and stability issues of the DNS.

Stability: Summary and Conclusion

Overall, ICANN has achieved successful performance on the stability criterion, not only in the technical sense but also in terms of institutional and managerial stability. No major breakdowns or disruptions have occurred in the functioning of the DNS. By

⁴¹ There are some threats to end-users of the DNS such as forgery, poisoning, and eavesdropping. When DNS data are forged, end-users can be transported where they did not mean to go. When DNS data are modified, end-users can have valid but wrong information on where to go. Eavesdropping can intercept DNS data (Mohan, 2006).

formalizing its governing relationships with other DNS stakeholders, ICANN has quickly stabilized its new private self-governance regime in the DNS. In a short period, ICANN also has built managerial capacity to coordinate the daily operation of the DNS among multiple DNS operators. Despite its short and often controversial history, ICANN has been able to make the public believe that “in terms of stability, ICANN people are expert” (Interview with a CCTLD registry operator, 2007 November).

Competition

Whenever necessary and appropriate, ICANN is supposed to introduce market mechanisms to promote consumer choice, lower cost, and efficiency in its technical management of the DNS (ICANN & NTIA, 1998 November; NTIA, 1998). In Table 5-4, I show whether and how ICANN has encouraged the use of market mechanisms in distinct functional elements of the DNS management such as setting standards, IP address allocation, domain name registration, root name server operation, and root zone file management.

Table 5-4: How Markets Work in Distinct DNS Functional Elements

Nature of Market			Non-Market/Voluntary
Quasi-Competitive	Oligarchy	Monopoly	
Domain name registration 20 registries & 900 registrars	IP address allocation (IANA & 5 RIRs) (Membership fee)	Root zone file management (ICANN/IANA)	Setting standards (IETF) Root name server operation (13 Root server operators)

Some elements of DNS management are hardly subject to market competition for various reasons (e.g., historical, technical, economic, and jurisdictional). Historically, setting standards related to the DNS had been the IETF’s sole responsibility. Its decisions on the DNS protocols have been made through a voluntary bottom-up coordination process (e.g., RFC) in the technical community. Also, root server operation has little room for competition. The number of root name servers cannot exceed thirteen for technical reasons. Each root name server has the same copy of a root zone file that ICANN distributes. The thirteen name server operators have voluntarily served the Internet community without financial compensation.

Since ICANN collects its root service fees from registries and registrars, the notion of market competition might be applied to root zone file management. However, ICANN has little incentive to introduce competition over its root zone file management.⁴²

⁴² Root zone file management includes the creation, editing, and distribution of a root zone file – a list of top level domains along with data on their registries and name servers’ IP addresses.

ICANN's root zone file is known as "authoritative" in the Internet DNS.⁴³ Controlling its "authoritative" root zone file empowers ICANN to justify its role as "the technical coordinator" of a single Internet DNS.⁴⁴ Introducing competition into the root zone file management is self-contradictory, and ICANN cannot decide to do so without the U.S. government's approval (ICANN & NTIA, 1998 November).

IP address allocation cannot be subject to competition because IP addresses have been considered free resources. Regional Internet Registries (RIRs) have distributed IP numbers to, e.g., national IP registries based on their need of IP addresses. Although RIRs collect membership fees from their members, the fee is not a charge for the IP addresses. In the following section, I will evaluate ICANN's performance on the competition criterion at the institutional, organizational, and technical levels, focusing mainly on the area of domain name registration.

Competition at the Institutional Level

To evaluate ICANN's performance on competition at the institutional level, I examined how it has shaped governing relationships with market actors in a way to promote customer choice and lower prices in the domain name registration market.

ICANN has established various contractual agreements through which it granted licenses to its accredited registries and registrars. However, its governing relationships varied. ICANN has little control over CCTLD registries and the registrar service market. ICANN has delegated greater policy autonomy to sponsored domain name registries (e.g., .cat, .coop, and .museum) within their jurisdictions. However, it has tried to exercise greater control (e.g., service fee regulation) over unsponsored domain name registries (e.g., .com, .org, .net). For example, ICANN regulated price caps on the amounts that unsponsored GTLDs registries (e.g., .com, .org, and .net) could charge for their registry fees. Unsponsored registries also were supposed to notify ICANN of any fee change (VeriSign, April 2007). ICANN, however, did not regulate registry fees that

⁴³ Organizations other than ICANN operate some top-level domain names in the Internet (e.g., New.net, Image Online Design, and Name.Space). They have their own root zone files, often known as "alternate roots" as opposed to ICANN's root zone file. Some alternate roots exist for market reasons. Slow ICANN response to market demand for new domain names creates a market for alternate domains. For cultural and political reasons, countries like China have an incentive to offer top-level domain names based on their own languages. One observer expected that the whole transition to multilingual names will open numerous opportunities for alternate roots (Mueller, 2002).

⁴⁴ ICANN and IAB/IETF have claimed that a single universal root is desirable to guarantee the uniqueness of domain names and compatibility. However, one can contend that competition for root zone file management is technically possible and desirable to reduce inefficiency in or abuse of ICANN's monopoly over root zone file management.

sponsored registries charged for their registry services. Nor did it control the fees that registrars charged for their registrar services.

Since its creation, ICANN tried to bring more competition by reforming the ownership structure in a more concentrated domain name market. For example, entering into a registry agreement with Network Solution, Inc. (NSI) in 2000, ICANN demanded that NSI separate its registry business from registrar business units. In return, ICANN reauthorized NSI as a single registry of .com, .net, and .org.⁴⁵

To weaken the monopoly power of Network Solution Inc (NSI) as a single registry of “.com,” “.net,” and “.org,” ICANN divested NSI of the “.net” and “.org” registry services and tried to assign them to other organizations through a competitive re-bidding process.⁴⁶ ICANN also prohibited any registry organization from performing registrar services and from owning more than a 15% share in any registrar organization (ICANN & VeriSign, May 2006).

The nature of competition in the registry and registrar markets differs significantly. There are multiple registries and registrars for the generic TLD (GTLD) market. But, the GTLD registry service market is not as competitive as its registrar service market. While ICANN has accredited over 900 GTLD registrars since 1999, it has accredited only 15 registries. Since many sponsored generic names are restricted or reserved for serving a particular community of individuals or organizations (e.g., professional, museum and travel), the competition among registries is not complete but rather more limited. Although one registry monopolizes registry service within its TLD name space, 900 registrars can compete for any domain name registrar service. The registrar service market is highly competitive, while the registry service market is more quasi-competitive.

ICANN required all registries to treat its accredited registrars equally. For example, a registry was supposed to provide all accredited registrars with equal access to its “shared registry service system”(ICANN & FundaciopuntCAT, 2005 September). ICANN also prohibited its accredited registries and registrars from warehousing domain names for speculative purposes – known as cyber-squatting(ICANN, 2001 May-b).

⁴⁵ Separation between NSI’s registry and registrar business and between .org/.net and .com can be compared to the divestiture of the Bell System in 1984 between AT&T and other Bell Operating Companies (BOC), and prohibition of cross-subsidization from profitable service areas to less profitable service areas (Rowe, 2002, Telecommunications for Managers).

⁴⁶ As a result, .org was assigned to other organizations, but .net was reassigned to VeriSign.

In summary, to bring more competition, ICANN has separated the registrar from the registry service market. Introducing more registrars, registrar service has been completely competitive. But, registry service is less competitive. In the governing relationships, ICANN exercises less control over registrars than registries, and it exercises more control over unsponsored than sponsored registries (see Table 5-5).

Competition at the Organizational Level

To evaluate ICANN’s performance on competition at the organizational level, I examined whether and how its domain name policy and management has promoted customer choice and lower prices in the domain name service market.

Above all, ICANN has had a strong policy to increase the number of top level domain names so as to encourage competition and customer choice in the market. However, it has developed different types of top level domain names. Since each domain name type was intended to serve different target user groups, ICANN’s competition policy approaches vary among TLDs. There are two types of TLD: GTLD and CCTLD. ICANN cannot oversee competition in or between CCTLDs, but it can oversee competition in or between GTLDs. ICANN’s competition policy, however, varies depending on the type of GTLD. Since unsponsored GTLDs (.com, .org, .net and .biz) are open to the public, the unsponsored GTLD market is the biggest market with the most competitive environment. Sponsored GTLDs are intended to serve specific user communities, a less competitive environment. Since special TLDs are strictly limited to certain user groups (e.g., .edu, .mil, and .gov), this is the least competitive environment. Table 5-5 compares the natures of competition among different types of TLDs.

Table 5-5: Nature of Competition among Different TLD Types

Type		Target group	ICANN’s oversight	Registry’s autonomy	Competition
GTLD	Unsponsored	International, open to the public	High	Low	High
	Sponsored	International, but limited to a specific community	Moderate	Moderate	Moderate
	Special	Strictly limited to a small number of special-purpose entities	Low	High	Low
CCTLD		Nations	Low	High	Low

ICANN has increased the number of GTLDs from eight in 1998 to twenty in February 2007. Prior to ICANN, eight domain names (gov, edu, com, org, mil, net, int

and arpa) existed.⁴⁷ ICANN introduced seven new domains (biz, info, name, pro, aero, coop, and .museum) in 2000 and five more (cat, asia, jobs, mobi, travel) in 2004 -2005.⁴⁸

Table 5-6: Generic Top Level Domain Names

Name	Approval	Type	Served community	Registry Operator
.com	1984	Unsponsored	Open	VeriSign Global Registry Services
.net	1984	Unsponsored	Open	VeriSign Global Registry Services
.org	1984	Unsponsored	Open (originally intended to serve the noncommercial community)	Public Interest Registry
.gov	1984	Special	Reserved exclusively for the U.S. government	U.S. General Services Administration
.mil	1984	Special	Reserved exclusively for the U.S. military	U.S. DoD Network Information Center
.edu	1984	Special	Reserved for U.S. postsecondary accredited institutions	Educause (2001)
.arpa	1984	Special	Address and Routing Parameter Area domain used exclusively for Internet-infrastructure purposes.	IANA in cooperation with Internet Architecture Board
.int	1988	Special	Reserved for international treaty organizations	IANA.int Domain registry
.aero	2000	Sponsored	Reserved for aviation industry	Société Internationale de Télécommunications Aéronautiques (SITA).
.biz	2000	Unsponsored	Restricted to businesses	Operated by NeuLevel, Inc.
.coop	2000	Sponsored	Reserved for cooperative associations	Dot Cooperation LLC
.info	2000	Unsponsored	Open	Afilias Limited
.museum	2000	Sponsored	Reserved for museums	Museum Domain Management Association
.name	2000	Unsponsored	Reserved for individual	Operated by Global Name Registry
.pro	2000	Unsponsored	Restricted to credentialed professionals and related entities	Operated by Registry Pro
.cat	2005	Sponsored	Reserved for Catalan linguistic and cultural community	Fundació puntCat
.jobs	2004	Sponsored	Reserved for human resource managers	Employ Media LLC
.mobi	2005	Sponsored	Reserved for consumers and providers of mobile products and services	mTld Top Level Domain, Ltd
.asia	2005	Sponsored	Restricted to the Pan-Asia and Asia-Pacific community	DotAsia Organisation Limited
.travel	2004	Sponsored	Reserved for entities whose primary area of activity is in the travel industry	Tralliance Corporation

Source: ICANN IANA website, <http://www.iana.org/GTLD/GTLD.htm>, accessed on February 28, 2007.

Table 5-6 shows the profiles of GTLDs operating in the DNS as of February 2007. There are seven unsponsored, eight sponsored, and five special TLDs. More than 50% of the GTLDs are operating in a less competitive environment because they serve only specific target communities. The seven unsponsored TLDs face strong competition because they compete for broad user groups. However, among these unsponsored TLDs, only four are open to the public (.com, .org, .net, and .info). Three unsponsored TLDs are

⁴⁷ In 1984, Postel and Joyce Reynolds announced in RFC 920 that the root zone file consisted of 250 top-level zone files: six generic (.gov, .edu., .com, .org, .mil, and .net) and 244 CCTLDs based on the ISO3166-1 standard list of two-character country codes.

⁴⁸ In 2004 and 2005, the ICANN Board also approved “.post” and “.tel.” but they were not operating in the DNS as of February 2007. As of May 15, 2008, “.tel” was operating on the Internet, while “.post” was not.

somewhat reserved for the use of broad, but limited, user communities (.biz, .name, and .pro).

Since its creation in 1998, the registration fees that Internet users pay for their domain names have decreased in the domain name market (see Table 5-7). In particular, registration fees for .com, .net, and .org have dropped from \$50 a year in 1998 to about \$10 to \$35 dollars a year in 2007. ICANN promoted competition among registrars with an inter-registrar domain name transfer policy. Most domain name holders, however, were reluctant to change their registrars. They were afraid of losing their “precious” domain names to others while transferring to other registrars (interview with a .com domain name holder, 2007 November).

Registrars have different pricing strategies. For example, while GoDaddy.com uses different prices for different domain names, NSI.com and Register.com use fixed prices for all domain names. GoDaddy.com sells its registrar service at a lower price to attract customers to buy other bundled service such as web-hosting or security services. Many registrars provide various promotional discounts for, e.g., bulk domain registration (over 10 domain names) and multi-year contracts. All registrars pay registry fees when they sell one domain name. For example, all registrars must pay \$6 to the .com registry VeriSign. Therefore, GoDaddy.com has little gain from selling one .com domain. NSI.com and Register.com, however, have reaped substantial profits from selling .com domain names.

Table 5-7: Generic Top Level Domain Name Registration Fee Changes

Year	1998	July 2007		
Name	NSI	NSI	Go Daddy	Register.com
.com	\$50	\$34.99	\$7.15	\$35
.net	\$50	\$34.99	\$9.19	\$35
.org	\$50	\$34.99	\$9.19	\$35
.biz	-	\$34.99	\$8.19	\$35
.info	-	\$34.99	\$2.19	\$35
.name	-	\$34.99	\$10.19	\$35
.pro ⁴⁹	-	-	-	\$350
.jobs	-	-	\$119.99	-
.mobi	-	\$34.99	\$15.19	\$35
Strategy		Fixed price for all domain names	Differential pricing for different domain names	Fixed price for all domain names

Sources: godaddy.com, register.com, and [NSI.com](http://nsi.com).

In summary, ICANN has increased the number of top level domain names so that fees for domain name registration have decreased. But ICANN could have introduced as many top level domain names as the market demanded, but it did not.

⁴⁹ .pro is limited to professional such as medical doctors (med.pro), attorneys (law.pro), and certified public accountants (cpa.pro)

Competition at the Technical Level

To evaluate ICANN's performance on competition at the technical level, I examined whether and how it develops and maintains technical standards or procedures (sometimes known as best practices) in ways to promote customer choice and lower prices in the domain name registry and registrar market. In particular, I focus on the accreditation procedures with which ICANN has approved new registries and registrars introducing new TLD domain names in the DNS.

Any individual and organization can apply for registry and registrar accreditation. When ICANN receives a registrar application, it initiates the registrar accreditation procedure. However, ICANN decides when and how it will initiate the accreditation procedure for new GTLDs registries. The registry accreditation procedure takes place when new GTLDs are introduced (e.g., biz in 2000 and .cat in 2005), existing GTLDs go out of business, or existing GTLDs are renewed (e.g., .net re-bidding procedure in 2005).

ICANN has introduced new GTLDs less frequently than expected. The accreditation procedures were slow. This is because ICANN took a conservative approach (known as "proof of concept") to the introduction of new GTLDs so as not to cause negative effects on the DNS resulting from new GTLDs. Even though the domain name market has demanded many more new GTLDs, so far ICANN has introduced only twelve new GTLDs: seven in 2000 and five in 2005.

In 2001, ICANN stated that new GTLDs should be introduced in a "measured and responsible manner." For some new GTLD registries, it took over a year to get accreditation. Many complained that ICANN's registry accreditation took a long time, with slow responsiveness to market demand. Mueller argued that the accreditation procedure was an excruciatingly slow and expensive negotiation process (Mueller, 2002a). However, ICANN did not take a conservative approach to its registrar accreditation, which took less time because registrar services pose little risk to the stable operation of the DNS. ICANN has used a standardized form of contract to accredit registrars (ICANN, 2001 May-b).

There is a non-refundable application fee (\$50,000) for registry accreditation and an initial accreditation fee (\$5,000) for registrars. In addition, legal and administrative expenses are involved in the negotiation processes with ICANN. For registry accreditation, the minimum requirements (e.g., financial capacity) are quite demanding, while less so for registrar accreditation. For example, existing registrars in good standing

for .com, .net, and .org have been accredited for new GTLDs without additional qualifying procedures (e.g., “.Cat Registry Agreement”).

Competition: Summary and Conclusion

The notion of competition can be applied to the domain name registry and registrar markets. The registrar market is very competitive because it includes over 900 registrars. However, the registry market is quasi-competitive, with only 20 registries. More importantly, among the 20 registries, only four (.com, .net, .org, and .info) are supposed to be open to everybody. Most registries have limited competition against other registries because their domain names are reserved for specific target groups. The quasi-competitive nature of the GTLD registry market was created in part by ICANN’s conservative policy approach to new GTLDs, in part by the basic architecture of the DNS (a domain name’s uniqueness in the DNS [e.g., one registry per one TLD]), and in part by customers’ historical commitment (e.g., desire for lock-in).

In terms of the registration price for domain name holders, the increasing number of new registrars created more competition in the domain name market so that customers can always find some registrar service at a lower price. However, taking advantage of the lock-in effect, NSI has maintained higher registrar service fees than those of new registrars.

In terms of frequency and speed of new GTLD introduction, many criticized ICANN’s performance on new GTLDs as being too slow and conservative. One person argued that ICANN created an “artificial scarcity” in the number of GTLDs to control the DNS (Mueller 2002). There is a big gap between market demand and ICANN’s responsiveness regarding the frequency and speed of new GTLDs introduction. In conclusion, ICANN’s performance on the competition criterion has achieved a more mixed result than on the stability criterion.

Bottom-up Coordination

The principle of bottom-up coordination demanded that ICANN develop and maintain a flexible and rapid non-governmental consensus process to meet the changing needs of the Internet and of Internet users. The ICANN community also anticipated that ICANN’s non-governmental consensus process overall would be open, transparent, prompt, and participatory in solving problems.

Bottom-up Coordination at the Institutional Level

I examined whether and how ICANN has shaped its governing relationships with key stakeholders in ways to make its non-governmental bottom-up consensus process more flexible and rapid enough to meet the changing needs of the Internet and Internet users. First, ICANN's Bylaws defined the relationships among the ICANN Board, Supporting Organizations and advisory committees in the ICANN process. According to the Bylaws, the Board is the ultimate decision-making body in ICANN. However, the Bylaws also delegated policy responsibility to Supporting Organizations and advisory committees. These policy bodies were responsible for making policy recommendations to the Board regarding issues within their jurisdictions.

Among Supporting Organizations, the Generic Name Supporting Organization (GNSO) had the broadest policy responsibilities, while the Country Code Name Supporting Organization (CCNSO) and the Address Supporting Organization (ASO) had narrower responsibilities such as CCTLD issues and IP address allocations. However, each Supporting Organization had equal responsibility for advising the Board on issues within its jurisdiction. Advisory Committees were supposed to advise the ICANN Board with their own special expertise – e.g., technical and political. According to the Bylaws, these policy bodies' advice did not bind the Board's decisions. However, Supporting Organizations' decisions affect the Board when Supporting Organizations elect their representatives to the Board. Sometimes, powerful advisory committees like the GAC can have great influence over the Board's deliberation and decisions on issues discussed in the ICANN process. The ICANN Bylaws provide for special treatment of the GAC's advice compared to the advice of other advisory committees. For example, the Bylaws prescribe that the Board should explain why it did not follow the GAC's advice when it acts against it (ICANN, 2006a).

Second, the governing relationships between ICANN and its constituencies have respected the principle of "rough consensus" cherished in the Internet community. "Rough consensus" is a decision-making mechanism the technical community uses to determine technical standards or best practices for the Internet. The decision making for technical standards is carried out through the "Request for Comment" process in which one can propose a technical standard for a certain technical problem and others can comment on it. The proposal might be revised based on the received comments. If the proposal receives more than 50% support without substantial opposition from the technical community, then the proposal is published as an RFC document. The technical community called the underlying decision making mechanism "rough consensus."

Rough consensus can mean between 51% and 100% community support for a specific standard. Yet nobody actually knows whether a technical proposal reaches rough consensus because no formal decision making tools are used (e.g., a vote). Since the rough consensus process is an informal decision making mechanism, in reality one person (the RFC editor) or a group of technical engineers determines whether or not rough consensus exists in the technical community. Therefore, the judgment of rough consensus can be arbitrary. Legacy technical experts are influential in the rough consensus process because consensus can be easily developed based on only a few technical experts. However, in the ICANN process, rough consensus process was inappropriate for ICANN as a formal governance body. The ICANN Bylaws consider a supermajority vote (2/3) as suggesting that there is a community “consensus” on a specific issue.

In the early Bylaws of 1998, the “consensus rule” demanded that ICANN was supposed to accept the recommendations from a Supporting Organization unless other Supporting Organizations opposed them (ICANN Bylaws 1998). Later, this “consensus rule” clause was removed from the Bylaws; instead they now specify voting requirements for the ICANN Board to make decisions against the bottom-up recommendations from Supporting Organizations. However, the notion of a “consensus rule” still remains the decision-making norm by making it difficult for the Board to reject policy recommendations made by a super majority of members of a Supporting Organization. In principle, the “consensus rule” has been respected in the governing relationships between the ICANN Board and its policy constituencies. In fact, the Board rarely has turned down policy recommendations that the ICANN community, particularly the technical community, strongly supported.

Bottom-up Coordination at the Organizational Level

ICANN has sought to make its non-governmental consensus process more accountable, open, and transparent to the public. First, over time, ICANN has developed a variety of mechanisms to ensure its accountability to its constituencies. To respond to constituents’ complaints, ICANN created the Office of Ombudsman, the reconsideration request, and independent review. The Office of Ombudsman handles complaints regarding unfair treatment by the ICANN Board or staff. The reconsideration request was designed to remedy wrong actions or decisions by the Board or staff based on inaccurate information. From 1999 to 2006, ICANN’s reconsideration committee reviewed 37 out of

42 requests submitted to ICANN (see Table 5-8). The Board reconsidered its decisions only twice.

Table 5-8: Reconsideration Requests from 1999 to 2006

Number of Requests	Committee Review	Board Reconsideration	Response within 90 days	Response Time
42	37	2	21	Mean: 142 days Range: 2-611 days Standard Dev.: 110 days

Source: ICANN website, www.icann.org/committees/reconsideration

Most of the requests asked the ICANN Board to reconsider its decisions denying new GTLD applications, using an inappropriate policy development process, or approving unrepresentative Supporting Organizations. The Board took remedial actions for two requests based on the committee’s recommendation. However, ICANN was not prompt in responding to reconsideration requests. It did not make decisions on 21 out of 36 valid requests within 90 days as prescribed by the ICANN Bylaws. Some decisions took over a year. Few have used the independent review process because of the substantial fees related to independent mediators’ compensation.⁵⁰

Second, ICANN has emphasized broad and informed public participation in its decision process. Hiring a participation manager, ICANN has expanded its outreach program to support regional and local participation in the ICANN process. For example, recently, ICANN has launched a fellowship program so that those from developing countries could attend ICANN meetings.⁵¹ It has had face-to-face public forums and workshops during ICANN meetings. Usually, in public forums, the Board tries to listen to the public before it makes final decisions on issues under discussion. ICANN also has held public workshops to educate and discuss specific policy issues such as IPv6 transition, DNSSEC security, and IDN. ICANN meetings are held around the world and are open to whomever has an interest in ICANN’s affairs. ICANN’s website is a good source of public information for understanding its affairs.⁵² ICANN set aside a webpage for public comments on the issues being discussed in the ICANN process. But, one observer from a CCTLD registry said that although ICANN has encouraged broad

⁵⁰ ICANN has designated the International Centre for Dispute Resolution of the American Bar Association to operate the independent review process.

⁵¹ ICANN holds three types of regular meetings for the Board and the public: special meetings such as Board teleconferences, quarterly meetings to make progress on important issues, and annual meetings for clearance and organizational purposes.

⁵² ICANN provided more information about its day-to-day operation on its website, such as official announcements, blogs, public participation and comments. The public actually provides opinions or feedback on the issues that ICANN considered.

participation, actual participation has been low (Interview with a CCTLD operator, 2007 November). He argued that a small number of participants led ICANN's deliberation and decisions.

Third, ICANN's Bylaws required the minutes of the Board and Supporting Organizations to be posted on ICANN's website. Although the Board's voting minutes were available to the public, the voting minutes of special Board meetings did not cover the sessions including the Board's discussion of the focal issues. When the Board's deliberation was "off-the-record," the public could not fully understand ICANN's decision.⁵³ Many complained that ICANN's decisions were made behind closed doors. In recent minutes in 2007, however, ICANN summarized "who said what" in the Board's deliberation session (Interview with a ICANN Board member, 2007 November).

Bottom-up Coordination at the Technical Level

ICANN developed routine bottom-up policy development procedures (known as "PDPs") to define its non-governmental consensus process. According to the ICANN Bylaws, GNSO and CCNSO have developed their own PDPs.⁵⁴ The PDPs of GNSO and CCNSO differ from each other (see Figures 5-1 and 5-2). Each PDP has a similar sequence of initial and final report, public comment, council recommendation, and ICANN Board resolution. (see Table 5-9 for the GNSO Policy Development Procedure).

⁵³ Off-the-record discussions harmed the transparency of ICANN's decision-making process. The public did not know what the Board considered in its deliberation and decisions. In the voting transcripts of special meetings (or monthly teleconferences), the public could see only who voted yes or no, sometimes with short individual position statements or comments. Off-the-record practices made it harder for the public to understand ICANN's deliberation on important issues such as VeriSign and XXX. However, ICANN is not radically different from other Boards in terms of "off-the-record" meetings. Rather, in terms of openness, ICANN is exercising more advanced practices of board governance than those of other corporate boards. For instance, The American Red Cross is led by a Board of Governors. Its Bylaws require the Red Cross to keep the minutes of Board meetings. However, the Bylaws do not demand that the Red Cross post the minutes on its Website as ICANN does. Transparency and openness are more important in ICANN as an international governance body than the American Red Cross.

⁵⁴ The ASO has no policy development process, because it does not handle many policy issues.

Table 5-9: GNSO Policy Development Procedure

1. Initiation request

The GNSO PDP will be considered by Board's direction, GNSO council's vote of 25% members at any meeting, or advisory committee's request.

2. Issue report

ICANN staff manager will produce issues report within 15 days after initiation. This report contains staff's recommendation whether the GNSO PDP should be initiated

3. Initiation decision

The GNSO council will decide within 15 days after the issue report.⁵⁵ When the Board requests, the GNSO PDP will be automatically initiated.

4. Task Force Preliminary Report or Staff's Initial Report

ICANN staff prepares a task force preliminary or initial report. When a task force is constituted, each constituency needs to submit its one representative to staff manager with 10 days after Council's request.⁵⁶ ICANN staff compiles each constituency's position statement, outsider advisor's opinions and public comment on issue in the initial or preliminary report and distributes it to the final task force.

5. Final Report

ICANN staff produces final report reflecting public comments into task force report or initial report and submits it to the council within 10 days after the end of the public comment period.

6. Board report

The GNSO Council distributes the final report to all council members. ICANN staff provides Board report to the Board, incorporating the views of the council in the report. If the Council adopts the report by a supermajority vote, it becomes "council recommendation."

7. Board vote and Board statement

If the GNSO council does not provide council recommendation, the ICANN Board acts by a majority vote of Board members.

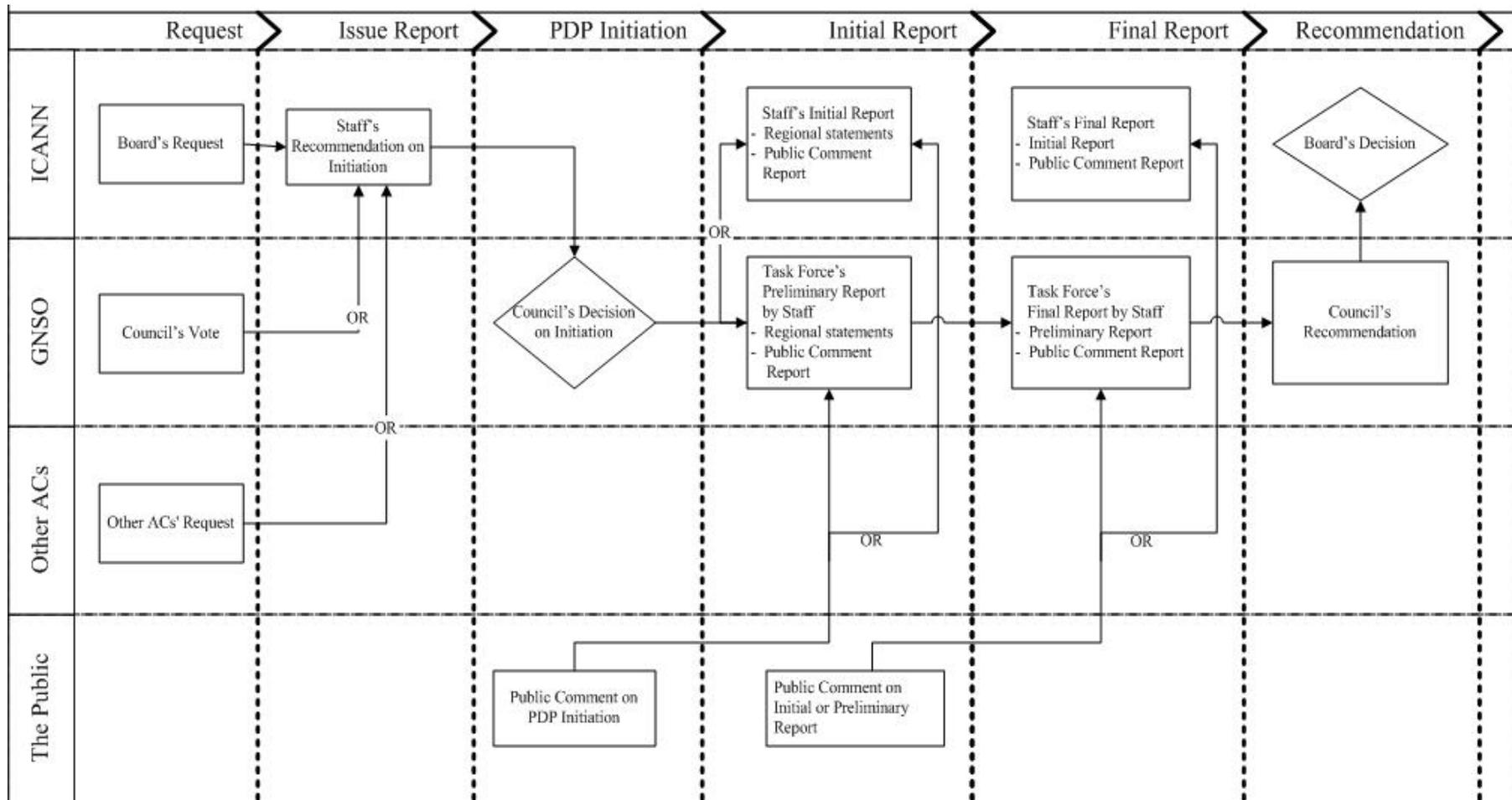
The Board should adopt the council recommendation unless by a supermajority vote the Board determined that the council recommendation is not in the best interests of the ICANN community or ICANN. When the Board determines to reject the council recommendation, it needs to explain its decision in a report (known as Board statement) to the council. After discussing the Board statement with the Board, the Council submits "Supplemental Recommendation" to the Board. If the Board does not accept it, the same consensus rule and procedure will repeat until the supermajority of the Council and the Board can agree.

Source: 2006 ICANN Bylaws

⁵⁵ In the case of the GNSO Council's request, the Council requires 33% favor vote for initiation (if ICANN staff recommended that the considered is out of scope, a supermajority vote is required). Other requests require majority votes of the Council.

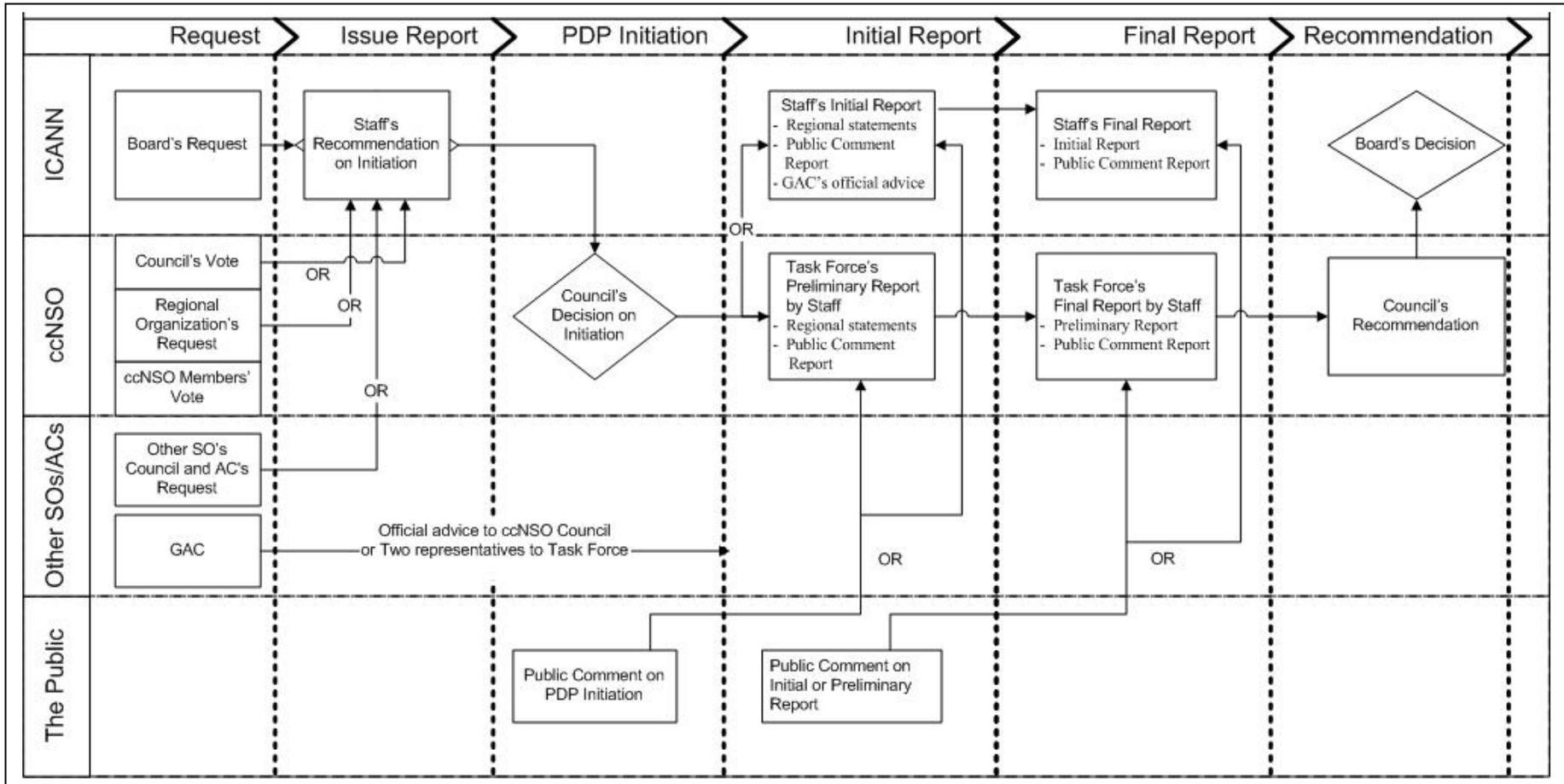
⁵⁶ When a particular individual or organization is appointed, it gathers and submits all information to the staff manager within 35 days after initiation of the PDP.

Figure 5-1: GNSO Policy Development Process (“GNSO PDP”)



Source: GNSO Policy Development Process, Appendix in 2006 ICANN Bylaws

Figure 5-2: CCNSO Policy Development Process (“CCNSO PDP”)



Source: CCNSO Policy Development Process, Appendix in 2006 ICANN Bylaws

If the GNSO or CCNSO councils do not reach a supermajority vote on an issue, a majority vote of Board members is sufficient to act. However, the consensus rule governs the Board deliberations and decisions on policy recommendations from GNSO and CCNSO. The Bylaws say regarding the GNSO PDP: “If the Council reached a Supermajority Vote, the Board shall adopt the policy according to the Council Supermajority Vote recommendation [known as the council recommendation] unless by a vote of a more than sixty-six (66%) percent of the Board determined that such policy is not in the best interests of the ICANN community or ICANN” (ICANN Bylaws, GNSO PDP 2006). When by a supermajority vote the Board decides to reject the council’s supermajority recommendation, it is supposed to explain the reasons for its determination in a report to the council (known as a “Board Statement”). After discussion with the Board, the council can submit a “Supplemental Recommendation” to the Board. If a supermajority of the Board rejects the supplemental recommendation, then the same procedure is repeated.

In the GNSO PDP, no ending point exists in this consensus process if supermajorities of both the council and the Board fail to agree. In the CCNSO PDP, however, if the Board does not accept CCNSO supplemental recommendation by a supermajority vote, the “[s]tatus quo shall be preserved” until the Board agrees with the CCNSO council (ICANN Bylaws, CCNSO PDP 2006). In other words, the Board cannot make a new decision without agreement with the CCNSO council. In this sense, ICANN seems to pay more respect to the CCNSO PDP when the GAC is strongly tied with the CCNSO council; the CCNSO council is supposed to reflect the GAC’s formal perspectives on the issues under consideration. Many of the CCTLD registry operators have formal or informal relationships with their governments.

ICANN has supported its policy bodies with staff services to help organize the Supporting Organizations’ policy development procedures. ICANN staff provided extensive administrative services in, e.g., organizing taskforces, compiling position statements from constituent groups, preparing issue/initial and public comment reports, and submitting council recommendations to the Board. Sometimes, ICANN staffers have exercised great influence over the PDP process. For example, ICANN’s general counsel

provides recommendations to Supporting Organizations regarding whether the issues considered in the PDP was within ICANN and its SO councils' jurisdictions.

Bottom-up Coordination: Some Criticisms and Conclusion

ICANN has respected the consensus rule, reached out to local and regional organizations, and produced consensus policies that the ICANN community follows. However, many have criticized the overall process of ICANN's bottom-up coordination for several reasons. Some note that ICANN often bypassed its bottom-up coordination process by deciding important policy issues without following any policy development procedure. For example, some complained that ICANN announced Internet Coordination Policy 3 on the unique authoritative root system for the DNS without consultation with relevant Supporting Organizations (Fromkin & Weinberg, 2001; Mueller, 2002a, p. 18). Others complain that ICANN has been less transparent, prompt, and innovative than it was expected to be.

The practice of "off-the-record" discussion in Board meetings is hard to view as a "best practice" for the Internet governance body. ICAAN has not been prompt enough in responding to reconsideration requests. Its reconsideration requests often take more than a year. In the introduction process of new GTLDs in 2004, ICANN often took over two years to implement a new GTLD.

The consensus rule has made it difficult for the Board to reject policy recommendations made by supermajority votes of the Supporting Organizations' councils. "Consensus policies" - "policies established based on a consensus among Internet stakeholders represented in the ICANN process" - strongly influence the Board's deliberation and decisions (ICANN, 2001 May-a).

ICANN has tried to promote greater consensus in the PDP process by respecting supermajority votes as indicators of community consensus. For example, the ICANN Bylaws prescribe that "a Supermajority Vote of the Council members will be deemed to reflect the view of the Council, and may be conveyed to the Board as the Council's recommendation" (ICANN Bylaws, GNSO PDP, 2006). The Board finds it hard to alter councils' recommendations. In this sense, the supermajority vote is equated with community consensus in the PDP. Community consensus, however, might sacrifice other values such as change or innovation in the Internet community.

ICANN staff's involvement has been significant in the GNSO and CCNSO PDPs. Through the staff's administrative activities (e.g., producing issue reports and organizing task forces), ICANN can influence its constituencies' bottom-up policy development process. So far, the ICANN Board has never issued a "Board statement." One can argue this suggests that the bottom-up coordination has been successful. Yet, the GNSO and CCNSO have had few supermajority votes, so that the ICANN Board has had no need to issue a Board statement.

In conclusion, ICANN has improved transparency, openness, promptness, and participation in the ICANN bottom-up coordination process. However, ICANN's bottom-up coordination also has been criticized as slow, unresponsive, and captured by powerful stakeholders.

Representation

ICANN was supposed to reflect the diversity (e.g., geographical, cultural and functional) of Internet users and their needs in the DNS name space and its management structure and process. Many have argued that it is almost impossible for ICANN (or its constituent bodies) to represent the whole Internet community. It is noteworthy that ICANN's representation structure and process have evolved over time. In particular, the ICANN reform in 2002 drastically changed its representation structure. In a structural sense, ICANN has improved its performance on representation, but still some constituencies have been less represented than others in ICANN's structure and process.

Representation at the Institutional Level

To evaluate ICANN's performance on representation at the institutional level, I examined whether and how ICANN has shaped governing relationships with key stakeholders in a way to promote diversity in the DNS name space and its management structure and process.

In the early days of ICANN, a representation framework emerged through the bottom-up process (e.g., the ICANN proposal process) and interim ICANN Board meetings. In principle, international representation and bottom-up self-organization were most emphasized as the principles of representation. Relevant stakeholders were

identified and were invited or self-organized to participate in the constitution of ICANN's constituencies. As a result, the ICANN Board, three Supporting Organizations and several advisory committees were established to represent distinct stakeholders' interests and concerns in the Internet community.

The structure of the ICANN Board has evolved over time. The ICANN Bylaws in 1998 prescribed that the Board be composed of 19 members, three from each of three Supporting Organizations (ASO, PSO, and DNSO), nine selected in At-Large elections, and the ICANN president. ICANN's president automatically became a Board member. No advisory committees elected representatives to the ICANN Board. After the ICANN Reform in 2002, the structure of the Board became more complex. The Board is composed of 15 voting members - two from each of three Supporting Organizations (GNSO, CCNSO, and ASO), eight chosen by the Nominating Committee, and the ICANN president, as well as six non-voting liaisons from GAC, RSSAC, TLC, IETF, ALAC, and SSAC. The ICANN Bylaws have demanded that the Board structure reflect the international diversity - functional, regional, and cultural - of the Internet community. However, business/technical stakeholder groups and the North American/European regions have been better represented on the Board than other stakeholders (e.g., civic/government) and other regions (see Figures 5-3 and 5-4).

Table 5-10 shows current and former Board members' profiles as of February 2007. Among 50 former and current Board members, 37 (74%) came from business and technical stakeholder groups (15 and 22 members, respectively), while 32 members (64%) came from the North American and European regions (18 and 14 members, respectively). Although business and technical stakeholders have had much better chances of electing their representatives to the Board through GNSO (formerly, DNSO) and ASO, government, civic, and end user stakeholder groups have had much fewer opportunities to send their representatives to the Board because they have not had supporting organizations.

Table 5-10: Board Members' Profiles

Name (Last, first)	Region	Nationality	Stakeholder Group	Educational Background	Years
Abramatic Jean-Francois	EU	France	Technical	engineering	1
Abril Amadeu	EU	Spain	Civic	law	4
Auerbach Karl	NA	USA	Technical	engineering	3
Beca Raimundo	LAC	Chile	Technical	engineering	4
Blokzijl Robert	EU	Netherlands	Technical	engineering	3
Campos Ivan	LAC	Brazil	Technical	engineering	4
Capdeboscq Geraldine	EU	France	Civic	management	2
Cerf Vinton	NA	USA	Technical	engineering	8
Chapin Lyman	NA	USA	Technical	engineering	3
Cohen Jonathan	NA	Canada	Business	law	4
Conrades George	NA	USA	Technical	business	2
Crawford Susan	NA	USA	Civic	law	2
Crew Greg	AP	Australia	Technical	engineering	2
Davidson Philip	EU	U.K	Technical	engineering	3
Diop Mohamet	AF	Senegal	Business	business	
Drakes Tricia	EU	U.K	Business	business	1
Dyson Esther	NA	USA	Business	business	2
Fitzsimmons Frank	NA	USA	Business	business	4
Fockler Ken	NA	Canada	Business	engineering	2
Gaetano Roberto	EU	Italy	Business	business	1
Getschko Demi	LAC	Brazil	Technical	engineering	2
Goldstein Steve	NA	USA	Technical	engineering	1
Hultzschen Hagen	EU	Germany	Business	IT management	2
Ito Joichi	AP	Japan	Business	business	3
Katoh Masanobu	AP	Japan	Business	business/law	3
Kraaijenbrink Hans	EU	Netherlands	Government	management	5
Kyong Sang-Hyon	AP	Korea	Technical	engineering	3
Lynn Stuart	NA	USA	Civic	math	2
Markovski Veni	EU	Bulgaria	Government	law	3
Mueller-Maguhn Andy	EU	Germany	Civic	journalism	3
Murai Jun	AP	Japan	Technical	engineering	5
Niles Thomas	NA	USA	Government	diplomat	3
Pisanty Alejandro	NA	Mexico	Technical	engineering	7
Plage Michael	NA	USA	Business	law	3
Qian Hualin	AP	China	Technical	engineering	3
Quaynor Nii	AF	Ghana	Technical	engineering	3
Ramaraj Rajesekhar	AP	India	Business	business	1
Rionge Njeri	AF	Kenya	Business	business	4
Roberts Michael	NA	USA	Business	business	3
Rodin Rita	NA	USA	Business	law	1
Scartezini Vanda	LAC	Brazil	Technical	engineering	3
Schnink Helmut	EU	Germany	Technical	engineering	
Silva Francisco	EU	Portugal	Technical	engineering	
Thrush Dengate	AP	New Zealand	Civic	barrister	3
Tonkin Bruce	LAC	Australia	Business	engineering	1
Triana Eugenio	EU	Spanish	Technical	engineering	2
Twomey Paul	AP	Australia	Government	int'l relation	4
Wilson Linda	NA	USA	Technical	engineering	5
Wodelet David	NA	Canada	Technical	engineering	1
Wong Pindar	AP	Hong Kong	Technical	engineering	

Source: Board members' biographies on the ICANN website, <http://icann.org/general/board.html>

Figure 5-3: Stakeholder Groups' Representation on the ICANN Board

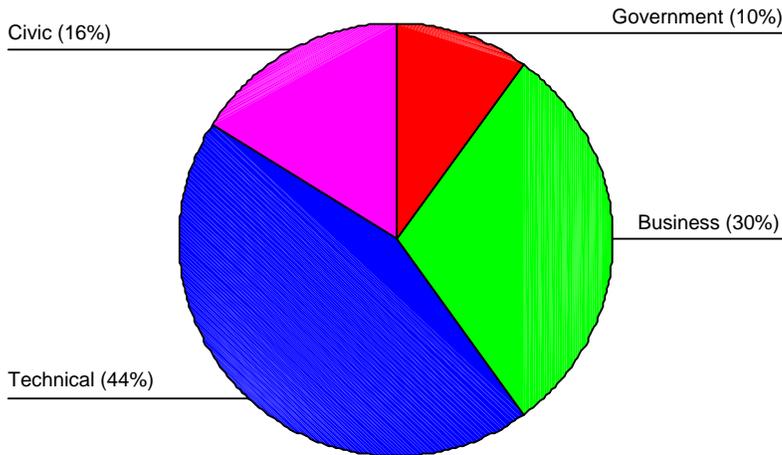
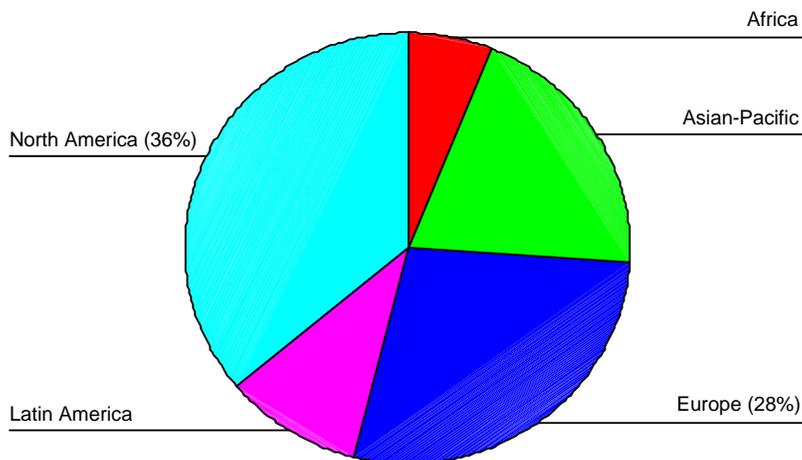


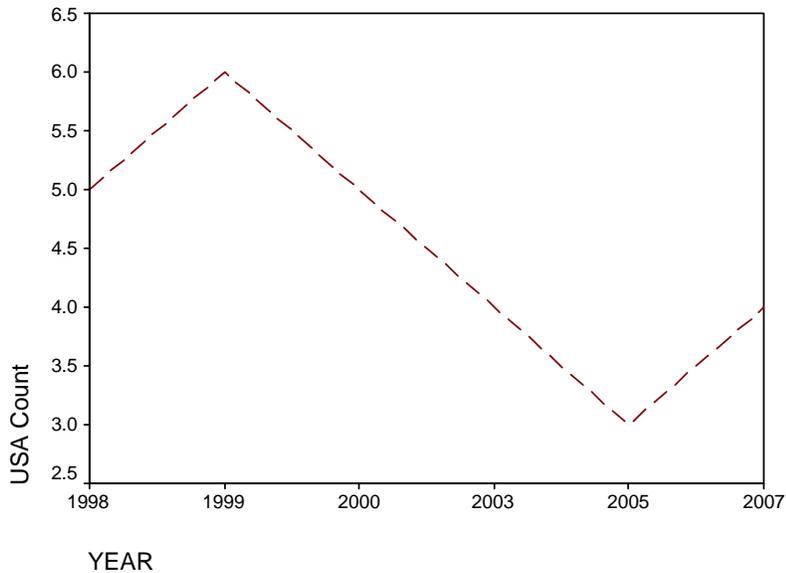
Figure 5-4: Regional Representation on the ICANN Board



One CCTLD registry operator complained about unfair regional and national representation in the ICANN structure, pointing out that the North American region includes only three countries (Interview with a CCTLD operator, 2007 June). In particular, U.S. citizens' dominance was obvious on the initial Board: five of nine members were U.S. citizens in 1998. Among 18 representatives from the North American region, U.S. citizens dominated, with fourteen representatives from the United States, three from Canada, and one from Mexico. In lower-level governance bodies, U.S. citizens also were the biggest group. For example, in the GNSO council as of February 2007, among 21 members seven came from the United States. Although U.S. citizens' dominance on the Board has decreased, they still are the biggest group. In 1999 and 2000,

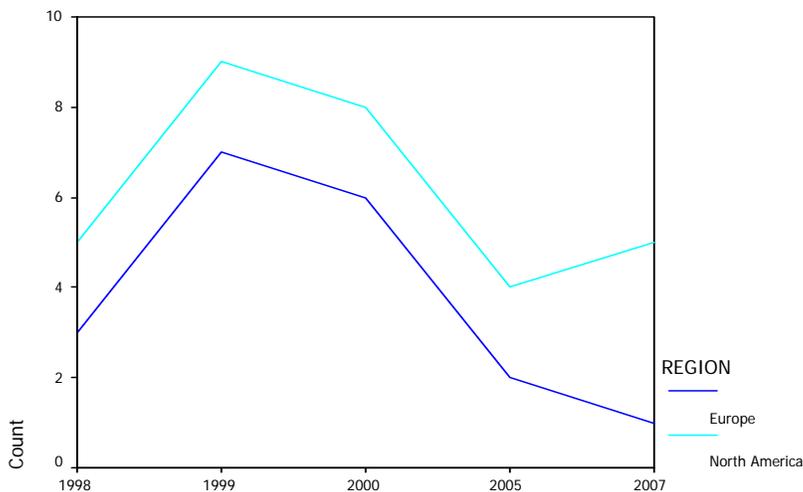
U.S. citizens held five and six Board seats out of 19 seats. However, they had three and four seats out of 15 in 2005 and 2007, respectively (see Figure 5-5).

Figure 5-5: U.S. Citizens' Representation on the ICANN Board



Similarly, the North American and European regions' dominance has decreased over time. In 1999 and 2000, North American and European representatives held 16 and 15 out of 19 seats. However, both in 2005 and 2007 they had 6 out of 15 seats (see Figure 5-6).

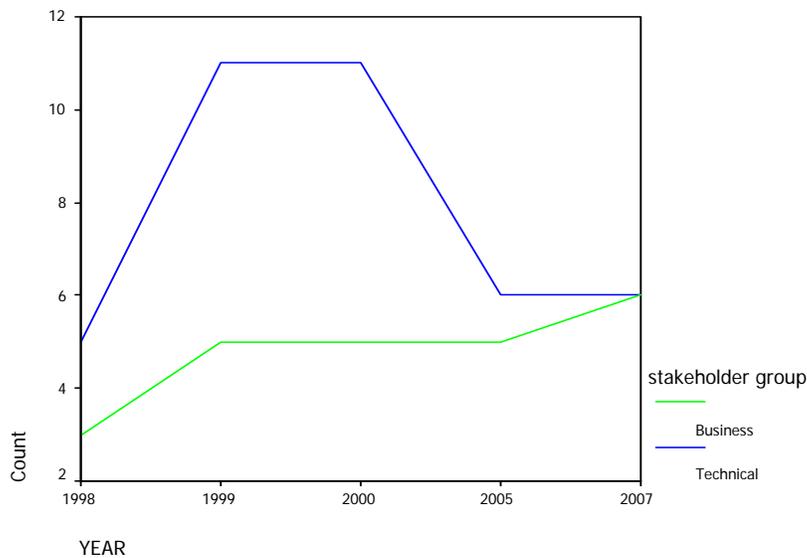
Figure 5-6: North American and European Presence on the ICANN Board



In contrast, business and technical stakeholders' dominance has not decreased over time. Those who with business and technical backgrounds made up 80% of the Board from 1998 to 2007 (see Figure 5-7). In particular, technical experts have had the

largest presence on the Board. However, over time technical experts' dominance has declined, while business persons' presence has increased. This is a result of the ICANN Reform in 2002 when CCNSO replaced the Parameter Supporting Organization (PSO) giving technical experts less opportunity to be elected through Supporting Organizations. The presence of technical experts is still strong on the Board. And, instead of the PSO, ICANN created two advisory committees: the "Technical Liaison Group" and the "Internet Engineering Task Force" (IETF) so that technical engineers can provide technical advice through these advisory committees in the ICANN process.

Figure 5-7: Business and Technical Stakeholders' Presence on the ICANN Board



Representation at the Organizational level

To evaluate ICANN's performance on representation at the organizational level, I examined whether and how its policies and programs promoted diversity in the DNS name space and its management structure and process. First, ICANN has emphasized the importance of outreach programs to encourage regional and local representatives to participate in the ICANN process. It has expanded its outreach budget and hired an outreach manager to help regional organizations to establish regional meetings (e.g., 2005 Board resolution lifting restrictions on line items for outreach program). In particular, ICANN's At-Large coordination officer assisted in the establishment of five regional At-

Large organizations.⁵⁷ ICANN also established a fellowship program to help developing countries' citizens to represent themselves in international ICANN meetings.

Second, although ICANN has placed greater emphasis on international representation, it has not paid much attention to whether its staff members represented the international Internet community. ICANN has not adopted any apparent policy or program to promote diversity inside ICANN. When it hires staff members, it does not consider the diversity of employees' nationality.⁵⁸

Third, while ICANN's Bylaws emphasized regional diversity, ICANN adopted no concrete policy to promote cultural and language diversity in its governing structure. Yet, when the ICANN Board decided to introduce the ".cat" sTLD in the DNS, it stated that the existence of .cat would promote cultural diversity in the DNS space. ICANN advocated internationalized domain names as a means of promoting language diversity in the DNS space. ICANN also has emphasized the importance of translating English documents into other languages so that it can move closer to the international community.

Representation at the Technical Level

To evaluate ICANN's performance on representation at the technical level, I examined whether and how it has developed its representation procedures and methods in ways that reflect geographical, functional and cultural diversity of Internet users and their needs in the DNS name space and its management structure and process.

Since its creation in 1998, ICANN tried various nomination procedures and election methods to fill ICANN's governing bodies such as the Board. For the members of the Board, ICANN initiated an At-Large online election in 2000 and elected five Board members from each of the regions defined in the ICANN Bylaws (NAIS, 2001). Despite strong criticisms, however, ICANN abandoned At-Large online elections because the ICANN community could not define the membership criteria and efficient methods for such elections. Instead, ICANN created the Nominating Committee, which elects eight Board members to replace the At-Large election.

⁵⁷ The New Bylaws in 2002 called for the ALAC to consist of ten members selected by Regional At-Large Organizations and five members selected by ICANN's Nominating Committee.

⁵⁸ No complete information was available on ICANN's website regarding staff members' nationalities.

Lower-level governance bodies use different election methods and procedures prescribed by the ICANN Board. For instance, five regional registries elect the members of the ASO Council. Each of RIR's policy forums elects two members through an open bottom-up process, and each RIR executive board selects one. The ASO Council appoints two representatives to the ICANN Board. In contrast, the CCNSO members elect a total of 15 council members, three from each of the five regions, while the Nominating Committee elects three additional council members. By majority vote, the CCNSO council members select two representatives to the ICANN Board. Similarly, each constituency of GNSO elects its representatives to the GNSO council, and GNSO council members elect two representatives to the Board. All Supporting Organizations' council members were elected in accordance with regional or constituency structures prescribed by the ICANN Bylaws. No Supporting Organizations, however, use At-Large election methods for their representation process.

Representation: Summary and Conclusion

ICANN has encouraged multiple stakeholders to self-organize and to represent themselves in the ICANN structure and process. ICANN's outreach has helped to promote the presence of regional and local organizations. ICANN's representation structure (e.g., the ICANN Board and Supporting Organization councils) and methods (e.g., At-Large election and Nominating Committee) have evolved and stabilized over time. ICANN has tried to ensure international diversity in its multiple layers of governing structure. In reality, however, technical and business stakeholders and the North American region have been better represented in the ICANN governing structure. It also abandoned the At-Large online election even though many in the Internet community deemed it as one of the most innovative governance methods for the Internet.

In conclusion, although ICANN has made efforts to promote geographical and functional diversity in its governance structure and process, it has failed to achieve fair representation⁵⁹ in the ICANN Board and Supporting Organization councils.

⁵⁹ There is no consensus on the model of "fair representation" for ICANN. In 2000, ICANN used "one person one vote" to elect "At-Large directors" online. However, ICANN cancelled the at-large election because it could not define the membership who can vote to elect board members. Although the notion of

Overall Performance: Summary and Conclusion

Among the four performance areas, ICANN has been most successful in the stability area at the institutional, organizational and technical levels. Although it has made efforts to promote competition, bottom-up coordination, and representation, ICANN has achieved mixed outcomes in those areas.

Regarding competition, ICANN did not introduce as many new GTLDs as demanded in the domain name market. Rather, it took a cautious approach to the introduction of GTLDs so that only twelve new GTLDs have been introduced so far, and ICANN often has taken more than two years to approve, negotiate and implement new GTLDs in the DNS.

On the bottom-up coordination criterion, ICANN has respected the bottom-up consensus process in its deliberation and decisions. However, the consensus rule made it harder for the Board to make changes in existing consensus policies, complicating response to newer grass roots demands.

In terms of representation, ICANN has established a representation structure and election methods through trial and error. Although it has maintained Supporting Organizations' election of Board members, it has abandoned at-large elections by the Internet community. Instead, Nominating Committee election has replaced the at-large election. The overall profiles of all former and current Board members show that those who have technical and business educational backgrounds and interests have dominated the ICANN Board. Technical experts have the broadest opportunities to be elected as Board members through three Supporting Organizations and the Nominating Committee's election process. Business people have moderate opportunities to be elected as Board members through the GNSO, the CCNSO and the Nominating Committee. Other stakeholders who have governmental and civic interests have the narrowest opportunities to be elected as Board members, mainly through the Nominating Committee election process.

fair representation is not clear for ICANN, it is evident that the ICANN Board has been dominated by those from certain regions and stakeholder groups.

The at-large election in 2000 and the subsequent Nominating Committee elections have produced more Board members from non-technical and business backgrounds (e.g., lawyers, journalists) who are more critical of ICANN's performance. For example, Karl Auerbach (a U.S. engineer with a J.D.) and Andy Mueller-Maguhn (a German journalist) were elected in the at-large election in 2000. They were the most critical members of the Board. Susan Crawford (a U.S. lawyer) and Joichi Ito (a Japanese businessman) were selected through Nominating Committee election. They often have stood in opposition to the majority of Board members on many controversial decisions such as the VeriSign settlement and the XXX domain name. These more critical members advocated liberal values in the Internet community such as the Internet's freedom from external pressures (e.g., governmental regulation), while the majority of Board members emphasized more conservative values such as stability.

In conclusion, so far, ICANN's structure and process have evolved to favor technical stakeholders' interests over those of other stakeholders (e.g., civic). Technical experts have dominated ICANN's structure and process from its early years. The majority's technical mind-set has favored more conservative approaches to the operation of the DNS, which has led to slow and cautious introduction of new GTLDs, use of a consensus rule in the bottom-up coordination process, the presence of more technical experts in the governing structure, and a strong emphasis on technical stability in ICANN's deliberation and decisions. Overall, ICANN has appeared to put too much weight on conservative values such as stability over other community values such as competition, bottom-up coordination, and representation. This in turn has led the broader Internet community to perceive ICANN as less innovative and prompt than it anticipated a new private self-governance body would be.

What comes next is to explain ICANN's overall performance assessed in this chapter. As a first step, in the next chapter, I will closely trace the decision process in three cases in order to explore possible factors and actors that influence ICANN's governance and performance.

Chapter 6 Tracing Three Governance Processes

The purpose of this chapter is to closely examine ICANN's governance process and performance by tracing three cases. For each case, I will provide relevant background and describe the decision-making process and decisions. Then I try to identify significant influences on the decision-making process and evaluate ICANN's performance on the four criteria in each case.

The Internationalized Domain Name Project

The Internationalized Domain Name (“IDN”) project is one of ICANN's oldest defining tasks. ICANN believes that the introduction of IDNs – domain names in non-Latin scripts - will be one of the biggest changes to the Internet since its inception. It has received broad support from inside and outside the ICANN community. Even though the IDN project involves a number of public policy issues, it has been treated mostly as a technical task so far. The IDN project illustrates how ICANN handles a technical task in its bottom-up process.

Background

Under the original architecture of the Internet Domain Name System, English letters were the only linguistic characters available for Internet users to express their domain names. English has become the de facto official language in the DNS.⁶⁰ As the Internet diffused to non-English speaking developing countries, however, many national governments and CCTLD registries started to advocate the introduction of multilingual domain names. First, national governments were interested in the IDN to ease accessibility problems for less educated people unfamiliar with English letters. The governments approached the accessibility issue with a view to reducing the digital divide within and across countries. Second, the non-English speaking community wants to use its local language for domain names to express their cultural identities on the Internet.

⁶⁰ Using English was not a technical mandate for the operation of the DNS. Rather, the Internet pioneers chose English simply because the majority of early Internet developers and users came from the U.S.

Sometimes, English domain names are inadequate in delivering culturally particular expression.

Third, a group of CCTLD and GTLD registries sought business opportunities by reaching non-English speaking communities. Fourth, some people believe that internationalized domain names will make the Internet a truly international medium (Wee, 2004 July). The ICANN community welcomed the idea of internationalized domain names. In 2000, the ICANN Board recognized the importance of IDN as a way to make the Internet more accessible to those who do not use the ASCII character set (ICANN, September 25 2000).

However, the introduction of IDNs is an ongoing challenge to ICANN because it requires significant changes to the original architecture of the DNS. ICANN needs to address many technical and public policy issues prior to the actual implementation of IDNs in the Internet DNS.⁶¹ Even though the IDN project is still evolving, ICANN has made significant progress in the actual implementation of IDN over the last several years.

IDN Implementation Process

I examined ICANN's deliberation and decisions in the IDN development process from 1998 to 2007.⁶² To gain a better understanding of the ongoing IDN implementation process, I traced ICANN's IDN activities in five task areas: (a) IDN's testbed experiments; (b) guiding principles; (c) technical standardization and test; (d) registry operator guidelines; and (e) public policy formation, and outreach.⁶³ Even though these IDN activities have mostly taken place sequentially, some of them overlap.

Early Testbed Experiments

Prior to ICANN, there were international efforts to introduce multilingual domain names in the DNS. In the 1990s, academic research attempted to probe whether

⁶¹ The issues include some user experiences such as confusion, abuse, and slow resolution; the threat to a unique root zone system; and intellectual/trademark infringement.

⁶² To better understand the ICANN Board's deliberation and decisions on IDNs, I referred to relevant IDN documents available on ICANN's website such as "ICANN Board Resolutions on IDNs," "IDN Committee Announcement," and IDN reports presented by ICANN staff and other technical experts.

⁶³ According to ICANN's "IDN Status Report" (October 28, 2007), ICANN manage eight ongoing tasks necessary for actual IDN TLD implementation and deployment: ".test" IDN TLD evaluations, IDN security study (SSAC) IDN guidelines, IDN repository, IDN user Interface through applications to DNS, IDN policy, IDNA protocol review (IETF), and IDN outreach.

multilingual domain names were technically feasible in the DNS context.⁶⁴ In 1998, some Asian countries established the Asia-Pacific testbed to experiment with multilingual domain names in their DNS.

In 2000, there were more than ten multilingual testbeds including iDNS (Internationalization of the Domain Name System),⁶⁵ MINC (Multilingual Internet Names Consortium)⁶⁶ and VeriSign's multilingual testbed. Many of these international efforts were organized by non-English speaking Asian CCTLD registries from Singapore, Taiwan, China, Japan and Korea. These early multilingual testbeds provided useful "trial and error" experiences and references for ICANN's policy discussion and consideration of internationalized domain names.⁶⁷ However, these testbeds were targeted at the internationalization of second level domain names rather than top level domain names in the DNS.

Prior to 2000, CCTLD registry operators were major actors in researching, developing and testing the concept of internationalized domain names in the DNS. ICANN was not deeply engaged in the early IDN development within CCTLD domain name space. As the number of multilingual testbeds increased, however, the ICANN community has paid more attention to the technical and policy issues they raise. To ensure the stable and reliable operation of the DNS, the ICANN community (for example, GAC), recommend ICANN to coordinate various multilingual testbeds based on appropriate guiding principles and technical standards.

⁶⁴ In 1996 and 1997, Martin Duerst, among others, proved that multilingual domain names are technically feasible in the Internet DNS. He published a paper regarding UTF-5 - a primitive ASCII conversion encoding system. This protocol was tested in some Asian CCTLD DNS (Wee, July 2004).

⁶⁵ The "iDNS" project was led by the National University of Singapore. Most of the participating members in the project are from CCTLD registries in Asian countries such as JPNIC, KRNIC, CNNIC, HKNIC, SGNIC, MYNIC, THNIC, and TWNIC and commercial firms (e.g., i-DNS.net, and Netpia).

⁶⁶ MINC is an international organization with more than twenty founding members: i-DNS.net, NSI Registry, Netpia, KAIST, NUS, GA Partners, JPNIC and KRNIC. It was founded in Seoul, Korea in July 2000. It has contributed to the IDN development by promoting international forum and public awareness of IDN.

⁶⁷ "Internationalized domain names" (IDNs) is interchangeable with "multilingual domain names" and "Internationalization of the domain name system (IDNS)." Interestingly, however, the term IDNS can be used to address broader policy issues such as internationalization of ICANN's DNS, which arguably is under the control of the U.S. government.

IDN Guiding Principles and Technical Standards

From 2000 to 2002, ICANN focused on the establishment of guiding principles and technical standards to coordinate multiple multilingual testbeds. In its coordination process, ICANN's priority was to ensure that no IDN tests or services disrupted the stable and reliable functioning of the existing DNS.

On August 22, 2000, VeriSign – a single GTLD registry operator at the time announced its multilingual testbed under which its customers could register non-English second-level domain names in the .com, .net, and .org name space (e.g., "example" in "example.com"), using their local languages (e.g., traditional and simplified Chinese, Japanese, and Korean).⁶⁸ While ICANN supported the VeriSign's testbed plan, it demanded that VeriSign pay attention to the IDN principle that the IETF's IDN working group suggested: no IDN work should “disturb the current use and operation of the domain name system” (ICANN, 2000 August).

For the first time, on September 25, 2000, the ICANN Board unanimously adopted the IDN principles. The internationalization of the Internet's domain name system must (a) be accomplished through standards that are “open, non-proprietary, and fully compatible with the Internet's existing end-to-end model,” (b) preserve globally “unique naming” in a public name space, and (d) encourage constructive experimentation for “responsible standardization” in which any IDN experimentation “avoids disrupting the stability of the Internet or the interoperability of Internet services.” VeriSign and other registries were supposed to consult closely with the IETF so as not to undermine its efforts at technical standardization of IDN (ICANN, 2000 September).⁶⁹ On November 10, 2000, VeriSign began registering IDNs in Chinese, Japanese, and Korean under the guidance of ICANN's principles.

⁶⁸ VeriSign deployed special resolvers that would receive multilingual queries for domain name resolution, convert the multilingual strings to the ASCII equivalents, and look up those equivalents in the ordinary DNS zone file. The proper IP address would then be returned to the requesting party. VeriSign charged \$6 for an IDN domain registration like other .com domain registrations.

⁶⁹ The ICANN Board also demanded that (a) GTLD registry operators conduct IDN testbeds in full compliance with their agreements with ICANN (e.g., all accredited registrars meeting reasonable technical qualification requirements have equal access to the testbed); (b) participating registrars handle IDN registrations within the testbed in a manner that protects both the domain name holder and affected third parties' interests; and (c) ICANN staff report to the Board on whether the VeriSign registry agreement needs to be changed to ensure that its testbed matches with IDN standardization efforts within the IETF (ICANN, 2000 August, 2000 September).

In October 2002, IETF published three “request for comment” (RFC) documents – RFCs 3490, 3491, and 3492 – known collectively as “IDNA” (Internationalizing Domain Names in Applications) that defined an application-level mechanism for IDNs.⁷⁰ The IDNA protocol or standard adds a new layer of protocol to the original DNS architecture. The IDNA is a series of protocols to translate an internationalized domain name in a Unicode to an ASCII code equivalent that the existing DNS can use to respond to an Internet user’s DNS inquiry. However, the original IDNA standards were found to be insufficient to prevent potential collisions, confusion, and other damage resulting from the use of the Unicode encoding system. The IDNA also was vulnerable to certain types of cyber attack.

In October 2006, IETF began to revise the original IDNA standards because the original standards were designed based on Unicode version 3.2, which was the latest version available in 2003. By revising the original standards to the current Unicode version 5.0, the IDNA standards could lower vulnerability to cyber-attacks. More importantly, IETF also would determine the “inclusion list of characters” that can be used for IDN TLD in the DNS. In the revision process, all interested stakeholders in the ICANN community put their opinions on the list of IDN TLD (Top Level Domain) characters to be included in the DNS. Once the inclusion list of IDN TLD characters is determined and implemented, however, “not all characters will initially be available for registration in domain names and only those characters passing through the [revision] process will be made available” (ICANN, 2006 October) As of December 2007, the IDNA standards were still under review by IETF’s “design team.”

IDN Registry Operator Guidelines

Beginning in 2003, ICANN adopted a series of guidelines to coordinate GTLD registry operators’ IDN technical and business activities for second level IDN registration. These guidelines have developed through a bottom-up process among IDN registry operators and have continually evolved reflecting the registries’ technical and

⁷⁰ These documents are “Internationalizing Domain names in Applications (IDNA),” “Nameprep: A Stringprep Profile for Internationalized Domain Names,” and “Punycode: An encoding of Unicode for use with IDNA.”

administrative experiences and IETF's technical standard change. In the guidelines, IETF's IDNA documents were deemed to be the technical standards binding GTLD registry operators' IDN activities.

In March 2003, the ICANN Board unanimously approved "Guideline Version 1.0" that the IDN-RIC (Internationalized Domain Name Registry Implementation Committee) recommended for coordinating the activities of IDN registry operators. ICANN authorized GTLD registry operators to register IDNs under the guidelines and also recommended the guidelines for CCTLD registries. ICANN also encouraged broad participation by registries, language experts, and others in studying and developing the rules and policies of appropriate language-specific IDN registration (Rio de Janeiro Regular Meeting).⁷¹

At the outset, "Guideline Version 1" was expected to be amended depending on registry operators' IDN experiences and IETF's new IDN technical standards. The joint IDN working group between CCNSO and GNSO proposed a revised guideline (known as Guideline Version 2.0) because Guideline Version 1.0 was found to be vulnerable to certain types of spoofing attacks. On November 8, 2005, the Board endorsed Guideline Version 2.0 to limit the deceptive use of visually confusing characters from different scripts in individual IDN labels and authorized IDN registration under the new guidelines.

In February 2006, Guideline Version 2.0 was amended slightly and became Guideline 2.1. In May 2007, the IDN working group of GTLD and CCTLD registries published a draft Guideline Version 2.2 for public comment. Guideline 2.2 is the first guideline that makes specific reference to internationalized TLDs (known as "IDN TLD"). The guidelines will be continually amended and supplemented by subsequent drafts until internationalized TLDs are actually implemented in the root zone name space. The Board has framed the IDN guidelines as "Best Current Practices" (BCP) to ensure that the guidelines reach "deeper into the DNS hierarchy where ICANN has a lesser policy relationship" (ICANN, 2005 November).

⁷¹ ICANN authorized info, .museum, .biz, .org, .name, .org, .com and .net registries to register IDN domain names based on the published guidelines.

Technical Test of Internationalized TLD

Prior to 2006, the application of IDN was limited to second-level domain names within CCTLD and GTLD name space: for example, 회사.kr, 회사.com (회사 means company in Korean). Since 2006, however, ICANN has taken initial steps to internationalize top level domain names in the root zone name space so that Internet users can use top level domain names in their local languages: for example, 회사.한국 (한국 means “Korea” in Korean).

In March 2006, ICANN announced a timetable outlining the procedures for the technical test of the internationalized TLD in the root zone name space. Again, ICANN emphasized in the announcement that ensuring DNS stability and security was its first priority in the IDN test process. In October 2006, ICANN entered into a contract with a Swedish company - Autonomica AB - to test the impact of IDN on the DNS in a laboratory setting. In March 2007, ICANN publicly announced that the laboratory test was successful: “no impact at all could be detected. All involved systems behaved exactly as expected”(Liman, 2007).

In June 2007, ICANN announced its plan and procedures for implementing a live test of internationalized TLD to see if there was any impact on the root zone name space (ICANN, 2007 June-b). The live test was intended to establish a publicly accessible facility that provides temporary IDN TLDs into the root zone, and to evaluate the response of commonly used software applications (e.g., web browser) to domain names with Unicode-labels (ICANN, 2007 August). On October 15, 2007, ICANN launched an IDN website (“idn.icann.org”) that Internet users can access in eleven non-English languages. As of December 2007, the live test was still ongoing.

IDN Public Policy Discussion

From 2000 to 2007, ICANN and its policy bodies have engaged in collaborative efforts to identify and address technical, administrative, and public policy issues concerning the introduction of IDN into the DNS. A number of working groups, committees, workshops, and meetings have been organized to handle a broad range of issues and challenges related to the implementation of IDN. Not until recently, however,

have ICANN policy bodies provided a list of more specific and concrete policy issues to be addressed prior to the actual implementation of IDN.

The ICANN Board organized an internal IDN working group to identify various IDN efforts and issues. In March 2001, the IDN working group recommended to the ICANN Board that some policy issues (e.g., the IDN standardization process, intellectual property considerations) were worthy of further examination, in parallel with ongoing IETF technical standardization. The IDN working group noted that “these policy issues cannot be fully resolved until the IETF completes work on a deployable IDN standard, but initial work on the policy issues that will arise can and should proceed concurrently” (ICANN, 2001 March).

In November 2001, the ICANN Board unanimously resolved to establish an IDN committee (chaired by Masanobu Katoh, a Board member) that served as a general coordination body for the policy issues identified by the internal working group.⁷² The IDN committee consisted of members from the ICANN Board, Supporting Organizations, the GAC, and other individuals such as policy and linguistic experts.⁷³

In May 2006, the Generic Name Supporting Organization Council requested that the ICANN staff produce a preliminary “Issues Report” regarding the implementation of IDNs into the root zone of the DNS. Based on that report, the GNSO Council established an IDN working group for further policy development of internationalized TLD. In March 2007, this group issued the “Outcomes Report of the GNSO Internationalized Domain Names Working Group.” This report addressed five kinds of policy issues.

⁷² In the 2001 L.A. annual meeting, a draft resolution was intended to allocate an IDN Committee seat to a WIPO representative. But there was sharp disagreement among ICANN Board members over whether intellectual property issues were involved in the IDN works. Director Andy Mueller-Mouhn moved and Karl Auerbach seconded a motion to revise the draft resolution, which was intended to get rid of the WIPO seat. The resolution was successfully revised by a sharply divided vote of 6 yes -5 no -6 abstention. Finally, the revised resolution was adopted 16-1-0. Although Mr. Cohen consistently voted against the revised resolution, 10 other members changed their positions from no or abstention to yes. This incident was an unprecedented showdown among the Board members; usually, resolutions on IDN have been adopted by unanimous votes.

⁷³ In 2002, the IDN Committee submitted to the Board a set of policy issue papers related to the introduction of non-ASCII characters (IDN) to the DNS, including “Non-ASCII Top-Level Domain Policy Issues” and “Registry Selection Considerations for Non-ASCII Top-Level Domains” (Bucharest Meeting, June 2002). In 2004, ICANN launched the “President’s Advisory Committee on IDN” to provide advice on particular issues that impact the implementation of an internationalized top level domain (Kuala Lumpur Meeting, July 2004).

- The relationship between IDN GTLDs and non-IDN GTLDs
- Management of existing IDN second level domains (SLDs)
- Geo-political implications of IDN
- Protection of existing IDN SLD holders
- Specific techno-policy of IDN GTLDs

A series of joint IDN working group meetings between GNSO and CCNSO and between CCNSO and GAC allowed the exchange of information about each working group's position and progress regarding IDN. In a joint meeting in December 2006, the GNSO and CCNSO group suggested the need for a "fast track" to expedite the implementation of certain IDNs. That same month, the ICANN Board officially requested that CCNSO and GAC provide an issues paper regarding the introduction of internationalized CCTLDs. In July 9, 2007, the CCTLD/GAC joint working group published an issue paper on the selection of IDN CCTLD associated with the ISO 3166-1 two letter codes (ICANN, 2007 June-a).

Recognizing that the ICANN Board would take several years to address all the issues raised in the GAC's IDN issue paper, the Governmental Advisory Committee advised at the 2007 San Juan meeting that ICANN adopt "a parallel process to enable a limited introduction of IDNs to begin addressing the need that currently exists in some territories" (ICANN Governmental Advisory Committee, 2007 June). The GAC reiterated its support for the adoption of a fast track approach for IDN CCTLD at the next L.A. meeting (ICANN Governmental Advisory Committee, 2007 November). As of December 2007, ICANN was considering a fast track approach to introduce a limited number of IDN CCTLDs associated with the ISO 3166-1 two-letter codes (ICANN, 2007 November-a).

Issues, Deliberation and Decisions

Since 2000, the IDN project has become one of the most notable ongoing activities in ICANN. Paul Twomey, ICANN's CEO, noted that the introduction of IDN TLD in the real DNS environment is a pressing task that ICANN needed to focus on for next several years (ICANN, 2006 February-c). The focus of the IDN project has shifted from second level IDN to top level IDN implementation in the DNS.

ICANN has tried to expedite the implementation of IDN by tackling technical and policy issues in parallel tracks. In the technical track, it has focused on matters such as

standardization, laboratory and live tests, and registry operator guidelines. Not surprisingly, IETF has played greater roles in developing and revising technical standards for the implementation of IDN in the DNS context, while the ICANN staff took the lead in the laboratory and live tests and in developing guidelines based on the IETF's standards.

In the policy track, so far ICANN has struggled to identify the issues of policy implication. The GAC, CCNSO, GNSO, and At-Large committee have been involved in advising the ICANN Board on public policy issues relevant to the implementation of IDN. However, for the actual implementation of IDN, a number of policy issues need to be resolved.⁷⁴ Even though myriad technical and policy issues are involved in IDN implementation, two issues have been the most prominent: the inclusion list of IDN characters and the timing of actual IDN implementation.

The ICANN community has agreed to limit the number of possible IDN characters in the DNS so that they do not burden the system's operation. For example, a great deal of discussion occurred over whether one or multiple IDN strings are allowed for existing CCTLD and GTLD domain names.⁷⁵ The ICANN community reached rough consensus that some IDN strings would be restricted in the DNS for technical and political reasons. To be technically usable in the DNS context, IDN strings are not to be "confusingly similar" to other language strings.⁷⁶ To be politically acceptable, geopolitical IDN strings must be used only by appropriate governments or public authorities.⁷⁷ Any IDN string that fails to meet these technical and political requirements is regarded as unacceptable in the DNS (ICANN Generic Name Supporting Organization, 2006 December). When a technical standard is under review or is changed, mostly policy discussion or conclusions about a policy issue tend to be deferred until the technical

⁷⁴ Many political and cultural issues are involved in IDN implementation: for example, whether governments have a say on particular IDN strings to be used in their CCTLD name space; whether country or geopolitical names are to be allowed for IDN strings and who decides that.

⁷⁵ Many countries have more than one official language (e.g., South Africa, Sweden). For these countries, it is not easy to choose which language should be used for IDN string to represent its CCTLD in the DNS.

⁷⁶ Visually confusing scripts would violate the unique naming principle that underlies the DNS architecture.

⁷⁷ The use of a geopolitical name would violate the GAC and WIPO's consistent recommendation that geopolitical names should be used by only appropriate governmental or public authorities.

standard is determined. Interestingly, the ICANN staff and CCNSO and GNSO working groups have taken two distinct approaches to the issue of timing: that is, when to implement IDN TLD in the DNS. Tina Dam, the ICANN IDN project manager, took a *conservative approach*. She argued that prior to the full implementation of IDN TLD, technical standardization and testing needed to be completed, including the pre-determination of the entire Unicode set of IDN scripts useable in the DNS to avoid any risk of choosing strings that later would be determined to be unusable. From a technical standpoint, Dam understood that technical standardization and testing of IDN TLD should be followed by the relevant policy development track (ICANN Generic Name Supporting Organization, 2006 December, p. 19). From her perspective, the policy track of IDN must not precede the technical track; rather it should wait until the issues on the technical tracks are fully examined to avoid any threat to the stable and reliable operation of the DNS.

In contrast, Bruce Tokin – acting chair of the GNSO IDN working group in 2006 – expressed a more *flexible approach* to implementing IDN TLD in the DNS. Noting that since some Asian countries have experience with the second level IDN in their CCTLD name spaces, he argued that ICANN needs to adopt a fast track approach to allow the use of a “subset of the entire Unicode set” with which registry operators have experience within their TLD name spaces. From his perspective, ICANN needs to make more timely decisions on IDN based on past community experience to expedite the implementation of certain types of IDN TLDs prior to the full process of technical standardization and testing. This fast track approach was supported by the GNSO and CCNSO IDN working groups (ICANN Generic Name Supporting Organization, 2006 December, pp. 19-20). With the GAC’s support, the ICANN Board has started to consider the possibility of a fast track to expedite implementation of some IDN CCTLDs.

Although the GNSO, CCNSO and GAC IDN working groups have identified and discussed various policy issues, ICANN has made few decisions on policy issues regarding the implementation of IDN TLD. According to the ICANN annual report in 2007, it will take more time for all policy issues to be settled prior to the actual implementation of IDN (ICANN 2007 annual report).

To the contrary, the ICANN Board mostly has handled the technical aspects of IDN and made significant progress in, for example, technical standardization and testing of IDN feasibility in the DNS. Little controversy appeared in the Board's technical decisions on IDNs. Most of the Board's technical decisions were reached unanimously. One may argue, however, that ICANN has not made any tough policy decisions on the IDN project. Tokin believed that "ICANN is going to be very careful [about IDN policy issues] so that this could drag on forever." He urged that a timeline be set up to finish a "never ending process" and move forward to reach a result (ICANN Generic Name Supporting Organization, 2006 December, p. 28). Since many policy decisions are unresolved, the ICANN Board might face more difficulty and controversy in dealing with the tougher policy issues regarding, for example, the selection of IDN TLD registry operators and the scope of usable language script.

Significant Influences over the IDN Process

I traced whether and how the independent variables identified in the conceptual framework in Figure 3-1 had significant influences over the IDN process. Resource scarcity, resource acquisition, and contract formalization have had little apparent impact on the Board's deliberation and decisions on the IDN project. However, broad support, little stakeholder conflict, strong ties with technical stakeholders, low technical certainty, emphasis on technical stability as goal priority, high delegation, and decoupling have had significant influence over the IDN project process.

Support or Hostility

Since the international Internet community believes that IDN will advance the internationalization of the Internet, the IDN project has received wide support from inside and outside the ICANN community. The existence of broad community support for IDN has contributed to a collaborative working environment among ICANN staff, GNSO, CCNSO, GAC and other policy bodies. Few controversial issues emerged in the bottom-up policy process among ICANN's constituent policy bodies. Broader community support and a non-controversial bottom-up policy development process have helped the ICANN Board to mostly reach unanimous decisions on IDN implementation. So far, few controversies have arisen over the ICANN's Board's deliberation and decisions on the

IDN project. Great community support of and few controversies about ICANN's IDN implementation help improve ICANN's legitimacy and institutional stability in the broader Internet community.

Stakeholder Conflict

No noticeable conflicts or disagreements resulted from different stakeholders' interests or concerns in the IDN implementation. However, there have been some disagreements over timing issues involving the implementation of IDN TLD. For example, CCNSO, GNSO, and GAC complained about ICANN's conservative approach to the implementation of IDN TLD in the root zone name space. They advocated a flexible fast track approach to some IDN CCTLD.

Tightness of ties

In the IDN process ICANN has maintained strong ties with IETF and with leading IDN registries in the implementation of IDN. ICANN has taken IETF's IDNA RFC documents as the technical standards for implementation of IDN. Through registry operators' guidelines, ICANN urged the operators to strictly comply with the technical requirements described in the IETF's IDNA.

When it comes to technical standardization including the IDN project, ICANN has worked closely with IETF. ICANN also has collaborated with leading CCTLD and GTLD IDN registry operators in developing its IDN guidelines. IDN registries have continually supported ICANN by committing to abide by the guidelines in their IDN operation.⁷⁸ ICANN, IETF, and IDN registry operators have been a tripartite driving force pushing the IDN implementation process.

ICANN also has special ties with UNESCO because it needs to collaborate with the U.N. body to address many cultural and language issues involved in the IDN project (ICANN, 2007 November-b). Prior to the project, UNESCO participated in the ICANN process on cultural and language issues. Often, UNESCO has held workshops relevant to the issues from a broader perspective – e.g., internationalization of the Internet. ICANN recently named a liaison to UNESCO to address relevant cultural and language issues to IDN (ICANN Generic Name Supporting Organization, 2006 December).

⁷⁸ When ICANN announced Guideline Version 1, for example, the .cn, .info, .jp, .org, and .tw registry operators supported it.

Historical Commitment

The IDN project itself is a remedy to the past decision of the Internet DNS pioneers to use English as the official language in ASCII codes for the domain name system. The basic DNS architecture that the pioneers designed in the 1980's – e.g., unique naming and root system – has not been changed so that the architectural features of the DNS affect the overall IDN implementation process. For example, just like other English domain names, internationalized domain names must be unique in the Internet. The ICANN technical community must take the architectural features into account in developing new IDN application standards that will be installed on top of the existing DNS architecture. These architectural features can be considered the historical commitment made in the early days of the Internet DNS, which has shaped the overall direction of IDN development and implementation.

Another recent decision made by IETF will be a historical commitment that affects the overall direction of the IDN implementation process. When IETF published IDN standard documents for the IDN application in the DNS, it decided to incorporate Unicode as the text standard to express all IDN characters in the DNS.⁷⁹ The Unicode system was developed outside the ICANN community in 1991 prior to the IDN project. From a technical standpoint, the features – both strengths and weaknesses - of Unicode will affect the future IDN implementation process.

Nature of Task

The IDN project has been deemed a “technical” task in the ICANN process. So far in the IDN process, ICANN has addressed more technical issues such as technical standardization with more participation from the technical community. The political economic issues (e.g., who gets what question) of IDNs has not been fully addressed.

⁷⁹ The Unicode Consortium emphasizes on its website that “Unicode provides a unique number for every character, no matter what the platform, no matter what the program, no matter what the language.” The Unicode system was introduced in 1991 and has been updated several times since then. Unicode Consortium is “a non-profit organization founded to develop, extend and promote use of the Unicode Standard, which specifies the representation of text in modern software products and standards” ([Unicode Consortium](#) website).

Technical Certainty

The Internet Engineering Task Force (IETF) has played a significant role in ICANN's IDN implementation process in which technical certainty initially was low. IETF has published and revised IDNA documents for the ICANN community to use as technical standards for the non-English IDN implementation in the DNS environment. These documents have defined the technical parameters and procedures with which an IDN string can be translated into the corresponding ASCII equivalent string. By its technical specifications, IETF has designed the basic logic of IDN implementation in the DNS. The ICANN community has accepted IETF's technical standards without question. None has challenged these standards or IETF's expertise in the IDN technical standardization process. Rather, IETF's standards have been deemed as the "one best way" for the ICANN community to take care of technical matters. As a result, IETF's presence and involvement has tended to increase technical certainty in the IDN implementation process.

Technical Capture

It is noteworthy that IETF's technical standards evidently have limited the types of IDN strings that can be used in the DNS. Through the technical standardization process, IETF has predefined the population of possible IDN strings that can be considered in the policy development process. For example, from a technical standpoint IETF prohibited IDN strings that are "confusingly similar" to other IDN strings. In this sense, one may argue that through its preemptive technical standardization process IETF has captured the overall IDN selection process in the ICANN community.

In the early discussion of the IDN implementation process, many thought that "technical choices should go along with policy development side by side" (ICANN, 2001 September). In reality, however, there has been a time lag between the technical standardization and policy development processes in ICANN. Mostly, the technical standardization process precedes the corresponding policy development process. In 2001 the internal IDN working group of the ICANN Board recommended that "although initial work on the policy issues can proceed concurrently with IETF's technical standardization process, IDN policy issues cannot be fully resolved without deployable technical IDN standards" (ICANN, 2001 September). In 2006, Tina Dam, ICANN IDN project

manager, noted that technical and policy matters may run in parallel. However, IDN policy development must not precede technical standardization and test, but rather wait until technical issues are fully examined so as to avoid any risk to the stable and reliable operation of the DNS. (ICANN Generic Name Supporting Organization, 2006 December, p. 19).

This conservative approach to the relationship between technical and policy development processes represents a dominant perspective in the IDN policy development process. When ICANN's conservative policy development approach gives way to the technical standardization process with a view to improving technical certainty or stability, the technical community's preemptive actions or decisions on, for example, technical standardization, tend to influence the non-technical policy decisions of ICANN policy bodies.

Resource Scarcity

There have been few problems related to resource scarcity in the IDN implementation process. The IDN project manager in ICANN also confirmed that ICANN has had adequate resources, funds and staff, in handling the IDN project (Interview with an ICANN IDN staffer, 2007 November).

Technical Stability as Performance Goal

Framing the IDN issues as technical, ICANN has emphasized technical stability as the most important guiding principle in IDN implementation. For example, the Board has dubbed the IDN registry guidelines as "best current practices" to guide the deeper registry operation in the DNS hierarchical architecture where "ICANN has a lesser policy relationship" (Minutes November 8, 2005). In the early stages of IDN development, ICANN emphasized IETF's IDN recommendation that no IDN testbeds or services disrupt the existing operation of the DNS. Over time, its emphasis on technical stability has reappeared in numerous IDN documents related to technical tests, registry operator guidelines, and policy issues reports.

Contract formalization

So far, there have been few significant contracts or agreements in ICANN's IDN implementation.⁸⁰ However, when ICANN introduces IDN TLD in both CCTLD and GTLD name spaces, it will have formal contracts with its new IDN TLD registry operators that define the relationship between ICANN and the operators in terms of rights and obligations. Such contract formalization will contribute to the institutional stability of ICANN as the central coordinating body in the DNS.

Resource Acquisition

Since ICANN has had few resource problems in handling the IDN project, resource acquisition has not been a significant strategy that directs ICANN's actions or decisions on issues relevant to IDN implementation. However, resource acquisition can be a possible strategic factor that affects ICANN's policy decisions on the selection of new IDN registry operators from which ICANN may collect some fees to fund its IDN activities.

Decoupling

By detaching the IDN project from policy issues, ICANN has tried to protect technical rationality (Thompson, 1967) or stability from arbitrary political and other forces. For example, in 2001 the ICANN Board decided not to approve a WIPO (World Intellectual Property Organization) representative on the IDN Committee, arguing that intellectual property issues were not involved in IDN implementation. There was a sharp disagreement, however, among ICANN Board members.

Delegation

ICANN delegated its responsibilities to other stakeholder groups. IETF took responsibility for developing IDN standards, while IDN registry operators collaborated to develop IDN registry guidelines. The ICANN Board endorsed their voluntary recommendations.

Government Involvement

From the Governmental Advisory Committee's perspective, IDN is not merely a technical issue, but rather a political and cultural issue. Governments need to define the

⁸⁰ I have found only one contract between ICANN and a Swedish company for laboratory testing of IDN TLD.

language and cultural community that decide the language with which to express IDN for their CCTLD name space. Over time the GAC has recognized that many IDN issues - “policy, administrative, and technical” (ICANN Governmental Advisory Committee, 2007 June) - should be addressed prior to the actual implementation of IDNs. Through its Communiqués, the GAC has strongly supported and encouraged ICANN’s “pro-active” role (ICANN Governmental Advisory Committee, 2005 April) in the coordination of various groups’ work –e.g., technical standardization, laboratory and live tests, and policy development - necessary for the actual deployment of IDNs in the Internet.

With advice, suggestions or reminders, the GAC has been mostly supportive of the Board and other policy bodies in dealing with the technical and organizational tasks of IDNs. In response, the Board has tended to reflect the GAC’s advice in its IDN deliberations and decisions. For example, the GAC suggested nine principles⁸¹ for ICANN to coordinate numerous IDN testbeds (ICANN Governmental Advisory Committee, 2001 June). In the principles, the GAC stressed that the IDN testbeds be coordinated within a community-based framework such as ICANN or IETF.⁸²

It was not until the 2001 Melbourne Communiqué that the GAC for the first time recognized key public policy considerations in the introduction of IDNs: “the essential importance of interoperability of the present and future Internet; the prevention of cyber-squatting and resolution of disputes in the IDN environments; and the application of

⁸¹ The GAC stated its nine principles in the Stockholm Communiqué : (1) the testbed process will not be used to undermine the universal interoperability of the Internet; (2) testbeds should be appropriately coordinated within a community-based framework such as ICANN and/or the IETF; (3) ICANN should issue information regarding testbed operations for participants interested in implementing preliminary standards, with a view to encouraging widespread participation at varied levels of scale and scope of operations; (4) experimental and testing environments should contain a clearly articulated statement of operational scope, goals, milestones, and, to the extent foreseeable, implementation timelines; (5) all testbed undertakings should be clearly labeled and communicated to the public as experiments. Operators should be required to implement measures that ensure that users are fully informed of any limitations arising from testbed participation and operation; (6) it should be well understood by testbed operators and users that testing environments may end without establishing any prior claims on future standards or operational directions; (7) testbed operators should adapt to consensus-based standards when they emerge through the ICANN process or other community-based processes such as the IETF; (8) appropriate mechanisms for the prevention and resolution of disputes that may arise from the testbed environment should be implemented as part of operational tests to the extent possible; and (9) while operational testing in a "live" commercial environment may be necessary, the scale and scope of such operations should be consistent with the notion of the undertaking as a "testbed" endeavor, rather than a market launch.

⁸² When the GAC supported the establishment of an ICANN IDN committee with a representative from the GAC and linguistic/cultural communities in the 2001 Montevideo Communiqué, the Board approved the IDN committee with a representative from the GAC (ICANN, 2001 November).

competition and market access, consumer protection and intellectual property principles.” The GAC decided to establish an IDN working group to examine these public policy issues and provide substantive advice regarding IDNs (ICANN Governmental Advisory Committee, 2001 March).⁸³

ICANN also tried to consult with other ICANN stakeholders - public policy makers, linguistic and technical experts, and other relevant parties (e.g., GNSO and CCNSO) (ICANN Governmental Advisory Committee, 2005 July). In collaboration with CCNSO, the GAC produced an issue paper on selection of IDN CCTLD associated with the ISO 3166-1 two letter codes. It listed a series of public policy questions and issues to be addressed prior to the implementation of IDN in the CCTLD space. The GAC submitted the list to the Board at the San Juan meeting (ICANN Governmental Advisory Committee, 2007 June).

In sum, when it comes to the technical and organizational issues of IDN, there have been strong reciprocal support and collaboration between the GAC and the private ICANN Board. The GAC generally supports the Board’s decisions and in turn the Board reflects the GAC’s wishes in its deliberations and decisions. No striking dispute or disagreement appeared between the GAC and the Board. On public policy issues related to IDN, the GAC has “proactively” participated in the discussion of CCTLD IDN issues by, e.g., identifying relevant public policy concerns about IDNs in the CCTLD name space. It is too early to tell, however, whether there will be similar support between the GAC and private ICANN bodies because few public policy aspects have been closely examined so far in the ICANN community. One can argue, though, that since the notion of IDNs has received overall support from the Internet community, the probability of notable conflicts between the GAC and the Board over IDNs will be very low.

It will be rare to see a major dispute or disagreement between the GAC and the ICANN Board. But, given the historical tension between the GAC and the Board, we cannot totally exclude controversies between the two in the coming years regarding IDN. For example, even though the GAC has stressed intellectual property protection as one of

⁸³ Stimulated by the GAC and other policy bodies’ IDN working groups, the ICANN Board also decided to establish an internal IDN working group to identify various IDN efforts and issues within the ICANN community (ICANN, 2001 March).

the emerging policy issues in the introduction of IDNs, ICANN Board members sharply disagreed over whether intellectual property protection is a relevant public policy issue to IDNs (ICANN, 2001 November). Other than this incident, I could not find any other outstanding dispute in the discussion of public policy issues related to IDN.⁸⁴

ICANN's Performance on the IDN Project

ICANN has emphasized that the IDN project is one of the defining tasks that will determine its major activities over the next several years. It has made a great deal of effort to push the implementation of IDN in the DNS (ICANN, 2007a).

Stability

To evaluate ICANN's performance on the stability criterion (no disruption to or breakdown in the operation of the DNS), I examined whether and how in the IDN process ICANN has performed in its governing relationships, managerial capacity, and routine procedures ("best practices") at the institutional, organizational and technical levels to maintain the stability of the DNS. I found that in the IDN process ICANN has succeeded on the stability criterion across these levels.

At the institutional level, the IDN project has contributed indirectly to the stability of the DNS by developing more collaborative and closer governing relationships between ICANN and key stakeholders in the ICANN community. Although ICANN's relationships with its stakeholders may not directly affect the daily operation of the DNS, it needs to develop and maintain collaborative working relationships with other key operators to ensure the overall stability of the DNS.

ICANN has used the IDN project to gain broader support from the international Internet community. Prior to the IDN project, the international Internet community complained that the Internet was governed in English. By implementing IDN in the DNS, however, ICANN has been able to show its responsiveness to the demand for internationalization of the Internet from the international community. Since 2000, ICANN has worked closely with key DNS operators and governments in developing

⁸⁴ This incident is an extreme case in the history of ICANN in that the Board usually has respected the role of national or international governments in the discussion of public policy issues. In this case, the Board process was unusual in that the At-Large members took the lead in the decision, expressing antipathy toward governments' interest in intellectual property protection related to the implementation of IDN.

technical standardization of and policy for IDN. ICANN also has reached out strategically not only to raise awareness and understanding of the IDN project in the international (e.g., ITU, UNESCO) and regional (e.g., Asian Pacific Top Level Domain) communities, but also to justify ICANN's mission in the Internet community. The IDN project is one of the examples that ICANN can display to advertise what it is doing on behalf of the international Internet community.

In sum, with broader community support from and strategic outreach to the international community, ICANN has successfully handled IDN implementation. Thus ICANN's handling of the IDN project has improved ICANN's legitimacy in the Internet community, which has been long questioned since its inception due to contractual ties with the U.S. government.

At the organizational level, the IDN project has had little impact on ICANN's organizational performance indicators such as the overall size of its budget and staff capacity in the short run. However, when ICANN introduces IDN TLD in the root zone name space, it will need to select new IDN TLD registry operators. Since these new operators are supposed to pay registry fees to ICANN just as other registry operators do, ICANN's revenues from IDN registry fees eventually will help improve its managerial capacity to manage the stable operation of the DNS.

At the technical level, even though the international Internet community has widely welcomed IDN implementation, the implementation has posed a range of technical risks to the DNS because it requires some alteration to the original DNS architecture. Many have been concerned about how IDN can be implemented in the DNS without any disruption of the Internet. Not surprisingly, the ICANN Board has emphasized technical stability as the most important consideration in the implementation of IDN in the DNS. In its first resolution on IDN in September 2000, the Board stressed that new IDN standards must be compatible with and responsible to the existing unique domain name system to "avoid disrupting the stability of the Internet or the interoperability of Internet services" (ICANN, 2000 September). ICANN has devoted a great deal of effort to ensure that IDN development and implementation preserve the technical stability of the existing DNS.

First, ICANN has taken a conservative approach to IDN development and implementation. It has separated the IDN task into two distinct tracks –technical and policy. It stated that to avoid any risk to the stable and reliable operation of the DNS, IDN policy development must not proceed until technical standardization and tests of IDN were successful. By establishing guidelines for IDN registry operators, ICANN encouraged the operators to follow technical standards and best practices for IDN in operating their registry businesses.

Second, ICANN has successfully coordinated technical standardization and testing of IDN without any functional breakdown or disruption of the DNS. Under ICANN’s leadership, technical standards (IDNA) have been continually updated, and technical testing has been successfully executed. To prevent any possible problems in IDN implementation, ICANN has consulted with root server operators (e.g., the Root Server System Advisory Committee) and asked technical experts (e.g., the Security & Stability Advisory Committee) to study the impact of IDN TLDs on the security and stability of the DNS (ICANN, 2007a).

Competition

To evaluate ICANN’s performance on the competition criterion (more customer choice, lower price in the domain name market), I examined whether and how in the IDN process ICANN has performed in its governing relationships, IDN policy and management, and routine procedures (best practices) at the three levels (institutional, organizational, and technical) in working to improve competition in the domain name market. I found that in the IDN process ICANN has had mixed performance on the competition criterion.

At the institutional level, ICANN has performed well on the competition criterion by delegating IDN responsibilities to existing registry operators without special restrictions. ICANN allowed existing registry operators to run IDN testbeds and service. In 2000, IDN was introduced at the second level domain name by CCTLD and GTLD registry operators within their TLD jurisdictions. The introduction of second level IDN provided Internet domain users greater choice in the market at the same registration price as English domain names.

At the organizational level, the ICANN community reached rough consensus that existing CCTLD registry operators would have one IDN string corresponding to the existing English CCTLD associated with ISO 3166-1 two letter country codes (ICANN Generic Names Supporting Organisation, 2007b). In this case, performance has been less successful, since there will be little competition in the selection of new IDN CCTLD and registry operators, although CCTLD domain users will have other IDN string choices than English CCTLD names.

At the technical level, the introduction of IDN GTLD, however, will have more competitive bidding processes. In the IDN policy process, GNSO has agreed that an IDN GTLD will be treated as a new GTLD so that existing GTLD registry operators cannot claim ownership of any corresponding IDN for existing GTLDs (ICANN Generic Names Supporting Organisation, 2007b). ICANN is more likely to introduce a competitive bidding process open to the public for applications for new IDN GTLDs (ICANN Generic Names Supporting Organisation, 2007a).

Bottom-up Coordination

ICANN has implemented IDN based on the bottom-up coordination principle. To evaluate ICANN's performance on the bottom-up coordination criterion (use of a rapid and flexible non-governmental consensus process to meet Internet users' needs), I examined whether and how ICANN in the IDN process has performed in its governing relationships, IDN policy, and routine procedures (best practices) so as to improve its bottom-up coordination among multiple stakeholders in the ICANN community. In the IDN process, ICANN's performance on this criterion has been mixed.

At the institutional level, ICANN has successfully coordinated broad collaboration among, and delegated responsibilities to, multiple stakeholders' IDN activities without serious confrontation with other stakeholders. When the ICANN community experienced the problems and risks of uncoordinated IDN implementation among multiple stakeholders, ICANN took steps to coordinate IDN technical standardization and policy development to avoid any disruption of the DNS resulting from dispersed IDN implementation. The ICANN Board, however, directed none of the IDN technical standardization and policy development processes itself, but rather

delegated the technical and policy tasks to relevant and appropriate technical and policy groups in ICANN. Often ICANN organized ad hoc working groups, committees, and workshops as forums in which multiple stakeholders participated and discussed the cross-over issues and tasks of IDN implementation in the ICANN community. In sum, ICANN's focus has developed collaborative working relationships with key stakeholders in handling the IDN project.

At the organizational level, while coordinating multiple stakeholders' IDN activities in the ICANN community, ICANN used a managerial strategy to control the IDN process in a conservative manner. Delegating responsibilities to relevant multiple technical and policy constituencies, it took a parallel approach to the IDN tasks: technical and policy tasks run in parallel to expedite the IDN implementation process.

However, ICANN did not allow the policy development process to precede the technical standardization process. It has articulated that policy development of IDN must wait until technical issues are fully examined (ICANN Generic Name Supporting Organization, 2006 December, p. 19). Since ICANN pursued technical certainty in IDN implementation, it has managed the IDN process so that premature policy decisions would not get in the way of technical standardization. ICANN's conservative approach, however, undermined the principle of the bottom-up coordination: important policy issues regarding IDN implementation have not been rapidly resolved, and a small group of technical experts was delegated the responsibility for determining important policy issues (e.g., the selection of IDN strings for CCTLD/GTLDs) in the technical standardization process; broader bottom-up participation in this process has been limited.

At the technical level, it is noteworthy that under ICANN's conservative coordination strategy, the technical standardization process has preceded the policy development process. As a result, the outcomes of or decisions on technical standardization can have preemptive impact on the overall direction of IDN policy development. For example, the content of technical standards may limit the set of policy choices that otherwise might be considered in the policy development process.

More importantly, IDN technical standardization was developed in a bottom-up procedure known as Request for Comment (RFC) coordinated by IETF on behalf of the broader technical community. Yet the RFC procedure took place apart from the ICANN

policy development procedure (e.g., GNSO and CCNSO PPP). In other words, IETF's RFC procedure for IDN standardization was unfamiliar to other non-technical stakeholder groups in the ICANN community so that they could not effectively participate in IETF's technical standardization. IETF's technical standardization process seemed to be exogenous rather than endogenous to the ICANN policy process. The ICANN community has taken IETF's technical standards as given and not questioned them. Except for some technical liaison between IETF and ICANN, the broader ICANN community has been less likely to participate in IETF's IDN standardization process (Interview with one ASO council member, 2007 November)

Representation

The principle of representation demanded that ICANN reflect the diversity (e.g., geographical, functional and cultural) of Internet users and their needs in the DNS name space and its governance structure and process. To assess ICANN's performance on the representation criterion, I examined whether and how it has performed in its governing relationships, policy and management, and routine procedures to improve the diversity of the DNS. Overall ICANN has achieved mixed performance on this criterion.

At the institutional level, by introducing internationalized domain names in the DNS, ICANN has helped promote the cultural and language diversity of the Internet community. In particular, the GAC and CCNSO have welcomed the introduction of IDN CCTLDs as a means of promoting more meaningful representation of countries or territories on the Internet (ICANN, 2008).

At the organizational level, ICANN has offered opportunities for its constituencies to represent themselves through various working groups or committees in the IDN development process. *At the technical level*, however, the opportunity for representation mostly was limited to the policy development process in ICANN rather than also including the technical standardization process. As mentioned above IAB/IETF's technical standardization has taken place outside the ICANN community. The IAB/ IETF technical community has held its own regular meetings in which, except for some ICANN staff, most policy stakeholders in the ICANN community members are not represented and find it hard to participate because their lack of technical expertise.

Summary,

Since ICANN has received broad support from the ICANN community, it has faced little controversy in handling the IDN project. ICANN's actions and decisions on IDN have had both direct and indirect influence on its performance on all four evaluation criteria. Although the IDN project has been successful on the four performance criteria, ICANN's performance on the stability criterion has been stronger than on the other criteria. Since the IDN project is an ongoing task, however, any evaluation of ICANN's performance is tentative rather than final.

The VeriSign Settlement

Many ICANN Board members agreed that if ICANN wants to be a genuine self-governance body to serve the broader Internet, it needs to be a strong organization so as not to be vulnerable to external pressures from powerful stakeholders. The VeriSign litigation was a market-based challenge to ICANN. The VeriSign settlement illustrates whether and how ICANN – an international voluntary nonprofit – is able to cope with powerful market stakeholders like VeriSign.

Background

Many believe that ICANN needs to regulate VeriSign’s monopoly power. However, taming VeriSign is a difficult task for ICANN because the ICANN community is not sure what ICANN can and should do in terms of market regulation within its narrowly defined technical mission. More importantly, VeriSign itself is an important stakeholder in the ICANN process. It has contributed to ICANN’s activities by being a stable source of funding and of technical and policy expertise. It is a major registry through which all “consensus” policies developed in the ICANN process must be implemented.

A series of disputes took place between ICANN and VeriSign⁸⁵ with regards to the terms and conditions of “registry service” under the “.com” and “.net” registry

⁸⁵ VeriSign is a for-profit organization that succeeded Network Solution Inc. (NSI) in 2000. From the early 1990’s, NSI had been a registry operator of “.com,” “.net,” and “.org” under contract with the U.S. government agencies – the National Science Foundation and later the Department of Commerce long before ICANN was established in 1998. One of ICANN’s missions was to oversee the Internet domain name system and to promote competition in the domain name market (Cerf, 1999 July). Since NSI was initially accredited by the U.S. government through a series of cooperative agreements, the relationship between ICANN and NSI had to be redefined on September 28, 1999 in a series of transitional agreements among ICANN, NSI, and DOC (September 28, 1999, Tentative Agreements among ICANN, the U.S. Department of Commerce, and Network Solutions, Inc.). One of these agreements was a registry agreement effective on November 10, 1999 between ICANN and NSI under which NSI remained the registry operator for the .com, .net, and .org top-level domain name space. In return, NSI had to recognize ICANN’s oversight authority to set policy with regards to the Internet domain name system and allow all ICANN-accredited registrars to have equal access to NSI’s registry system to promote registrar competition in the .com, .net, and .org domain name market. The registry agreement was supposed to expire four years after the effective date. However, the agreement could be extended for additional four years if NSI separated the legal ownership of the registry from the registrar business by divesting all the assets and operations of one of those businesses within 18 months after effective date to an third party (ICANN, 1999 November). After acquiring NSI in 2000, VeriSign, Inc., entered into three separate registry agreements with ICANN on 25 May 2001 for the “.com,” “.net,” and “.org” respectively; under each of which VeriSign took on the rights

agreements in May 2001. Beginning in February 2004, VeriSign filed a series of lawsuits against ICANN in both federal and state courts in the U.S., claiming that ICANN violated the anti-trust provisions of the Sherman Act and its contractual obligations in the .com and .net registry agreements. In March 2006, ICANN signed a series of agreements including a new “.com” registry agreement to settle the long-standing and burdensome legal fights with VeriSign (ICANN & VeriSign, 2006 January).

Litigation and Settlement Process

The 2001 “.Com Registry Agreement

On May 25, 2001, ICANN entered into “.com,” “.net,”⁸⁶ and “.org” registry agreements with VeriSign. In these agreements, ICANN designated VeriSign as a single registry for the “.com,” “.net,” and “.org” generic top level domain names, the most popular Internet domain names in the market. Under the registry agreements, however, VeriSign had some conditions about its “registry service.” First, it was supposed to provide equal access to its registry services (e.g., shared registration system) to all ICANN-accredited registrars. Second, VeriSign was subject to ICANN’s recommendations regarding its registry service if ICANN found that VeriSign’s registry service could cause technical problems or risk for the stable and reliable operation of the ICANN DNS. If ICANN and VeriSign did not agree on the contractual terms, they both

and obligations of NSI and operated as a single registry for the .com, .net, and .org top-level domains. The VeriSign “.com” registry agreement was to expire in November 2007 (just as promised for NSI) if VeriSign (a) transferred the “.org” registry business to a third party in December 2002 and (b) took a competitive re-bidding process for the .net registry in June 2005. From the early 1990’s, NSI – later VeriSign - has controlled 50% -90% of TLD domain names and played a significant role in managing the root zone file system (e.g., managing “A” root server operation and its updates of the zone file); many expressed that ICANN needed to control the .com monopoly registry to promote market competition and the stability of the DNS. However, it was not clear to what extent ICANN could supervise the “.com” registry business. Nor is it certain how the U.S. government will respond to ICANN’s intervention or non-intervention in the VeriSign’s registry business.

⁸⁶ The terms and conditions of the .net registry agreement were similar to those in the .com registry agreement. The .net registry agreement was supposed to expire no later than June 30, 2005. ICANN and VeriSign agreed that upon expiration, an open, transparent, and competitive procedure would be taken to select a .net successor registry. ICANN undertook a competitive bidding process for such a registry in 2004 through 2005. After evaluation of all five applications, however, the ICANN Board selected VeriSign again as a single .net registry on June 7, 2005. The Board’s decision was made by a vote of 8 yes - 4 no with three abstentions (ICANN, 2005 June). Yes: Cert, Diop, Hultzs, Markovski, Niles, Qian, Rionge and Twomey. No: Beca, Pisanty, Scartezini and Thrush. Abstentions; Getschko, Ito, and Palage. ICANN and VeriSign entered into the .Net registry agreement effective July 1, 2005.

could use alternative dispute resolution processes governed by the International Chamber of Commerce (ICC) to resolve their disagreements (ICANN & VeriSign, 2001 May).

WLS Registry Service Dispute

Under the .com and .net registry agreements, disputes have arisen between ICANN and VeriSign. On December 30, 2001, VeriSign announced the introduction of a “wait-listing service” (WLS) as part of its “.com” and “.net” registry services. In March 2002, VeriSign officially requested that it be able to conduct a twelve month trial of a wait-listing service through accredited .com and .net registrars. In August 2002, the ICANN Board approved VeriSign’s WLS proposal, but also imposed six additional conditions for the implementation of the WLS registry service. In October 2002, VeriSign requested reconsideration of the conditions, complaining that with the conditions, the WLS proposal was impossible to implement commercially. In June 2003, the ICANN Board granted some of VeriSign’s requests regarding the conditions for the WLS registry service that became part of a new VeriSign’s registry agreement in 2005 (ICANN, 2004 March-b).

In September 15, 2003, VeriSign introduced a wildcard service - “Site Finder” - in the “.com” and “.net” TLD name zones. When Internet users typed a domain name address that did not exist into “.com” and “.net” domain name space, Site Finder produced a synthesized address record pointing to a VeriSign “redirection server” equipped with a commercial search engine website rather than displaying a “page not found” message.⁸⁷ Before long, a group of engineers reported that the wildcard service could interfere with the stability of the Internet DNS.⁸⁸ One month later, ICANN, in a

⁸⁷ “This service changed the routing of traffic by directing traffic that would have otherwise resulted in a ‘no domain’ notification to the user to a VeriSign operated website with search results and links to paid advertisements” (GNSO Email to Council. 25 Sep. 2003).

⁸⁸ On September 19, 2003, the Internet Architecture Board issued a commentary document regarding its architectural concerns about the use of VeriSign DNS wildcards (IAB, 2003 September). The document listed a number of weaknesses and dangers of the use of wildcards in the DNS. Among these, the VeriSign wildcard did not allow “no such name” responses; instead it could produce unexpected matches or take more response time trying to reach a non-existing web address. For example, under the VeriSign wild card system, “.com,” and “.net” users around the world may end up with an English language search page from a VeriSign web server, instead of a “page not found” message in their local languages. Possibly, the users would see a message “attempting to connect” followed by a long wait (IAB, 2003 September). On September 22, 2003, recognizing the concerns about the wildcard service, the Security and Stability Advisory Committee called on VeriSign to voluntarily suspend the service and participate in the various review processes now underway. However, VeriSign declined to do this until it had an opportunity to

letter in October 2003, ordered VeriSign to immediately shut down the wildcard service by the next day.⁸⁹ In response, VeriSign criticized ICANN's demand as a violation of the Registry Agreement and an anti-competitive interference with VeriSign's business. However, it complied with ICANN's demand that VeriSign suspend the Site Finder service "temporarily," because it respected the contractual relationship with ICANN (VeriSign letter to Paul Twomey, October 3, 2003).

ICANN's Security & Stability Advisory Committee held a series of special workshops about VeriSign's wildcard and reported to the ICANN Board on July 9, 2004, indicating that "[t]here exist shortcomings in the specification of DNS wildcards and their usage." The SSAC report recommended to the Board that the defining technical standard (IAB/IETF's RFCs) be examined to clarify the use of synthesized (or wildcard) responses in DNS protocol and to provide additional guidance on the use of wildcard services in the DNS hierarchy. The Board directed ICANN staff to "confirm with the IAB its interpretation of the standards regarding wildcards in the DNS" and to prohibit new applications of wildcards in any TLD until IAB's interpretation was confirmed (ICANN, 2004 July). Even though acknowledging that wildcard records were part of the base DNS protocol, the IAB generally did not recommend the use of wildcards. It instead proposed a guideline: "If you want to use wildcards in your zone and understand the risks, go ahead, but only do so with the informed consent of the entities that are delegated within your zone" (IAB, 2003 September).⁹⁰

collect and review available data on Site Finder. The GNSO council resolved to support the SSAC's recommendations regarding the VeriSign wildcard service (GNSO Email to Council, 25 Sep. 2003).

⁸⁹ In this letter, Paul Twomey sent a strong message that "VeriSign must suspend the changes to the .com and .net top-level domains introduced on 15 September 2003 by 6:00 PM PDT on 4 October 2003. Failure to comply with this demand by that time will leave ICANN with no choice but to seek promptly to enforce VeriSign's contractual obligations" (Paul Twomey, Oct 3, 2003 Letter to VeriSign).

⁹⁰ The IAB articulated two principles concerning the use of wildcards in the DNS: robustness and least astonishment. The robustness principle is; "Be conservative in what you do, be liberal in what you accept from others" (Jon Postel, RFC 793, cited in IAB 2003 September); the least astonishment principle is that "a program should always respond in the way that is least likely to astonish the user" (IAB, 2003 September). Based on these principles, the IAB suggested that deployment of VeriSign's wildcards was disastrous for the users. It had wide effects on other Internet users far beyond those enumerated by VeriSign, created several new problems, and caused other internet entities to make hasty and deleterious changes to react to the problem (IAB, 2003 September).

VeriSign Goes to Court

On February 26, 2004, VeriSign filed a complaint against ICANN in the U.S. District Court for Central District of California, alleging that ICANN violated the anti-trust provisions of the Sherman Act and its contractual obligations in the .com and .net registry agreements. On May 18, 2004, the Court dismissed VeriSign's allegations, because VeriSign had failed to provide sufficient evidence for its allegations against ICANN. On June 14, 2004, VeriSign filed an amended complaint again claiming that ICANN had violated Section 1 of the Sherman Act (an anti-trust claim) and the contractual terms of the VeriSign registry agreement (VeriSign, Inc. vs ICANN). However, on August 26, 2004, the Court dismissed VeriSign's anti-trust claim against ICANN and declined to exercise its supplemental jurisdiction over the remaining state law claims on ICANN's contractual violation. VeriSign appealed to the Ninth Circuit Court of Appeal. On August 27, 2004, VeriSign also filed a complaint regarding ICANN's contractual breaches and the resulting damages in the Superior Court of the State of California for the County of Los Angeles. The federal and state lawsuits remained pending until December 2006.

Turning from Litigation, to Arbitration to Settlement

While the litigation was pending, on November 12, 2004, ICANN announced that it would take steps to move its contractual dispute with VeriSign from litigation to arbitration by enforcing the arbitration clause prescribed in the ".Net Registry Agreement" with VeriSign. ICANN sent the arbitration request to the International Chamber of Commerce (ICC) in Paris, which was designated as the arbitration forum for contractual disputes arising from registry agreements between ICANN and GTLD registries (ICANN, 2004 November). On January 15, 2005, VeriSign also submitted a request for arbitration to the ICC. Meanwhile, ICANN filed a motion asking that the California state court stay its decision pending the arbitration outcome. However, on January 18, 2005, the California Court denied ICANN's motion. While ICANN and VeriSign were negotiating, the litigation remained in the federal and state courts. The settlement negotiation between ICANN and VeriSign was undertaken in a private bilateral manner so that it was not revealed to the public until October 24, 2005.

As a result of the negotiation between ICANN and VeriSign, ICANN then announced a set of comprehensive agreements to end the long-standing litigation with VeriSign: “the Settlement Agreement,” the new “.Com Registry Agreement” and the “Root Server Management Transition Agreement.” ICANN posted the settlement agreements on its website and sought public comments and inputs from the Internet community (ICANN, 2005 October).

The proposed Settlement Agreement required VeriSign to (a) withdraw “all pending litigation and arbitration relating to .com,” (b) adopt “ICANN’s position on a wide range of issues concerning registry services and the way they are introduced,”⁹¹ (c) “exclusively use binding arbitration through the Paris-based International Chamber of Commerce for all future .com disputes,” and (d) “work with ICANN to coordinate the tasks that ICANN and VeriSign undertake in the updating of the zone file (ICANN & VeriSign, 2006 January). In return, ICANN was supposed to enter into a new “.Com Registry Agreement” with VeriSign” to redefine the conditions and terms, including the extension of the current registry contract with VeriSign to 2012. Otherwise, the existing registry agreement was supposed to expire in November 2007. The “Root Server Management Transition Agreement” was intended to transfer VeriSign’s management functions of the root zone file in the DNS so as enable to ICANN to edit, sign, and publish the root zone and ARPA zones without VeriSign’s involvement.

Community Responses to the Proposed VeriSign Settlement

From November through December 2005, ICANN received extensive public comments on the proposed settlement agreements from the Internet community. Most of the comments were negative and critical, especially regarding the multiple year automatic extension of the existing registry contract with VeriSign without any kind of competitive bidding process. Meanwhile, ICANN reached out to the ICANN community to justify the VeriSign settlement agreements (e.g., Paul Twomey’s presentation, December 2, 2005). A public forum was held to discuss the proposed settlement agreements at the Vancouver meeting in December 2005. On December 11, 2005, ICANN staff issued a report of public comments on the proposed settlement agreements. The report organized the public

⁹¹ For example, VeriSign was supposed to introduce new registry services in a transparent, defined and timely manner, including safeguards for security, stability and competition (ICANN, 2005 October).

comments received into six general categories : (1) ICANN's security and stability mission, (2) registry price controls, (3) ICANN funding mechanism, (4) registry renewal terms, (5) registry responsibilities, and (6) the settlement process (ICANN, 2005 December-b). Based on the comments and input from the ICANN community, ICANN and VeriSign revised the proposed settlement agreements (Minutes January 23, 2006). In January 2006, the GNSO Council recommended that the ICANN Board postpone any further decision on the proposed settlement agreements so that the Council could fully investigate the policy issues and concerns raised by the proposed settlement agreements. While these settlement negotiations were being undertaken, various litigation activities between ICANN and VeriSign were still in progress.

ICANN Board's Approval and Aftermath

On January 29, 2006, ICANN posted a revised version of the settlement agreements. There were some changes in the revised .Com Agreement. For example, ICANN decided to collect a fixed registry fee from VeriSign instead of \$0.45/.50 transaction fee per .com registration that might be passed on directly to registrars and then domain name holders. ICANN also reduced VeriSign's ability to raise prices every year. VeriSign could raise fees for four years out six-year term. However, ICANN did not make any change regarding the six-year renewal of the 2001 Com Registry Agreement nor the presumptive renewal right for future term, pointing out that the presumptive right was present in the 2001 .Com Agreement and supposed to be carried forward in subsequent agreements.

On February 28, 2006, the ICANN Board approved the revised version and voted to end the dispute between ICANN and VeriSign. The decision was made by a vote of nine yes, five no and one abstention. Given the history of ICANN, such a split vote was unusual. On March 1, 2006, ICANN and VeriSign finally signed the settlement agreements. The following day, ICANN issued the "Joint Statement from Affirmative Voting Board Members" to collectively explain the rationale behind the decision of Board majority. Each Board member also had an opportunity to express the individual rationale behind her or his vote in the "Individual Statements from Board Members."

In December 2006, VeriSign withdrew all pending lawsuits from the state Superior Court and the federal Ninth Circuit Court of Appeals. Finally, all litigation came

to an end. Although there were some challenges to the Board's decisions on the settlement, it did not change its decision.⁹² Approving the VeriSign settlement agreements, ICANN sent the agreements to the U.S. Department of Commerce for its final approval. ICANN noted that "USDOC approval is required due to the unique history of the .COM generic top-level domain and it is the only GTLD which requires such approval" (ICANN, 2006 February-a).

The Department of Commerce approved the .Com Registry Agreement in November 2006, but has not approved the Root Server Management Transition Agreement (Interview with an ICANN staffer, 2007 November). As of December 2007, after the Department approves the updates of the root zone file by IANA/ICANN, ICANN still sends the updates to VeriSign and VeriSign publishes them in the thirteen root servers. If the Transition Agreement were approved, ICANN would be able to edit, sign and publish the root zone file alone without VeriSign's involvement in the root zone file management process.

Issues, Deliberation and Decisions

In the settlement process, various stakeholder groups from the ICANN community raised many issues. However, most of the issues concentrated on ICANN's automatic or "perpetual renewal" and its loose price control of VeriSign's .com registry business. Many questioned whether the link between the "Settlement Agreement" and the ".Com Registry Agreement" was necessary and appropriate as part of the settlement negotiation with VeriSign (ICANN, 2006 February-c).

The majority of Board members argued that the renewal clause in the new VeriSign .Com Registry Agreement was "little" changed from the previous registry agreement of May 2001. They contended that in the previous registry agreement, ICANN had already granted VeriSign a "presumptive" right of renewal to induce VeriSign (a) to give up the "right" to operate the .org registry business and (b) to agree to introduce a

⁹² For examples, in March 2006, CFIT (the Coalition for ICANN Transparency) filed an complaint in the U.S. District Court for Northern California against ICANN for violation of antitrust laws, seeking declaratory and injunctive relief. However, the Court dismissed CFIT's allegations against ICANN. In March 2007, ICANN received two requests for reconsideration from individual Internet users regarding ICANN Board's approval of the VeriSign settlement agreements. However, the ICANN Board decided not to reconsider its decision on the VeriSign settlement.

competitive bidding process for the renewal of the .net registry contract. At that time, the Board believed that change in the .com registry operator neither was necessarily desirable nor would take place without extreme circumstances. The new agreement only clarified existing conditions and did not make any substantive changes. Therefore, granting a presumptive right of renewal conceded very little to VeriSign (ICANN, 2006 March-b).

Regarding the .com registry price control issues, the majority argued that ICANN was not a “price regulator.” The rationale for price control of .com names was much weaker than it had been in 1998 when VeriSign was the only GTLD registry and .com was the only commercially focused GTLD. The majority believed that there was significant competition between .com and other alternative domains in the current domain name market. If VeriSign overcharged its “.com” registrants, the competitive market would allow customers to choose other GTLDs or CCTLDs. Even though some of the majority expressed that they were not fully satisfied with the VeriSign settlement process, they agreed with other members of the Board majority that moving forward was in the best interest of ICANN and its community.

The proposed “.Com Registry Agreement,” however, had received extensive opposition from other Board members as well as the broader ICANN community. Peter D. Thrush, a Board member, opposed the proposed settlement because there was “unanimous outcry from the community” against the “perpetual renewal” and loose price control in the registry agreement. Njeri Rionge, also a Board member, contended that “rejecting the agreements won’t contribute to improve the agreement itself, and may postpone many other issues the community is also claiming to be addressed. But, the community with whom we are representing are clearly not in favor of this agreement” (ICANN, 2006 March-a).

Board member Susan Crawford also strongly criticized the proposed “.Com Registry Agreement.” She argued that entry into this agreement would undermine ICANN’s integrity, mission, and effectiveness. In her view, ICANN used an irrelevant VeriSign lawsuit to ensure a major source of funding for its ever-increasing annual budget of nearly \$50 million in exchange for a higher price cap on .com registration for VeriSign. She characterized ICANN’s behavior in the settlement process as opportunistic “institutional self-dealing” to extract the best possible budget out of the settlement

negotiation with a particular litigious registry rather than relying on “reputation and excellence” in ICANN service to attract funding from the ICANN community (Crawford, 2006 March).

Crawford stressed that ICANN traded off community support in favor of its budgetary needs. She noted that many allegations – over, e.g., anti-trust – had been dismissed in previous court decisions. Other contractual disputes – e.g., registry services – could be addressed in the ICANN policy process and their outcomes could be reflected in the next scheduled renewal. Crawford also criticized the settlement process for undermining ICANN’s mission as a policy forum because of the private nature of bi-lateral negotiation. She urged that the ICANN Board must be informed by underlying values such as competition, transparency, and accountability (Crawford, 2006 March).

Table 6-1: Key Rationales for February 2006 VeriSign Settlement Decision

Group	Name	Board member’s key rationale in February 2006 decision
Majority	Pisanty	“I think that the risks that are incurred have been adequately buffered in the contractual terms”
	Cerf	“I believe that we will not get any more out of the negotiations than we have already gotten, and that this particular litigation serves no fruitful purpose. ... We may never be free of litigation forever, but I think whenever we can avoid it ... find ways to settle matters outside of the litigation”
	Qian	“the most important thing for the Internet community is to keep the Internet as stable and reliable as possible. Therefore, paying a few more dollars for each registration to help the infrastructure become more sustainable and survivable from different kind of serious attacks is worth”
	Twomey	“trying to achieve the best possible outcome for the ICANN community ...I really hope we can direct our attentions now to ... addressing a lot of issues that we have before us that are important for the wider body of Internet users”
	Diop	“I think it’s very important at that point that we try to secure what we have and try to move forward”
	Scartezini	“rejecting the agreements won’t contribute to improve the agreement itself, and may postpone many other issues the community is also claiming to be addressed”
	Getschko	“Given the fact that there is no room for more improvement, I really want to go forward”
	Markovski	“it’s in the interest of the Internet community and in the interest of the Internet to have such an agreement rather than to continue with litigations, fights, uncertainty, and basically bring the stability of the Internet to a lower level”
	Hultzsch	No statement
Minority	Beca	Mostly, he disagree with the price clauses which allows VeriSign to easily raise its fees without justification
	Crawford	“unacceptable risks to the values that underly ICANN’s mission such as “increasing competition, acting transparently, and being accountable to the Internet community”
	Ito	“although the settlement has a great number of short term merits, not approving the settlement might have a greater benefit for ICANN and the community in the long run”
	Thrush	“the agreement linked with the .COM renewal is not in the best interest of ICANN” “I am also concerned about the almost unanimous outcry from the community” and “[its] consequences of the lack of support at this time in the community... it was all negotiated behind closed doors”
	Rionge	“rejecting the agreements won’t contribute to improve the agreement itself, and may postpone many other issues the community is also claiming to be addressed. But, the community with whom we are representing are clearly not in favor of this agreement”
Abstention	Palage	No statement

Sources: ICANN Board Statements Regarding VeriSign Settlement Agreements, available at [“http://www.icann.org/topics/verisign-settlement.htm](http://www.icann.org/topics/verisign-settlement.htm).

Although favoring the settlement, Board member Veni Markovski complained that “the policy development in this case did not happen the way it should have.” He pointed to the lack of community participation in policy formulation and ICANN’s failure to hear a broader community beyond U.S. businesses that deal with .com domains. He contended, however, that it is wrong to paint the decision as “a victory for VeriSign or for ICANN.” The issue was a complex one that cannot be understood by a “simple-minded” person (Markovski, 2006 March). Table 6-1 captures the Board members’ key statements in the VeriSign settlement decision in February 2006. Table 6-2 compares the majority and minority Board members’ perspectives in the VeriSign settlement. These comparisons show that in principle Board members had a common understanding of the limited technical mission and role of ICANN in the Internet Domain Name System. In specific, however, they did not agree on how ICANN should approach the VeriSign settlement to fulfill its narrowly defined mission and role.

Table 6-2: Majority and Minority Perspectives on the VeriSign Agreement:

Issue	Majority	Minority
Principle	Limited technical mission, not business or price regulator	Limited technical mission, not business or price regulator
Approach	Pragmatic and risk-avoiding	Principled and risk-taking
Emphasis	Limited resources and moving forward	Risks to the underlying values
Assumption	The litigation will be continued	ICANN will win the litigation
Judgment	Competition is not necessarily desirable; The proposed settlement agreements are best outcomes	Community does not support the settlement agreements; Seeking institutional stability is problematic
Agenda	Deal with other pressing issues such as new GTLD and IDN	Develop a set of deregulatory policies towards registries and increase competition to .com domain market by adding more TLD domain names
Criticism	Ad-hoc decisions not informed by the underlying values such as competition and bottom-up consensus	Too idealistic and simple-minded

In principle, both the majority and minority agree that ICANN has a limited technical mission. Both believe that ICANN should implement its mission based on technical requirements. They do not expect ICANN to play as a kind of regulator in the domain name market. However, the Board majority took a rather pragmatic and risk-

avoiding approach, while the minority took a more principled and risk-taking one in handling the VeriSign settlement. Assuming that the VeriSign litigation would continue for a while, the majority emphasized that ICANN's limited resources were not adequate to also address the important remaining tasks such as new GTLDs and IDNs. These Board members wanted to move forward by quickly settling the litigation with VeriSign. On the contrary, the minority emphasized that if the VeriSign settlement were approved, ICANN's underlying values – e.g., competition, bottom-up openness and transparency – would be greatly undermined. Assuming that ICANN eventually would win the VeriSign litigation, the minority wanted ICANN to continue its fight with VeriSign.

The majority approved the VeriSign settlement, based on its judgments that competition was not necessarily desirable in the renewal process of the new .Com Registry Agreement and VeriSign would win a competitive re-bidding process if it were introduced and that the proposed settlement agreements were the best possible outcomes from the negotiation with VeriSign. In contrast, the minority criticized the majority's approval based on its judgments that the Internet community did not support the proposed settlement agreements and that ICANN sought organizational stability at the expense of bottom-up community support. The majority emphasized its next agenda that focused on other pressing issues such as new GTLDs and IDNs,⁹³ while the minority stressed the needs to develop a set of deregulatory policies towards registries and to increase competition to the .com domain name market by adding more TLD domain names.

The minority criticized the majority's decision in the VeriSign settlement as “ad-hoc,” not informed by the underlying values of ICANN such as competition and bottom-up consensus. However, the majority criticized the minority's view as a “too idealistic” or “simple minded” approach to a complicated issue.

Significant Influences over the VeriSign Settlement Process

I traced whether and how the independent variables in Figure 3-1 had significant influences over the VeriSign process. I detected little influence from government involvement, stakeholder conflict, tightness of ties, and delegation. However, low support,

⁹³ Many Board members referred to the introduction of new GTLDs and IDNs into domain name space as “defining issues” for the ICANN community to focus on over the next years (ICANN, February 28, 2006)

historical commitment, technical certainty, emphasis on organizational stability as the priority, contract formalization, resource acquisition, and decoupling influenced ICANN's governance and performance.

Support or Hostility

Overall, there was little support for the substance and process of the VeriSign settlement. Rather, ICANN received apparent complaints from the business community of .com domain names (e.g., .com registrars) and the at-large community, both of which will be affected most by the settlement. Since there was strong community pressure on the Board not to enter into the proposed settlement, the ICANN Board had to extend the public comment period and delayed its final decision to allow more deliberation in the ICANN community. Approving the settlement despite broad community opposition, ICANN was criticized as violating the principle of the bottom-up consensus.

Stakeholder Conflict

Noticeable conflict was not detected among multiple stakeholder groups in the VeriSign settlement process. Most, if not all, constituent groups shared similar negative views and concerns about the terms and conditions of the VeriSign settlement agreements.

Tightness of Ties

Although there were strong unified voices in the technical, business and civic constituent groups in opposing the proposed VeriSign settlement, no strategic alliance among the groups was organized to stop the proposed settlement. Since the VeriSign settlement featured bilateral negotiation between ICANN and VeriSign, ICANN had loose ties with other stakeholders during the settlement process.

Historical Commitment

Among the institutional independent variables, historical commitment was the most important one that conditioned the VeriSign settlement process. Paul Twomey, ICANN CEO, said that the Board's deliberation over and decision on the VeriSign settlement agreement was "constrained by a lot of what is possible as opposed to what one would like to really achieve." He argued that the VeriSign settlement was influenced by "the realities of past decisions." One of those realities, he pointed out, was the multiple stakeholder nature of the related agreements (ICANN, 2006 February-c). From

his perspective, past decisions that defined the relationships among ICANN, VeriSign and the Department of Commerce are relevant to understanding the VeriSign settlement process and its outcomes.

The most relevant historical agreement in the VeriSign settlement process among others was the .Com registry agreement between ICANN and NSI in November 1999. In May 2001, after VeriSign acquired NSI, this .Com agreement was separated into three registry agreements between ICANN and VeriSign for the .com, .net, and .org domain names. The Board majority believed that the renewal clause in the new .Com Registry Agreement in 2005 reflected something that already existed in previous .com registry agreements dating back to November 1999 and May 2001. To the contrary, the Board minority contended that the renewal provision in the previous .Com Registry Agreements was not a right for VeriSign to have automatic renewal. Different interpretation of past decisions split the Board and the ICANN community in handling the VeriSign settlement.

Nature of Task

The VeriSign litigation was one of 17 lawsuits that ICANN has dealt with since its establishment in 1998.⁹⁴ For its relatively short organizational history, ICANN has already engaged in much litigation. This is because ICANN serves multiple stakeholders whose interests often conflict, many of whom are litigious enough to take advantage of the U.S. legal system to try to alter ICANN's decisions. Vincent Cerf, chairperson of the ICANN Board, said that "[ICANN] may never be free of litigation forever, but ... whenever [ICANN] can avoid it. [ICANN tries] to find ways to settle matters outside of litigation" (ICANN, 2006 February-c). In this sense, all lawsuits are managerial tasks for ICANN to cope with its contentious environments.

The VeriSign litigation, however, was by far more important than any other litigation because it provided a test to examine whether or not ICANN could control VeriSign – the most powerful monopoly in the domain name market. For ICANN, the

⁹⁴ Of these 17 cases, no legal challenge has been filed against ICANN outside of United States' courts. Individuals or organizations have filed their complaints in U.S. federal and state courts (see www.icann.org/general/litigation.htm).

VeriSign settlement was one of the most difficult tasks because its managerial needs and community wishes collided, and sharply divided the ICANN Board and community.

Technical Certainty

At the outset, technical certainty was low in using VeriSign's wildcard service because no one was sure about whether and how one might use wildcards in the Internet Domain Name System. When VeriSign actually implemented the wildcard service – Site Finder in the .com and .net TLD domain name space, many were not sure about appropriate technical standards for wildcards and possible risks in their use. Before long, ICANN demanded that VeriSign immediately withdraw the wildcard service from the .com and .net domain name spaces, an action triggered by the Internet Architecture Board (IAB)'s negative comments on the use of wildcards in Site Finder. The ICANN Board also prohibited new applications of wildcards in any TLD (ICANN, 2004 July). The technical community deemed the IAB's comment to be the de facto official view regarding the use of wildcards in the DNS architecture. Based on the IAB's interpretation that the use of wildcards could be harmful, other constituent bodies (e.g., the GNSO Council) supported ICANN's intervention. The IAB/IETF's interpretation contributed to community consensus regarding the use of wildcards in DNS architecture, increasing technical certainty.

Technical Capture

The role of IAB was significant in the VeriSign settlement process. First, by defining technical standards, the IAB/IETF increased technical certainty. Few challenged IAB's interpretation of the technical risks involved in the use of wildcards. IAB's interpretation helped the ICANN community to reach a consensus on the use of wildcards. One can argue that since IAB exercised such great authority in defining the relevant standard for a given technical issue, it is the consensus maker on technical matters in the ICANN community. What the IAB labels "standard" becomes standard without serious challenges from the ICANN community. Michael Fromkin noted regarding the IAB commentary on VeriSign's wildcard service that "[t]he critical thing about the IAB's conclusions, however, is that Sitefinder is bad because it breaks long-settled expectations, not that it is bad per se, or that it formally violates standards set out

in RFC's." He argued that "[s]itefinder -- though dangerous, highly problematic, and inconsistent with the operational stability of the applications which depend on the DNS — nonetheless did not in any way violate the DNS specifications themselves. So it's real hard to argue that VeriSign is violating the registry agreements on that basis" (Froomkin, 2003a).⁹⁵ From his view, the IAB comment was not made based on technical facts, but rather on long-standing expectation in the technical community. In this sense, the IAB can be seen as a *conservative standard organization* in defining or interpreting relevant technical requirements for the DNS architecture in a conservative manner to preserve the stability of the DNS.

Second, when IAB defined or interpreted what the standard is in a given technical issue, its recommendation often went beyond technical concern for the ICANN community and ICANN Board's deliberation and decisions. IAB recommended that if VeriSign wanted to use wildcards in its zone, it needed to do so "with the informed consent of the entities" depending on VeriSign's DNS (IAB, 2003 September). Basically, IAB did not recommend "a flat prohibition" against VeriSign wildcards, but strongly suggested that VeriSign first demonstrate that its wildcards would not pose a threat to the stable operation of the DNS for applications and users (IAB, 2003 September). IAB's recommendation was not based purely on technical judgment, but rather reflected its conservative policy approach to technical matters.

In conclusion, one may argue that IAB is a *technical regulator* seeking to conservatively maintain the basic architecture of the DNS developed in the early days of the Internet. From the IAB's perspective, preserving the basic DNS architecture is important to keep operation of the Internet stable. In the ICANN process, by listing all possible problems and risks involved in a certain issue, IAB technically captures ICANN and its community and pushes them to consider policy formation and implementation involving that issue within a given box – the fundamental technical architecture of the DNS. Furthermore, using its highly respected technical authority, IAB sought to steer ICANN's deliberation and decisions in a certain direction by recommending something irrelevant to or beyond technical requirements and concerns. Since the line is blurred

⁹⁵ Source: www.icannwatch.org/articles/03/09/23/0248200.shtml?tid=16

between technical and policy matters, IAB's *technical capture* of ICANN has broadly affected ICANN's policy deliberation and decisions on a broad range of issues including the VeriSign settlement agreement.

Resource Scarcity

Resource scarcity was another of ICANN's concerns in the VeriSign settlement process. The majority of Board members believed that if the litigation continued, ICANN might not be able to handle its remaining tasks with sufficient attention and resources. In fact, resource scarcity was a substantial constraint for the ICANN Board in dealing with the VeriSign settlement. From 2004 to 2007, ICANN spent over ten million dollars on litigation (see Table 5-3). Resource scarcity influenced the Board's deliberation and decision on the settlement with VeriSign..

Organizational Stability as Performance Goal

Among the four performance goals, stability and competition have been treated as substantive and competing values in the VeriSign settlement process. While bottom-up coordination was an important procedural principle discussed in the Board's deliberation, representation did not appear to be significant in guiding the VeriSign settlement process. Although members of the Board minority emphasized that the proposed settlement was inconsistent with values of competition and bottom-up coordination in the ICANN community, stability was the most important, if not overriding, value that affected the majority's deliberation and decisions on the VeriSign settlement.

Stability, however, is a vague concept that the ICANN Board has used in many different ways. Often, the term stability has been used as a catch phrase by the ICANN Board to justify its handlings of the issues in question. As a result, its meaning is not always clear. Susan Crawford pointed out that although the Board majority justified its decision on the VeriSign settlement as ensuring the stable operation of the DNS, they were actually focused on *organizaional stability* of ICANN rather than *technical stability* of the DNS.

Contract formalization

In the VeriSign settlement decision, Alejandro Pisanty, one of the members of the Board majority, noted that "I have considered many aspects of [the VeriSign settlement

agreement]. I think that the risks that are incurred have been adequately buffered in the contractual terms” (ICANN, 2006 February-c). From his perspective, contract formalization was used as a *mitigating process*, in which negotiation took place to balance between the two competing values - competition and stability - in the VeriSign settlement process. The new .Com Registry Agreement then was a negotiated outcome that defined the actual terms and conditions under which conflicting interests and concerns were compromised. From the perspective of the Board majority, even though the .Com Registry Agreement was not perfect, its terms and conditions were satisfactory, since they mitigated the members’ initial concerns (e.g., that there would be a .com registry price hike after the settlement). Cerf noted that “I believe that we will not get any more out of the negotiations than we have already gotten” (ICANN, 2006 February-c).

The contract negotiation was an important process that produced the terms and conditions of the new .Com Registry Agreement, which in turn affected the Board members’ deliberation and decisions regarding the VeriSign settlement. However, this process was neither open nor transparent so that it is still mysterious to the public.

Resource Acquisition

As a single organization, VeriSign has been the greatest financial contributor to ICANN’s annual budget. VeriSign is supposed to pay an annual registry fee and a transaction fee for both .com and .net domain name registry service. Since VeriSign monopolized the most lucrative the .com and the .net domain names, its revenue has been stable and predictable. ICANN’s funding mechanism is structured in a way that as VeriSign’s revenue increases, contributions from VeriSign to ICANN also increase (ICANN & VeriSign, 2001 May). Therefore, increases in VeriSign’s revenue will have a positive impact on ICANN’s annual budget.

In fact, VeriSign’s budget contributions to ICANN have increased after the VeriSign settlement. Under the .Com Registry Agreement in 2001, VeriSign was supposed to pay to ICANN \$5.5 million in 2001 (ICANN & VeriSign, 2001 May). However, under the new .Com Registry Agreement in 2006, VeriSign had to pay six million dollars in fiscal year 2006-2007, eight million dollars in 2007-2008, and twelve million dollars in 2008-2009. Thereafter, VeriSign has to pay more than twelve million

annually dollars as the number of .com domain name registration increases (ICANN & VeriSign, 2006 May).

Although the Board majority did not explicitly state that the VeriSign settlement was intended to ensure a stable and significant flow of financial resources, one of the members of the Board minority characterized the VeriSign settlement process as “institutional self-dealing” to maximize possible funds from the negotiation with VeriSign. The VeriSign settlement helped ICANN to ensure a stable and significant funding resource to support its mission.

Decoupling

In the VeriSign settlement, ICANN and VeriSign agreed to refer competition issues raised by the agreement to the appropriate U.S agency (such as the Department of Justice or the Federal Trade Commission). This decoupling strategy was used to protect ICANN from controversial and governmental issues that it was not supposed to handle within its narrowly defined technical mandate.

Government Involvement

Even though the VeriSign settlement became one of the most controversial issues in the ICANN community, it did not draw strong interest or concerns from the governments in the GAC. The GAC did not closely examine the VeriSign Settlement Agreement either.⁹⁶ The GAC did note in the Wellington Communiqué, “[s]ome GAC members believe that the ICANN Board should ensure that the reasons for its decision are properly understood and accepted by the ICANN community, in particular on how it contributes to ICANN’s missions and values as identified in its draft strategy plan July

⁹⁶ Nor was the Agreement or any policy issue report included in GAC’s Communiqués. It provided little substantive policy advice for the Board on how to handle a series of legal fight and subsequent settlement with VeriSign. Few records were found in the GAC Communiqués to show GAC’s substantive feedback to ICANN’s early handling of VeriSign’s 2001 wait-listing and 2003 “Site Finder” wildcard service, both of which were the triggers of the VeriSign legal suits against ICANN. It was in the 2003 Carthage meeting that the GAC learned about the use of VeriSign wildcard service from ICANN. In the meeting, the GAC recognized that VeriSign’s Site Finder service had many public policy issues such as “competitive, technical and user implications of the service” (2003 Carthage Meeting). Since then, the GAC has received updates on the Site Finder service and the development of ICANN’s legal dispute with VeriSign (2004. Kuala Lumpur). However, the GAC did not provide formal feedback until the Board approved the proposed VeriSign Settlement Agreement in the Wellington meeting.

2006 –June 2009” (ICANN Governmental Advisory Committee, 2006 March). The GAC’s Wellington advice was the first and only formal feedback on the Board’s handling of the VeriSign Settlement Agreement. The GAC’s influence over the VeriSign settlement was at most “reactive” and “non-substantive” rather than “proactive and substantive.”

The GAC neither opposed nor supported the Board on the VeriSign Settlement Agreement. Rather, the GAC distanced itself from and deferred to the ICANN Board’s decision. It seemed to view the VeriSign settlement as a bilateral organizational issue between ICANN and VeriSign. Although the U.S. government was suspected of pulling strings behind the settlement using its contractual relationships with ICANN and VeriSign,⁹⁷ its role was not observable in the GAC’s communiqués or other formal documents. Nor were interviews with U.S. Department of Commerce officials possible.⁹⁸

ICANN’s Performance on the VeriSign Settlement

As a result of the VeriSign settlement decision, there were positive and negative impacts on ICANN’s performance on the four criteria. Overall, the VeriSign settlement contributed to advancing ICANN’s organizational stability, while weakening its performance on the competition and bottom-up coordination criteria.

Stability

In announcing the VeriSign settlement, ICANN noted that “this settlement will clear the way for a new and productive relationship between ICANN and VeriSign facilitating ICANN’s stewardship and technical coordination of the Internet’s domain name system” (ICANN, 2006 February-a). It is an empirical question, however, whether or not ICANN strengthened its stewardship of and technical coordination for the stable operation of the DNS. The settlement’s impact on stability may be examined at the institutional, organizational, and technical levels.

⁹⁷ The U.S. government has a memorandum of understanding with ICANN from 1998 and a cooperative agreement with VeriSign dating from VeriSign’s acquisition of NSI in 2000.

⁹⁸ In the L.A. meeting in November 2007, I met with a representative of the U.S. government on the GAC. She told me to contact her after the meeting, but I later could not get any response from her.

At the institutional level, ICANN was supposed to develop and maintain governing relationships or strategic alliances with key stakeholders so as to avoid any disruption to the functioning of the DNS. At this level, ICANN's decision on the VeriSign settlement brought mixed outcomes. Some Board members were concerned about ICANN's "strong goal" as a private institution. Susan Crawford argued that the "bottom-line" of ICANN's mission is to achieve "private self-governance" by bottom-up community-consensus on the technical management of the Internet's critical infrastructure. She contended that to fulfill the bottom-line goal, ICANN needs to be strong enough to handle challenges from both outside and inside.

From her perspective, inside challenge for ICANN is to avoid being a centralized regulator or being captured by one or more dominant stakeholder groups in the Internet community. The outside challenge is to resist external intervention or pressures that attempt to regulate or politicize technical matters based on public policy concerns rather than technical parameters (Crawford, 2006 March). She saw the Board's decision on the settlement as a failure to resist an internal challenge from a powerful stakeholder – VeriSign - in the ICANN community, and thus ICANN undermined the institutional stability of ICANN as a private institution.

Similarly, Mouhamet Diop, another Board member, stated that "we have very strong organization, but I think that there is room for improvement ICANN is not as strong as we want it to be" (ICANN, 2006 February-c). He argued, "it is very important that ICANN thinks about what's going to be our goal in order to avoid people [looking] at ICANN as a new organization [whose] only goal is to get as much as money as it can but without any clear direction of what it's going to do on that money" (ICANN, 2006 February-c). He emphasized that ICANN must develop and clearly articulate its goal to serve the ICANN community. From his perspective, the Board weakened the institutional stability of ICANN because it did not articulate a clear goal in agreeing to the VeriSign settlement.

At the same time, however, the settlement advanced the institutional stability of ICANN by broadening its role in the supervision of VeriSign's operation. The Settlement Agreement reaffirmed that VeriSign is to respect ICANN's role in the DNS. It also requires VeriSign not to engage in any activity against ICANN directly or with a third

party in the future. The .Com Registry Agreement requires ICANN review of any service that VeriSign proposes, including examination of the implications of the proposed service for Internet security, stability and competition. Stratton Sclavos, CEO of VeriSign, said that “such broad supervisory authority did not exist in the past” (Sclavos, 2006). The new .Com Registry Agreement clarified and advanced the scope of ICANN’s authority over VeriSign’s registry service, which was not clear under the .Com Registry Agreement in 2001. In the long run, ICANN improved its institutional stability in the DNS by increasing its control over a powerful monopolist’s activity, even as it seemed to yield to VeriSign’s litigation pressure in the short run.

At the organizational level, ICANN needs to develop and maintain policies and management to avoid any disruption to the functioning of the DNS. Many anticipated that the VeriSign settlement would bring a stable and secure funding resource for ICANN to continue its mission. As a result of the new .Com Registry Agreement, ICANN was able to ensure stable and significant funding from VeriSign until 2012.⁹⁹ With other financial resources, VeriSign’s financial contribution will make ICANN a financially stronger organization. Thus, the VeriSign settlement advanced ICANN’s organizational stability to handle other issues and tasks in the DNS.

At the technical level, stability means that ICANN develops and maintains technical standards or procedures to avoid any disruption to the functioning of the DNS. The VeriSign settlement had a positive impact on this level. Many Board members expressed their concerns about DNS technical stability in the VeriSign settlement process. Veni Markovski stated: “[w]hat I want from ICANN is the Internet to run smoothly, the DNS to work, and to be able to get an IP address for my servers. And for every user that is on line” (Markovski, March 2, 2006). Hualin Qian also said that “the most important thing for the Internet community is to keep the Internet as stable and reliable as possible”(Qian, 2006 March). It is certain that technical stability of the DNS was a defining value in handling the settlement with VeriSign. With the settlement,

⁹⁹ ICANN acknowledged that VeriSign contributes significantly to its 2007-2008 budget through a fixed fee arrangement.

ICANN succeeded in stopping the use of wildcards at a TLD zone that many viewed as a questionable service with negative impact on technical stability. ICANN gained more control over the root zone file management by taking over VeriSign's managerial function.

Competition

Many believed that the new .Com Registry Agreement undermined the principle of competition because it proposed automatic renewal of the existing registry agreement without a competitive re-bidding procedure.¹⁰⁰ The settlement's impact on competition also may be examined at the institutional, organizational, and technical levels.

At the institutional level, ICANN needs to develop and maintain governing relationships with key stakeholders so as to promote consumer choice and lower cost in the technical management of the DNS. However, ICANN's decision on the VeriSign settlement had a negative impact on competition at this level because ICANN maintained the status quo by extending the monopolistic status of VeriSign in the DNS.

At the organizational level, ICANN needs to develop and maintain policies and management to promote consumer choice and lower cost in the DNS. In the VeriSign settlement process, many argued that the settlement would lead to substantial price increases in .com domain registration fees because of ICANN's looser control of price caps on VeriSign's registry fees. Raimundo Beca, one of the members of the Board minority, expected that there would be a great increase in .com registry service price because the new .Com Registry Agreement virtually removed any price cap by allowing a 7% annual fee increase for four years without cost justification and for the next two years with a cost justification.

In October 2007, VeriSign increased its registry fee for the first time after the VeriSign settlement. Before the settlement, VeriSign's .com registry fee was \$6. In April 2007, VeriSign notified ICANN of a registry fee increase to \$6.42,¹⁰¹ the 7% maximum permitted in the new .Com Registry Agreement. In its notice letter, VeriSign claimed that

¹⁰⁰ Those who criticized the automatic renewal of the .Com Registry Agreement with VeriSign in 2006 often referred to the competitive re-bidding process applied to the renewal of the .Net Registry Agreement in 2005.

¹⁰¹ On the same day, VeriSign notified ICANN of an increase in its .net registry fee to \$3.85.

since VeriSign acquired NSI in 2000 it had not increased registry service fees for approximately eight years (Sclavos, 2006)

So far, the registry fee increase – \$0.42 - seems not to have affected the overall registration price for .com users in the market.¹⁰² For example, Godaddy.com charged \$ 7.15 a year for a .com domain in July 2007 before VeriSign increased its registry fee. As of January 2008, after VeriSign increased the fee, it charged \$6.95 for .com users. Register.com also did not increase its registration fee \$35 for .com domain.¹⁰³

Nevertheless, it is too early to say that the new .Com Registry Agreement will not affect the registration price for .com domain names in the market. In the long run, many .com registrars like Godaddy.com, which charges a small registrar fee (e.g., \$0.53 for Godaddy.com) on top of the VeriSign's registry fee, may increase their fees to cover their cost increases and investment, if VeriSign continually increases its registry fee over the next several years.

At the technical level, ICANN was supposed to develop competitive bidding procedures to promote consumer choice and lower cost in the domain name market. However, its decision on the VeriSign settlement undermined competition because ICANN allowed the extension of the .Com registry agreement without any kind of competitive re-bidding process.

Bottom-up Coordination

At the institutional level, the principle of *bottom-up coordination* demanded that ICANN govern so as to produce a flexible and rapid non-governmental consensus process to meet the changing needs of the Internet and Internet users. But, the ICANN Board approved the settlement, even though most of the Supporting Organizations and advisory committees were not in favor of it.

At the organizational level, ICANN's approach to the VeriSign settlement undermined the bottom-up coordination principle in terms of openness and transparency. In the VeriSign settlement process, Board member Veni Markovski urged the Board to

¹⁰² One can argue that if a competitive re-bidding process were applied to the renewal process of the .Com Registry Agreement with VeriSign in 2006, the .com registry fee might have decreased just as the .net registry fee did after a competitive re-bidding process.

¹⁰³ The registration price might vary from time to time because of promotional discounts. For example, Register.com provides a special offer of \$19.99 a year for a .com domain name as of January 16, 2008.

keep ICANN as open and transparent as possible. Another Board member argued that perpetual renewal was never approved by the community, and the settlement negotiation occurred behind closed doors (ICANN, 2006 February-c). Because of the bilateral nature of contract negotiations, the negotiation process was neither open nor transparent to the public. Furthermore, ICANN's existing policy development process was not followed in the VeriSign settlement process. Markovski also criticized the lack of community participation in policy formulation to address problems related to the settlement (Markovski, 2006 March).

At the technical level, ICANN was supposed to provide a bottom-up procedure to participate in all ICANN policy processes. In the VeriSign settlement, however, ICANN's routine policy development procedures (e.g, GNSO, CCNSO PPP) did not operate, but instead ICANN used a bilateral negotiation process to reach the settlement with VeriSign.

Representation

In the VeriSign settlement process, the principle of representation was little discussed by the ICANN Board or community because of the private nature of the bilateral negotiation. *At the institutional level*, ICANN is supposed to reflect the geographical, functional and cultural diversity of Internet users and their needs in its process. However, the negotiation process of the VeriSign settlement undermined the principle of representation by excluding broad stakeholder participation to reflect their interests and concerns. *At the organizational level*, ICANN needed to reflect diverse interests and concerns in the VeriSign settlement process. However, ICANN acted hastily on the settlement without adequate time for public comment by the ICANN community. *At the technical level*, ICANN did not develop any kind of procedure to represent the concerns and issues in negotiation of the most affected communities (e.g., .com community).

Summary

ICANN's decisions on the VeriSign settlement promoted technical, organizational, and institutional stability by stopping VeriSign's technically problematic wildcard service, ensuring stable financial resources for ICANN's future activities, and expanding supervisory oversight over VeriSign's registry service. However, by extending

the .com registry contract without competition, the settlement had negative impacts on competition. In the settlement negotiation process, ICANN also undermined the principles of bottom-up coordination and representation.

The ICM XXX Domain Name Application

Many Board members admitted that the ICM XXX application was the most difficult issue that they have ever handled. Creating the XXX domain name was extremely controversial both inside and outside the ICANN community. Greater governmental intervention was observed in the ICM XXX application process than in the IDN project or the VeriSign settlement process. The XXX domain name illustrates how ICANN – a private entity - can be vulnerable to external pressure in handling socially and culturally controversial public policy issues.

Background

In 2000 and 2004, ICANN initiated a process to introduce new TLDs in the DNS. Stuart Lawley, CEO of the ICM Registry LLC (ICM), submitted to ICANN ICM's application to create the adult top-level domain name of “.XXX” in the Internet DNS. In 2000, the ICANN Board dismissed all applications seeking to run adult top level domain names including “.XXX.” In 2004, however, to the surprise of many, the ICANN Board approved the ICM XXX application for further negotiation between ICANN and ICM to determine the terms and conditions of the registry agreement.¹⁰⁴ Facing increasing opposition, for three years the Board postponed its final decision on the destiny of the ICM XXX application but ultimately it rejected it in 2007. Meanwhile, the application raised a broad range of controversial policy issues - moral, cultural, social and political (i.e., who gets what) – that have divided the ICANN community.

Three pieces of background information are useful to better understand ICANN's handling of the ICM XXX application. First, the XXX domain name was one of the candidate sponsored top level domains (sTLDs). A sponsored TLD is a tailored top level domain name that is to be used by a specific community known as a “sponsored

¹⁰⁴ For example, the E.U. representatives in the GAC expressed in a letter to ICANN that the GAC had expected that the ICANN Board would reject the XXX proposal just as it did in 2000 (European Commission, 2005).

community.” ICANN believed that sTLDs would reduce its policy responsibility because it delegated to the sponsored community the responsibility for developing relevant policy to govern the use of its sponsored TLD. Second, the XXX sTLD was so controversial that the ICANN community and the Board itself were sharply divided. A great challenge to ICANN was how it should handle such a socially and culturally controversial sTLD given its narrowly defined technical mission.

Third, the ICM XXX application triggered the familiar question about the roles of ICANN as a private entity and of governments in Internet DNS governance. ICANN was supposed to take responsibility for handling technical matters, being attentive to governments’ advice regarding the public policy issues, if any, involved in technical matters. However, the ICM XXX application fell in a gray area. Members of the Board majority believed that they could handle the XXX domain name as well as other sTLD domain names solely based on its technical merits. However, they also realized that the XXX domain name was extremely controversial and contained many unresolved policy issues so that they could not determine the selection of the XXX domain name based merely on its technical merits. To avoid conflict with governments in the GAC, the majority finally chose to reject the ICM XXX application. The ICANN Board’s inconsistent decision of the XXX domain name left a strong impression that ICANN was somehow captured by governments in its handling of the issue.

ICM XXX Application Process

The First ICM XXX Application and Decision

The first appearance of the ICM XXX application in the ICANN community dates back to August 2000 when ICANN initiated a first round process to introduce new GTLD to promote competition at the root zone name space.¹⁰⁵ From August to October 2000, ICANN received 47 applications seeking to introduce new GTLD domain names in the

¹⁰⁵ ICM also proposed the “.kids” as well as the “.xxx” domain name in 2000.

ICANN-controlled DNS. Among these applications were several applications that sought adult domain names such as Abacus America Inc's XXX.¹⁰⁶

In the Los Angeles meeting in November 2000, ICANN approved seven new GTLD domain names.¹⁰⁷ However, the Board disapproved all adult domain names including the ICM XXX domain name because it was afraid of a content regulator of adult websites. In December 2000, ICM requested that the ICANN Board reconsider its XXX application. In the reconsideration request, ICM did not ask the ICANN Board to approve its application. Instead, it alleged that the ICANN Board and staff had made misleading statements about the ICM XXX application so that ICM was unable to develop community consensus on its XXX application (ICANN, 2000 December). The Board, however, dismissed ICM's allegation.

The Second ICM XXX Application and Evaluation

ICM resubmitted the XXX application in March 2004 when ICANN initiated a second round process to introduce new sponsored TLDs (sTLDs).¹⁰⁸ ICANN received nine other applications. The ICM XXX application, however, was the only one seeking to run an adult domain name. ICANN posted the ten applications on its website for public comment and feedback.

ICANN established three independent review panels to assess the ten applications based on the three criteria - technical, business/financial, or sponsorship/community – defined in the request for proposal (RFP).¹⁰⁹ From May to July 2004, each panel, one for each criterion, evaluated the ten applications.

¹⁰⁶ In 1999, Abacus America Inc (Ivan Vachovsky) submitted a XXX proposal to ICANN, but the ICANN Board denied the proposal on November 16, 1999 (Vachovsky, 2000).

¹⁰⁷ Among the seven domain names, .biz, .info, .name, and .pro were unsponsored GTLD domain names and .aero, .coop, and .museum were sponsored ones.

¹⁰⁸ The second round GTLD process started in 2003. In June 2003, ICANN posted a draft "Request for Proposal" and invited public comment on the draft RFP, particularly on whether the RFP should be limited to applicants who had proposed sponsored sTLDs in the 2000 round of GTLD introduction. In the 2003 Carthage meeting, the Board decided not to restrict the new round to prior applicants. On December 15, 2003, ICANN posted an online RFP, seeking applications that "address the needs and interests of a clearly defined community (the sponsored community), which can benefit from the establishment of a TLD operating in a policy formulation environment in which the community would participate" (ICANN, 2004 March-a).

¹⁰⁹ In 2000, the ICANN staff evaluated all GTLD applications. However, the evaluation was controversial among denied applicants including ICM. To improve the evaluation process in 2004, ICANN introduced independent review panels.

ICANN recruited nine panelists - three for each panel -based upon the published criteria. Paul Twomey, CEO of ICANN, described the selection process of the panelists in a letter to Mohamed Tarmizi, chair of the GAC: while the selection for the technical and business panels was “straightforward,” the selection for the sponsorship evaluation panel was “considerably less concrete” (Paul Twomey, May 4, 2006). ICANN was not certain about the skills and expertise required to determine whether or not a sTLD proposal met the sponsorship criterion. Instead, for the sponsorship panel ICANN appointed “thoughtful and analytic” individuals familiar with ICANN’s technical coordination functions of the DNS (Paul Twomey, May 4, 2006).

To prevent external influence over the panelists, ICANN hired an independent project manager outside of ICANN. An ICANN staffer characterized the evaluation process as “blind, independent and iterative,” because all communications between the panels and the applicants, and the panels and ICANN were available only through the project manager to maintain the anonymity of the evaluators¹¹⁰ (Pritz, 2004).

ICANN Board’s Initial Approval for Negotiation

On July 12, 2004, the three panels separately reported to the ICANN Board their independent evaluations of the ten applications. The Board selected successful applications for further negotiation. However, for those applications that did not meet the three criteria, ICANN decided to offer an opportunity to submit additional or clarifying supplemental documentation (ICANN, 2005 December-a). ICM as well as several other applicants initially failed to pass the sponsorship criterion, but took advantage of the additional opportunity to remedy deficiencies in their applications identified by the sponsorship panel.

In June 2005, the ICANN Board approved the ICM XXX application by a divided vote - six yes, three no and two abstentions.¹¹¹ The Board authorized ICANN staff to

¹¹⁰ Panelists’ names were disclosed at the conclusion of the review process. On November 28, 2005, ICANN posted the Independent Review Panels’ reports and supporting materials on its website.

¹¹¹ The affirmative votes were cast by Vinton Cerf, Hagen Hultsch, Joichi Ito, Veni Markovski, Vanda Scartezini, and Paul Twomey. Negative votes were cast by Raimundo Beca, Alejandro Pisanty and Hualin Qian. Demi Getschko and Michael Palage abstained. Mouhamet Diop, Thomas Niles, Njeri Rionge and Peter Dengate Thrush were absent.

enter into negotiations over the commercial and technical terms for a possible .XXX registry agreement between ICANN and ICM. On August 9, 2005, as a result of negotiation, ICANN and ICM proposed a draft .XXX sTLD registry agreement to the ICANN community. ICANN posted the proposed agreement on its website for public comment and feedback.

Divided Community Responses to the XXX Domain Name

Receiving considerable media attention, the ICANN Board's initial approval had given rise to controversy inside and outside the ICANN community. Sharp divisions occurred in the ICANN community over the XXX adult domain name. Most ICANN constituencies could not determine their formal positions on the proposed XXX registry agreement, because they could not reach community consensus over the domain name.

On August 11, 2005, Michael D. Gallagher, acting assistant secretary of the U.S. Department of Commerce requested in a letter that the ICANN Board delay its final decision regarding the proposed XXX registry agreement scheduled for August 16, 2005. Emphasizing that the Department of Commerce had received nearly 6000 letters and emails opposing the creation of a new Internet domain name zone for adult content, he urged ICANN to listen and address all concerns and voices from the broader Internet community regarding the adult domain name (U.S. Department of Commerce, 2005 August-a). The next day, GAC chairman Mohamed Tarmizi asked in a letter that the ICANN Board allow additional time for the GAC to examine public or governmental policy issues and concerns before the Board made its final decision on the proposed XXX registry agreement. Tarmizi stressed that some GAC members had expressed strong opposition to the XXX adult domain name (ICANN Governmental Advisory Committee, 2005 August). ICM also requested that the ICANN Board defer its decision.¹¹²

On August 16, 2005, the ICANN Board decided to delay the scheduled consideration of the proposed XXX registry agreement until the next Board meeting on September 15, 2005. Meanwhile, inside the adult entertainment industry substantial

¹¹² Individual GAC members also sent letters to the ICANN Board to express their concerns about the XXX domain names (e.g., E.U., Sweden, and U.K).

opposition emerged to the ICM XXX registry agreement. For example, on August 30, 2005, the Free Speech Coalition (a group of adult website webmasters) expressed their strong opposition to the creation of an .XXX sTLD, claiming that ICM could not represent the adult entertainment industry.

Delayed Decision on the Proposed XXX Registry Agreement

On September 15, 2005, by a vote of 11-0 with 3 abstentions, the ICANN Board decided to delay again the decision on the proposed XXX agreement. Many Board members expressed their concerns about compliance issues related to the proposed agreement. They stressed that the ICANN Board had received extensive public comments on whether and how ICM – a private registry – could fulfill the commitment to self-regulation in the Internet adult entertainment industry promised in the agreement. Delaying its decision, the Board instead directed ICANN staff to further discuss with ICM additional modifications to the XXX registry agreement. The Board wanted to see that the agreement included effective compliance mechanisms that enabled ICM to implement what it had promised in its XXX application, including, but not limited to, codes of conduct among XXX registrants and ongoing obligations regardless of ownership change.

The U.S. Department of Commerce had analyzed the ICM registry agreement, concluding that the provisions of the proposed agreement did not reflect the key commitments that ICM offered to the GAC in its presentation in November 2005. In a letter to the GAC chair on March 20, 2006, John Kneuer, acting assistant secretary of the Department of Commerce, asked GAC chair Tarmizi to share its assessment of the XXX agreement with the GAC members and the ICANN Board (U.S. Department of Commerce, 2006 March-a).¹¹³

¹¹³ According to Kneuer's letter in November 2005, ICM's promises did not appear in the proposed XXX registry agreement in the following areas: (a) to form a non-profit policy development entity to create rules for XXX, (b) to require .XXX registrants to adhere to best business practices as a condition of .XXX registration, (c) to require .XXX registrations to be ICRA-labeled, (d) to safeguard children online, (e) to combat child pornography, (f) to implement a WHOIS compliance program, (g) to provide funds for global child initiatives, (h) to prohibit child exploitation including requiring proof of age of actors portrayed in content in .XXX domain, (i) to promote responsible marketing practices by requiring .XXX registrants to agree to combat spam and not use malicious codes and technologies and illegal and questionable marketing practices.

Showdown between the ICANN Board and the GAC

In the Wellington meeting in March 2006, the GAC reiterated in its Communiqué that several GAC members strongly opposed the introduction of adult domain names like XXX. The GAC noted that these members opposed the XXX registry agreement from moral, sponsorship (representation), and enforcement perspectives. The GAC also identified several public policy aspects that the ICANN Board should consider concerning the ICM XXX registry agreement. In particular, the GAC questioned how the Board would ensure that “any contract currently under negotiation between ICANN and ICM Registry would include enforceable provisions covering all of ICM Registry’s commitments” (ICANN Governmental Advisory Committee, 2006 March, p. 4)

To address the issues and concerns raised by the ICANN community – and especially by the GAC - ICM submitted a revised .XXX registry agreement. On April 18, 2006, the ICANN Board decided to post this revised registry agreement on its website for public review. Chairman Vincent Cerf also noted that following “the desire of ICM to have an up or down vote,” the ICANN Board would decide on the revised agreement in its next meeting on May 10, 2006 (ICANN, 2006 April).

On April 20, 2006, responding to the GAC’s Wellington Communiqué, the ICANN Board announced that it would fully consider the GAC’s public policy concerns in its deliberation and decision on the revised XXX registry agreement in May (ICANN, 2006 May-a). On May 2, 2006, in a letter responding to the ICANN Board announcement, the GAC chair questioned how the ICANN Board would meet its announced promises and obligations to the GAC’s policy recommendation defined in the ICANN Bylaws.¹¹⁴ The GAC warned that the Board must first determine whether the

¹¹⁴ The ICANN Bylaws provide in Article XI, Sec. 2, Paragraph 2 (j) and (k) that “The advice of the Governmental Advisory Committee on public policy matters shall be duly taken into account, both in the formulation and adoption of policies. In the event that the ICANN Board determines to take an action that is not consistent with the Governmental Advisory Committee advice, it shall so inform the Committee and state the reasons why it decided not to follow that advice. The Governmental Advisory Committee and the ICANN Board will then try, in good faith and in a timely and efficient manner, to find a mutually acceptable solution. If no such solution can be found, the ICANN Board will state in its final decision the reasons why the Governmental Advisory Committee advice was not followed, and such statement will be without prejudice to the rights or obligations of Governmental Advisory Committee members with regard to public policy issues falling within their responsibilities.”

board action is consistent with any GAC public policy advice, if the Board intended to move forward with the revised agreement.

Disapproval of the XXX Registry Agreement

On May 10, 2006, the ICANN Board reviewed the revised XXX registry agreement. By a divided vote – nine yes, five no and one abstention - the majority of the Board members denied the XXX registry agreement. The Board determined that the ICM XXX application had failed to remedy the initial deficiency of the sponsorship criterion defined in the RFP, and the registry agreement did not adequately address the public policy concern of effective compliance mechanisms that the GAC had highlighted (ICANN, 2006 May-b). In the decision, Vinton Cerf justified his changed view of the ICM application: “I no longer believe it's possible for ICM to achieve the conditions and recommendations that the GAC has placed before us as a matter of public policy and that the terms of the contract do not assure any of those - the ability of ICM to provide the protections that are requested” (ICANN, 2006 May-c).

To the contrary, one minority Board member contended that with the Board’s approval in June 2005, the ICM application had met the sponsorship criterion. He believed that it was too difficult and unfair for ICM to build a complete compliance mechanism before it started. On May 19, 2006, ICM appealed to the ICANN Board submitting a request for reconsideration of the disapproval.

Many (e.g., the GAC chairman) thought that the Board’s disapproval decision had rejected the XXX application as a whole. However, the Board actually “voted not to approve the agreement as proposed, but did not reject the application” (ICANN, 2007 January). That is, “[t]he decision that the Board took at its meeting on 10 May 2006 was a vote on the contract to establish the Registry, not a denial of ICM’s application” (ICANN, 2007 January). The XXX application remained a pending application under the Board’s consideration. Withdrawing its reconsideration request, ICM resumed negotiation with the ICANN staff to agree to a new version of the XXX agreement for the Board’s consideration.

Final Rejection of the ICM XXX Application

In January 2007, ICANN posted a further revised XXX sTLD registry agreement (known as the “Revised Agreement”) and invited public comment on it until February 5,

2007. ICM claimed that the Revised Agreement fully addressed the public policy concerns raised by the GAC and other community members. ICANN, however, received negative public comments, especially on Appendix S in the Revised Agreement.¹¹⁵ On February 12, 2007, ICANN posted a revised version of Appendix S on its website and sought additional public comment within less than 21 days. Meanwhile, the ICANN Board also requested that ICM provide the Board further documentation about whether the sponsorship criterion had been met for the creation of a new proposed .XXX sTLD in the Internet adult entertainment industry.

On March 13, 2007, the ICANN Board decided to take a final vote on the ICM XXX application at its Lisbon meeting. In the Lisbon meeting on March 30, 2007, the majority of ICANN Board members again decided to reject the ICM XXX application. The Board's final vote also was divided: 9 yes, 5 no and 1 abstention (ICANN, 2007 March-b). Finally, having finally rejected the ICM application as a whole, the ICANN Board no longer considered the ICM XXX domain name in the second round of the new sTLD introduction process.

The Board had taken three years 'from March 2004 to March 2007' to determine the destiny of the adult XXX domain. On March 29, 2007, ICM filed a lawsuit against the U.S. Departments of Commerce and State under the Freedom of Information Act, seeking the disclosure of relevant materials to communications inside and outside the Departments of Commerce and State concerning the ICM XXX application ("ICM Registry, LLC. v. U.S. Department of Commerce, et al.," 2007)

Issues, Deliberation and Decisions

Great controversy occurred inside and outside the ICANN community regarding whether and how the ICM's XXX adult domain name should be introduced in the top level domain name space. For various reasons, some favored and some opposed the ICM XXX domain name. Most of the disagreement among the ICANN community and Board members, however, centered on (a) the moral and cultural issues raised by the XXX adult domain name itself, (b) the sponsorship issue of the ICM XXX application, and (c) the compliance or enforcement issue related to the ICM XXX registry agreement.

¹¹⁵ Appendix S described ICM's commitments regarding policy development and stakeholder protection activities.

From some moral and cultural perspectives, many did not favor the ICM XXX domain name because they believed it was morally undesirable. Some Board members argued that the idea of a XXX adult domain name offended those outside of the U.S. culture. Vittorio Bertola, a non-voting Board member, observed the cultural division in the ICANN community over the ICM XXX domain name. He argued that those in favor of the XXX domain name came mostly from the U.S. while those against the XXX came from non-U.S. On cultural issues, generally, he suggested that ICANN take more into account what happens outside the U.S. (ICANN, 2007 March-b).

However, many in the ICANN community also believed that the ICM XXX application should be approved as long as the application had met the evaluation criteria – technical, financial, and sponsorship – defined in the RFP. Although some Board members expressed their opposition to the ICM XXX application for moral and cultural reasons, such reasons evidently were not critical to most Board members in their deliberation and decision on the ICM XXX application and registry agreement. Most members implicitly or explicitly attended to the principle of “network neutrality,” a popular norm in the Internet community: the Internet should be a morally neutral place. To those who believed in the network neutrality of the Internet, the ICM XXX application should be judged according to the evaluation criteria themselves rather than subjective moral and cultural viewpoints.

From the sponsorship perspective, the ICM application failed at first. In June 2005, however, the majority of Board members approved the XXX application as well as the other failed applications after receiving more documentation to show their communities’ support. As ICANN entered into negotiation with ICM, though, great opposition to the ICM XXX domain name had emerged not only from the adult entertainment industry (known as the “sponsored community”) but also from the broader Internet community. Organized opposition from the adult entertainment industry (e.g., the Free Speech Coalition) confused those who had voted for the ICM XXX application in June 2005, believing that the ICM application met the sponsorship requirements after all. The sponsorship issue, however, kept recurring in the Board’s deliberation and decision on the XXX registry agreement in May 2006 and in March 2007. Over time, some Board members had changed their original view of the ICM application’s

fulfillment of the sponsorship criterion.¹¹⁶ Vinton Cerf admitted in March 2007 that over the last six months he had observed more negative reactions from members of the adult online community to the ICM application (ICANN, 2007 March-b).

Table 6-3: Evaluation Results and ICANN’s Handling of sTLD Applications

Sponsored TLD	Independent Review Panel’s Evaluation			ICANN’s Handling	
	Technical	Business	Sponsorship	Approval for Negotiation	Approval for Agreement
Asia	O	O	Δ	December 2005	18 October 2006
Cat	O	O	O	February 2005	15 September 2005
Travel	O	O	Δ	October 2004	8 April 2005
Jobs	X	O	Δ	December 2004	8 April 2005
Post	O	O	O	August 2004	Still in negotiation*
Mobi	X	O	X	December 2004	28 June 2005
Tel (Telnic)	X	X	X	June 2005	10 May 2006
XXX	O	O	X	June 2005	Not Approved
Tel (Pulver)	X	X	X	Not approved	-
Mail	No position	X	X	Not Approved	-

O: meet all criteria and recommended for approval

X: not meet criteria and not recommended for further discussion

Δ: do not meet all criteria but merits further discussion

***: As of December 2007, ICANN is still in negotiation with UPU for .POST sTLD**

Source: ICANN, www.icann.org/announcements/announcement-04jan07.htm

Table 6-3 shows the independent review panels’ evaluation results and ICANN’s handling of all sTLD applications in the second round of sTLD introduction. Three applications – Mobi, Tel (Telnic), and XXX - failed to meet the sponsorship criterion in the first place, but the ICANN Board later approved all of them for further negotiation. Interestingly, however, the XXX application was the only one that the Board eventually rejected, while Mobi and Tel (Telnic) succeeded in completing their registry agreements with ICANN. At the outset, the RFP did not explicitly consider the compliance or enforcement issue. However, since the GAC raised strong policy concerns about ICM’s ability to keep its commitment to enforce what it promised in its presentation to the GAC,

¹¹⁶ At the Board level, Vinton Cerf, Paul Twomey, Hagen Hultsch and Vanda Scartezini changed their positions on the ICM XXX application’s adequacy of sponsorship. They favored the XXX application in June 2005, but later voted against the application in May 2006 and/or March 2007.

the compliance issue became the most critical criterion for the Board to consider in its the deliberation and decisions on the ICM XXX application in May 2006 and March 2007.

Table 6-4 reports the Board members’ major voting statements on the XXX application’s compliance issue in May 2006. Paul Twomey, CEO of ICANN, stated that public policy concerns (compliance) became more important than any other concern (such as sponsorship) related to the ICM XXX application.

Table 6-4: Board Members’ Voting Statements on the ICM XXX Application in May 2006

	Name	Board Members’ Voting Statements in May 2006*
Majority	Pisanty	Has no “in-built structural guarantees” to ensure its conditions and representations made by ICM. But it’s not because of ICM fault but its complexities.
	Cerf	“No longer believe ... the ability of ICM to provide the protections that are requested [the GAC].” The contract not assure the recommendations as “a matter of public policy” placed by the GAC
	Hultzsich	“Negotiations didn’t produce the required expected results”
	Rionge	“we don’t currently have substantial information for us to be able to vote in favor”
	Twomey	Significant opposition from the sponsored community. But more importantly, the proposed contract not meet the public concerns raised by the GAC
	Qian	Since porno regulation is culturally different, “the commitment made by ICM is not very easy to implement. I don’t see – that this can be implemented”
	Beca	Doesn’t comply entirely with the GAC’s advice expressed in the Wellington Communiqué; nor with the requirements raised in September 15 meeting
	Scartezini	I have been in favor during all this process. I’m not sure anymore, because “the contract language did not come with the guarantee that I have expected”
	Getschko	Same as Pisanty’s concerns about the contract
Minority	Crawford	Sufficient technical or financial-competency; no reason not to enter the agreements
	Ito	“ICM has followed the process put forth by ICANN and has addressed concerns from the community in a reasonable way”
	Thrush	Has met sufficiently the sponsorship conditions” despite of lack of full support of the target community; unfair for ICM to build a “complete and working compliance model before it’s allowed to start.”
	Diop	“less damage will come from allowing to move forward with the contract and try to make effective the guideline and safeguards
	Markovski	“the attempt of ICM to meet all the conditions asked for by different governments, by ICANN, by the ICANN community, the stakeholders, is enough to prove that they are taking seriously this issue.

* Michael Palage was absent from the Board meeting in May 2006

Source: www.icann.org/minutes/voting-transcript-10may06.htm

The ICANN Board discussed a broad range of technical and public policy issues related to the ICM XXX application and registry agreement. Contradictory perspectives on the ICM XXX application appeared in both the ICANN community and Board. In principle, both the majority and minority agreed that (a) ICANN had a limited technical mission, (b) little consensus about adult content existed in the Internet community except for the prohibition of child pornography, and (c) they did not want ICANN to get involved in any kind of content regulation in the introduction of new sTLD domain names. In specific, however, the majority and minority took distinct approaches to handling the ICM XXX application within ICANN’s limited technical mission. The

Board majority took a more conservative approach, while the minority took a more libertarian approach.

Table 6-5 summarizes the majority and minority Board members’ distinct perspectives on various issues involved in the deliberation and decision on the ICM XXX application and registry agreement.

In principle, both the majority and minority agreed that (a) ICANN had a limited technical mission, (b) little consensus about adult content existed in the Internet community except for the prohibition of child pornography, and (c) they did not want ICANN to get involved in any kind of content regulation in the introduction of new sTLD domain names. In specific, however, the majority and minority took distinct approaches to handling the ICM XXX application within ICANN’s limited technical mission. The Board majority took a more conservative approach, while the minority took a more libertarian approach.

Table 6-5: Majority and Minority Perspectives on the ICM XXX Application

Issue	Majority	Minority
ICANN’s mission	Limited technical mission, not content regulator	Limited technical mission, not content regulator
Approach	Policy Conservatism	Technical Libertarianism
Assumption	Little consensus of adult content in the Internet community except child pornography; Adult contents are public policy issues; no permission until policy consensus to permit	Little consensus of adult content in the Internet community except child pornography; The Internet is content-neutral; permission until policy consensus to prohibit
Evaluation Criteria	Technical/business/sponsorship plus public policy concerns raised by GAC	Solely technical/business concerns; sponsorship and public policy concerns are problematic criteria in evaluating XXX
Judgment on XXX	Reject XXX because it did not meet public policy concerns such as sponsorship and compliance	Approve XXX because it is technically-sufficient for the stable/reliable operation of the DNS
Background	To avoid being content regulator, reject the XXX proposal unless it meets all public policy concerns; policy-oriented decision making	To avoid being content regulator, approve the XXX proposal based solely on technical merits; technicality-oriented decision making
Possible criticism	too sensitive to non-technical issues; politicizing of internet governance; subjective and arbitrary beauty contest	Less responsive by emphasizing too much on technical issues; narrow view of internet governance
Behavioral Pattern	ICANN would shirk from controversial new TLD applications even though they are technically sound	ICANN would consider controversial new TLD applications based solely on technical parameters

In evaluating the XXX adult domain name, the majority took into account public policy issues as well as technical, financial, and sponsorship criteria defined in the RFP. Vinton Cerf argued, “We [the ICANN Board] can’t shut our eyes or ears to what are important public policy considerations,” knowing that public policy issues of the XXX

domain name are “beyond the scope of a narrowly conceived ICANN” but yet “very relevant” to ICANN’s mission (ICANN, 2007 March-a).¹¹⁷

In contrast, the minority took into account only technical and financial criteria because they believed sponsorship and public policy concerns were problematic criteria in evaluating the XXX sTLD.¹¹⁸ The majority believed that since there was little policy consensus in the Internet community over adult content except for the prohibition of child pornography, ICANN should not permit adult content in the Internet domain name space until a global policy consensus in the Internet community permitted the use of adult content in the DNS. The minority, however, believed that if little consensus existed over adult content, ICANN should permit such content in the Internet domain name space until a global policy consensus emerged to prohibit the use of adult domain name in the DNS space.¹¹⁹

In essence, the majority was more policy-oriented and the minority more technical-oriented in the deliberation and decision on the ICM XXX application. The majority’s approach can be dubbed as *policy conservatism*, and the minority’s approach *technical libertarianism*. The majority’s policy conservatism helped lead ICANN to avoid controversial policy issues when little consensus existed in the ICANN community. Meanwhile, the minority’s technical libertarianism pushed ICANN to focus on the technical merits of the ICM application itself.

¹¹⁷ Viewing the case of XXX as not unusual, Cerf suggested that the ICANN Board needed to establish “mechanisms to deal with controversial TLD proposals” in the future rounds of new GTLD introduction. As a solution to avoid any future controversy in selecting new TLD like XXX, the Italian government suggested that the GAC make judgment on the selection of a controversial domain name and then the ICANN Board make a final decision based on the GAC’s recommendation (ICANN, 2007 March-a). However, Susan Crawford suggested that the Board select a fixed number of new TLD annually by lottery or auction based on “minimum technical and financial requirements” of technically-competent bidders (ICANN, 2006 May-c).

¹¹⁸ From the beginning, some Board members opposed the use of sponsorship as a testing criterion for the new sTLD applications, because it was hard to define the sponsored community. Susan Crawford, Joichi Ito, Dave Wodelet and Vittorio Bertola stated that they did not have serious concerns about the sponsorship criteria, and expressed that it was an inappropriate burden to place on ICM to ensure that the entire adult online community was supportive of the proposed domain. Other Board Members and Liaisons (Vint Cerf, Steve Goldstein, Rita Rodin, Roberto Gaetano, Vanda Scartezini, Demi Getschko, Sharil Tarmizi, Raimundo Beca, Vittorio Bertola and Suzanne Woolf) had “serious concerns” about the sponsorship criterion (ICANN, 2007 February).

¹¹⁹ Susan Crawford put it this way: “In a nutshell, everything not [legally and technically] prohibited is permitted” (ICANN, 2007 March-b).

The minority criticized the majority's approach to the ICM XXX application as being too sensitive to non-technical issues. In this view, the majority politicized Internet governance and made the new sTLD introduction process a subjective and arbitrary "beauty contest" (ICANN, 2006 May-c). Susan Crawford criticized the ICANN Board for acting in an unprincipled ad hoc fashion in response to political pressures. She argued that "ICANN should take itself seriously, as a private governance institution with a limited mandate and should resist efforts by governments to veto what it does" (ICANN, 2006 May-c). Yet, one can criticize the minority's approach as being less responsive to the Internet community. The minority ignored broad policy concerns, while perhaps overemphasizing the technical aspects of the ICM application from a narrow view of Internet governance.

Based on these distinctions, one can predict behavioral differences between the majority and minority in future rounds of new GTLD introduction. The majority would shrink from any controversial application, even if it is technically sound.¹²⁰ The minority, however, probably would prefer to consider controversial new TLD applications based solely on technical parameters. To make ICANN "strong organization," Susan Crawford argued, it should make consistent decisions based on the technical merits of a specific issue without giving in to internal and external pressures (ICANN, 2007 March-b).

The ICM XXX application placed the ICANN Board in a difficult dilemma. If the Board moved backward, "ICANN could be perceived as bowing to political interference." But, if the Board moved forward, "it could alienate government officials as the United Nations was becoming more interested in taking over [ICANN's] key internet functions" (McCullagh, 2005).

Significant Influences over the XXX Application Process

Among other independent variables, I found that government involvement was the most significant influence on the Board's deliberation and decisions on the XXX domain name.

¹²⁰ In 1998, ICANN attempted to introduce a one dollar registration fee per domain name, but when the U.S government stated in a letter that its one dollar fee policy was controversial in the Internet community, ICANN dropped policy.

Support or Hostility

When the ICANN Board approved the ICM XXX application in June 2005, members of the Board majority believed that the XXX domain name was widely supported by the sponsored community, the adult online entertainment industry. After the Board's approval decision, however, formidable opposition suddenly emerged from the broader Internet community (e.g., governments and child advocacy groups) as well as the sponsored community itself. Many child advocacy groups opposed the XXX domain name. In particular, Family Research Council expressed its opposition to U.S. lawmakers, the Department of Commerce and ICANN. However, some U.S. lawmakers and advocacy groups (e.g., Wired Safety and Wired Kids, Internet Content and Rating Association, and Children's Charities Coalition for Internet Safety) supported the XXX domain name because they believed that "mandatory" XXX would make it easier for parents to protect their children by filtering adult online content.¹²¹ Expecting that the mandatory XXX name space would be heavily regulated, many adult webmasters started to oppose the XXX domain name (e.g., the Free Speech Coalition).

After the initial ICM application, ICANN received over 200,000 emails and more than 1300 separate comments during public comment forums. From an email campaign ICANN received 55,579 emails opposing the XXX domain name. From 5 January 2007 to 5 February 2007, ICANN received over 600 public comments on the revised XXX registry agreement. Among them, 488 (77%) were opposed and 107 (16%) expressed support, with the others not indicating a view (ICANN, 2007 February). Those who opposed the XXX domain name believed that it would increase adult content on the Internet, and little support existed for the creation of the XXX domain in the sponsored community.

The increasing opposition changed the Board's deliberation and decision on the XXX domain name. Roberto Gaetano, an ICANN Board member, noted that a substantial number of members in the adult entertainment industry had changed their mind over the previous six months. The Board had only one statement of opposition against .TRAVEL,

¹²¹ Even though in the ICM application XXX domain name registration was not mandatory, lawmakers and child advocacy groups argued that the XXX domain name should be mandatory for effective filtering.

while hundreds against the XXX (ICANN, 2007 February). He argued that the Board must take such new evidence of increasing opposition into account. In the XXX process, broad and intensive community opposition made the Board delay its final decision several times and eventually cancelled the initial approval of the XXX domain name in June 2005.

Stakeholder Conflict

There were noticeable conflicting interests among multiple stakeholder groups in the XXX application process. In the adult online entertainment industry, those seeking a new business opportunity to run profitable adult websites supported the introduction of the XXX domain name. Those who had already established adult websites, however, tended to oppose the XXX domain name especially when they came to know that U.S. members of Congress and child advocacy groups wanted to make the XXX domain name mandatory for all adult websites. Mike Kernes, an adult webmaster argued that this is “the first step toward driving the adult Internet in a ghetto like zoning laws has driven adult stores into the outskirts” (Associated Press, 2005 June 17).

Even though the broader Internet community was divided regarding the introduction of the XXX adult domain name, strong stakeholders - governments and family advocacy groups opposed the XXX domain. The Family Research Council website waged an email campaign against the XXX domain name so that ICANN and the U.S. Department of Commerce received over tens thousands of emails. Strong opposition from the conservative family advocacy group drew the attention of the U.S. Congress and the White House. Meredith Attwell Baker, a senior advisor to Michael Gallagher, acting assistant secretary for Communication and Information in the Department of Commerce, promised to arrange meetings between ICANN Board members and the Family Research Council, and American ICANN Board members and the Family Research Council (U.S. Department of Commerce, 2005). Such an active campaign initiated by conservative family advocacy groups had made the Department of Commerce to express its concern about the process that ICANN had taken to approve the XXX domain name (U.S. Department of Commerce, 2005 August-b). The XXX domain name became “A” priority policy issue to the U.S. Department of Commerce (U.S. Department of Commerce, 2005). The strong opposition from the Department of Commerce, governments in the

GAC, and Family Research Council contributed to the delay of the ICANN Board's decision on the XXX domain name scheduled in 2005.

Tightness of Ties

The U.S. government and the GAC closely collaborated to influence the ICANN Board's deliberation and decision on the ICM XXX application. Neither the U.S. government nor the GAC had formal authority to tell ICANN what to do. Expressing their concerns to the Board about the ICM XXX application and registry agreement, governments successfully delayed the Board's final decision and eventually changed the Board's view of the ICM XXX application. The U.S. and other governments in the GAC articulated their collective opposition to the ICM XXX application and registry agreement in a unified voice.

Opposing the XXX domain name, the U.S. government took the lead in the GAC as discussed earlier. Before the U.S. Department of Commerce sent a letter on August 11, 2005 to demand delay of the Board's final decision on the ICM XXX registry agreement, it reached out to the GAC – both the GAC chair and individual GAC members - to harness other governments' support for the U.S. government's position on the ICM XXX application. The next day, the GAC chair sent a similar letter requesting a delay in the final decision of the ICANN Board. Officials from the Department of Commerce had phone conferences and email exchanges with representatives of EU commission, Japan, and Canada regarding the XXX domain name. In collaboration with the U.S. government, the EU sent a letter to the ICANN Board to oppose the XXX domain name (U.S. Department of Commerce, 2005). On March 20, 2006, the U.S. Department of Commerce asked the GAC to share its analysis of the ICM XXX registry agreement with other GAC members. In the analysis, the U.S. government concluded that ICM did not reflect its original promises of self-regulation in the XXX registry agreement (U.S. Department of Commerce, 2006 March-b).

Historical Commitment

Two historical commitments are relevant for better understanding the ICANN Board's deliberation and decision on the ICM XXX application. First, ICANN dedicated the second round introduction of new TLDs to sponsored TLDs rather than to unsponsored TLDs. The XXX domain was a candidate for new sTLDs that would be

used by a specifically defined community. Second, since its inception, ICANN was mandated by the White Paper and its contract with the U.S. Department of Commerce to increase the number of TLD domain names to promote competition in the domain name market.

ICANN could determine whether or not a new sTLD met the three criteria based on the independent review panels' recommendation. Given the nature of sponsored TLDs, ICANN had no reason to reject new sTLD applications as long as sTLD applicants documented their sponsored communities' support.¹²² The ICANN Board seemed to believe that having more sTLDs rather than simply rejecting the failed applications was in the best interest of the ICANN community. ICANN's commitment to the sTLD domain name policy (e.g., aero, .coop, and .museum in 2000) and the expansion of TLD name space led the ICANN Board to take a more flexible approach to its deliberation on the ICM XXX application.

Resource Scarcity

Since sTLD applicants were supposed to pay a \$25,000 one-time application fee for ICANN to review their applications, resource scarcity was not a problem or issue in the ICANN Board's deliberation and decision on the ICM XXX domain name.

Institutional Stability as Performance Goal

In the ICM XXX application process, the ICANN community and Board did not explicitly emphasize any particular priority among the four performance goals in the XXX process. However, since sTLDs were supposed to be used by specific regional (e.g., .Asia), cultural (e.g., .Cat), and industrial (e.g., .Tel) communities, the tailored sTLDs represented cultural and industrial diversity in the ICANN community. By introducing sTLDs, ICANN could have promoted the principle of representation in the DNS name space.

¹²² Paul Twomey, ICANN CEO, explained the difference between the new gTLD round in 2000 and the new sTLD round in 2004. In the former process, ICANN chose only seven out more than 40 applications through competition under a "proof of concept approach." However, in the latter process, "most applicants were competing only against themselves, i.e., the extent to which they could satisfy the criteria in the RFP" (ICANN, 2006 February-b).

In the early deliberation over the XXX domain name, the principle of representation allowed the ICANN Board to take a flexible approach to the failed applications regarding the sponsorship criterion and offer the opportunity to remedy the deficiency of demonstrated community support. Once there was enough documentation to show that there was broad support from the sponsored community, ICANN had no reason to reject any sTLD application. In later deliberations, however, the principle of representation (e.g., the sponsorship criterion) remained important, but the Board emphasized the enforceability of the XXX application to address strong concerns from government and advocacy groups. In doing so, ICANN pursued institutional stability of ICANN in the broader ICANN community, giving representativeness less weight.

Contract Formalization

Contract formalization was a significant process in ICANN's deliberation and decision on the ICM XXX domain name. In the ICM XXX process, ICANN used negotiation over a formal contract to define the actual conditions and terms of the XXX registry agreement under which ICM would run the XXX domain name. Vinton Cerf stated: "Part of the reason for [his approval of the XXX application] was to try to understand more deeply exactly how this proposal would be implemented, and seeing the contractual terms, it seemed to me, would put much more meat on the bones of the initial proposal" (ICANN, 2007 March-b).

After the ICANN Board approved the XXX domain name, those who had paid little attention to the early XXX application process were on guard over the negotiation process of the ICM XXX registry agreement. The negotiation process resulted in the original and several revised registry agreements. None of the registry agreements pleased the GAC and broader ICANN community, however. Despite ICM's and ICANN's continuing efforts, the negotiation process could not yield a satisfactory registry agreement to reflect all of the policy concerns that the GAC raised. ICANN's contract negotiation process could not work because little consensus existed over (a) whether or not the XXX domain name should be introduced in the DNS name space, and (b) the conditions and terms under which the XXX domain name should operate so that ICM could keep its self-regulation promises in the adult online entertainment industry that it had originally committed to in its application and presentations to the GAC.

Board member Peter Thrush noted, however, that the failure of the negotiation process was not ICM's fault; no private entity could accommodate the overwhelming demands from the GAC. It was impossible for ICM to craft a perfect self-regulation mechanism in contractual terms before it started to run the self-regulation compliance system (ICANN, 2007 March-b). One can argue that ICANN was to blame for the ICM's failure to present an acceptable XXX registry agreement to the broader ICANN community because it initially failed to listen to stakeholders' broader concerns about and interests in the XXX domain name.

ICANN's handling of the XXX application – initial approval and final disapproval -undermined its decision-making consistency as the private governance body of the Internet DNS. Susan Crawford argued that the ICM XXX application process left a deep impression in the ICANN community that ICANN was weak and vulnerable to governments' wishful pressures (ICANN, 2007 March-b). The confidentiality of the contract formalization process aggravated such perceived vulnerability of ICANN because no one knew what has happened in the negotiation between ICANN and ICM.

Resource Acquisition

If the ICM XXX application had been approved, ICANN could have collected a substantial registry fee from ICM. Possibly, the XXX domain would have been a profitable domain name that could have made stable and substantial contributions to ICANN's funding. Yet, none of the ICANN Board members explicitly discussed the XXX domain name as an important funding source. Resource acquisition seemed not to be a significant factor in the Board's deliberation and decision on the ICM XXX application. However, future resource acquisition might have been a possible consideration for the Board in taking a flexible approach to the failed sTLD applications so that it could approve more sTLD domain names. By approving more sTLDs than the initial two successful ones (.Cat and .Post), ICANN could acquire more funding.

Decoupling

The ICANN XXX application illustrated how technical management and public policy could meet in the ICANN process. In handling the ICM XXX application, ICANN struggled to avoid engaging in any kind of content regulation over new sTLDs. Majority

and minority Board members, however, had different perspectives on how to decouple technical and public policy matters.

In the ICM XXX application process, ICANN tried to protect the technical evaluation process from arbitrary and subjective institutional or political pressures. By hiring an independent project manager, it sought to decouple the independent evaluation process from possible external intervention or influence.

In the decisions on the ICM XXX proposal in May 2006 and March 2007, both the majority and minority agreed that ICANN needed to act within its technical mandate or mission, but disagreed over how it could avoid being a public policy maker in a controversial policy field such as content regulation. As suggested earlier, members of the Board majority took a *conservative* approach: they rejected the ICM XXX application so as not to get involved in a controversial policy area where little consensus existed in the broader Internet community. In contrast, the Board members in the minority took a *libertarian approach* as they insisted on evaluating the ICM XXX application based solely on its technical merits. They argued that to become a strong organization, ICANN should show consistent decision-making based on technical parameters regardless of the controversy related to the XXX domain name. These different decoupling approaches shaped the overall underlying arguments between the majority and minority Board members' deliberation and decision on the ICM XXX application.

Delegation

For ICANN, the advantage of sTLDs was that ICANN did not need to make policy regarding the use of specific sTLDs. Instead, the relevant sponsored community would determine the use of its sTLD.¹²³ By delegating policy responsibility to the sponsored community, ICANN sought not to get involved in specific policy development within that sponsored community. ICANN was responsible only for the selection of

¹²³ In the ICM XXX application, ICM defined “the online adult entertainment community” as the sponsored communities to be served by the XXX domain name. Two types of organization are involved in the operation of a sTLD. One is the registry operator whose mission is to manage the technical aspects of the sTLD (e.g., operation of the registry data base and name server). The other is known as “the sponsoring organization” whose mission is to make policy regarding the use of the sTLD with the sponsored community. According to the ICM application, ICM was designated as registry operator, while IFFOR (the International Foundation for Online Responsibility) was the sponsoring organization.

sTLDs based on the established criteria in the RFP documents. Then specific policy matters were supposed to be handled within the sponsored community.¹²⁴

However, ICANN was not able to simply hand off the public policy issues of the XXX domain name by delegating policy development responsibility to the sponsored community. Rita Rodin, a Board member, expressed her concern that “approval of this domain in these circumstances would cause ICM to become a de facto arbiter of policies for pornography on the Internet.” She was “not comfortable with ICANN saying to a self-defined group that they could define policy around pornography on the Internet. This was not part of ICANN's technical decision-making” (ICANN, 2007 February).

Before delegating the XXX domain to the online adult entertainment community, the broader ICANN community –especially the GAC – wanted to make enforceable self-regulation part of the XXX registry contract. The original purpose of sTLDs was tarnished when the ICANN Board, the GAC, and ICM attempted to determine policy issues that otherwise could be developed in the sponsored community. In the case of the .XXX proposal, however, a “thicket of regulation” had been created in the negotiation process of the XXX registry agreement (ICANN, 2007 February)

Ultimately, the sTLD framework did not work in the case of XXX sTLD domain name. Even though the XXX domain name was one of the sTLDs candidates, the Board majority and the GAC did not apply the same framework as they did to other sTLDs.

Nature of Task

Over time, the XXX application process evolved from technical and managerial tasks to more social and political ones. Whatever decision ICANN made, it could not avoid the associated controversy and criticism.

Technical Certainty

In the first round of new GTLD introduction in 2000, ICANN took a “proof of concept”¹²⁵ approach to the introduction process of new GTLD domain names. it

¹²⁴ Vinton Cerf put it: “the intent of establishing a defined sponsorship community was to ‘hand off’ policy development to the sponsoring group, so that ICANN would not be in the position of formulating policy but would be making decisions based on technical parameters” (ICANN, 2007 February).

¹²⁵ “Proof of concept” was used to select a limited number of attractive and diverse new TLDs. From the proof of concept perspective, the absolute or relative merit of any application was not the single factor determining the outcome. ICANN’s goal was to ensure that the DNS could accept, both technically and

followed a conservative and cautious process to fully examine any possible risk of new GTLDs to the DNS. Since no risk or harm was reported after the implementation of seven new GTLD domain names in 2000, ICANN was technically certain that more new TLDs would not cause unacceptable harm or risk to the DNS.

Since the XXX domain name raised few technical issues, the technical community had little input into the ICANN Board's deliberation and decisions. Instead, the policy community (e.g., the GAC) had more say about public policy issues related to the XXX domain name. From a technical standpoint, members of the Board minority argued that there was no reason to reject the ICM XXX domain name. The Board majority, however, contended that the XXX domain name had larger significance beyond the technical issues. Based on broader policy issues, the ICANN Board rejected the ICM XXX application.

Technical Capture

In the XXX application process, IAB/IETF had little influence over the ICANN Board's deliberation and decisions, since the introduction of the XXX domain name was not risky to the stable operation of the DNS.

Government Involvement

The GAC's pressure was the main force that shaped the ICANN Board's inconsistent handling of the ICM XXX application. GAC's role became significant in the ICANN Board's deliberation and decision on the ICM XXX application over time. First, the GAC and its member governments collaborated to halt ICANN's imminent final decision on the ICM XXX registry agreement.¹²⁶ Although the Board tried to clarify to the GAC the process and rationale behind its initial approval of the XXX domain name (ICANN, 2006 February-b), the disagreement between the two was never resolved.

practically, new TLDs without harming the stability of the Internet (ICANN Reconsideration Committee, 2001 March-b). Under proof of concept, "no new TLD proposal has been rejected by ICANN; rather, a small set of TLDs was selected for an initial introduction of new TLDs, with the goal of testing diverse new TLD models and approaches"(ICANN Reconsideration Committee, 2001 April). "ICANN sought a group of TLDs that would provide a vehicle for proving a diverse range of concepts for innovative uses of the DNS" (ICANN Reconsideration Committee, 2001 August).

¹²⁶ As mentioned earlier, the U.S. Department of Commerce urged the ICANN Board to listen to all concerns on the XXX domain name and resolve those concerns before the Board took further action (U.S. Department of Commerce, 2005 August-b). The GAC chair and its individual members also sent letters to express their concerns regarding the XXX domain name (ICANN Governmental Advisory Committee, 2005 August; Peter Zangl, E.U. Commission to ICANN, January 2006).

Because of the unusual negative feedback from the GAC, the Board kept delaying its final decision on the ICM XXX registry agreement that it otherwise might have approved in August 2005.

Second, the GAC's strong messages about the XXX domain name altered many Board members' 'benign view' of the issue. The GAC reiterated that several members were "emphatically opposed from a public policy perspective to the introduction of an .xxx sTLD" (ICANN Governmental Advisory Committee, 2006 March). The Canadian government warned that if ICANN approved the proposed ".XXX" agreement, it could be put in a position to assume "an ongoing management and oversight role regarding Internet content, which would be inconsistent with its technical mandate" (ICANN Governmental Advisory Committee, 2007 March). The GAC convinced majority Board members that to avoid being a content regulator, ICANN had better reject the XXX domain name.¹²⁷

Third, the broader institutional environment did not favor ICANN and its governance of the DNS. In 2003, the U.N. had organized the "World Summit on the Information Society" (WSIS) where the role of ICANN in the DNS was discussed. For the WSIS meeting in 2005, the "Working Group on Internet Governance" (WGIG) discussed and proposed alternative governance models to replace or supplement ICANN in the DNS (WGIG, 2005). With the WSIS meetings in 2003 and 2005, the status of the GAC in the ICANN community was elevated. Even though neither the GAC nor individual governments could tell the ICANN Board what to do, the broader institutional environment made the Board more attentive to what the GAC advised.

Fourth, the U.S. government took the lead among the governments in the GAC to influence the ICANN Board's deliberation and decision on the XXX domain name. It was the U.S. government that sent a letter to ICANN in the first place. The U.S. government also shared its analysis of the proposed registry agreement with GAC members, urging them to oppose the XXX registry agreement. Even though the U.S. government argued that "[its letter] did not suggest or dictate a specific outcome or

¹²⁷ The Board members expected that governments would continuously demand enforceable compliance mechanisms in the XXX registry agreement to regulate the content in the XXX domain name. Twomey said, "this will put ICANN in an untenable position" (ICANN, 2006 May-c).

result” regarding the XXX domain (U.S. Department of State, 2005 October), many believed that the letter had significant impact on the ICANN Board’s handling of the XXX domain name given the contractual relationship between ICANN and the U.S. government. Indeed, the U.S. Department of Commerce handled the XXX domain name as an urgent “A” priority issue (U.S. Department of Commerce, 2005).

Furthermore, it was unusual for the U.S. government to send a letter on a specific issue. Prior to the XXX case, it had never done so. One Board member alleged that the U.S. government influenced individual Board members with a combination of the letter and other measures (Interview with an ICANN Board member, 2007).¹²⁸

ICANN Performance on the XXX Application

ICANN’s inconsistent decision-making on the XXX domain name resulted in mixed performance outcomes on the four criteria.

Stability

At the institutional level, ICANN needs to develop and maintain collaborative governing relationships with key stakeholders in the ICANN community to avoid any disruption to the functioning of the Internet DNS. After the Board initially approved the ICM XXX application, its decision was so controversial that it sharply divided the ICANN community. Facing strong opposition from governments in the GAC, ICANN was put in a difficult dilemma: either moving forward or moving backward with the proposed registry agreement would harm ICANN (ICANN, 2006 May-b). The Board’s decision resulted in mixed outcomes at this level.

From a community (grass-roots) perspective, ICANN’s inconsistent handling of the ICM XXX application undermined the ICANN community’s perception of ICANN’s integrity in policy decision-making and had a negative impact on the institutional stability in its grass-root community. ICANN’s rejection of the XXX domain name led many to believe that it was weak in the face of external governmental pressure. From a Board minority perspective, Mouhamet Diop, a Board member, argued that the ICANN Board failed to make ICANN strong enough to serve the ICANN community. Instead, by giving

¹²⁸ The Board member refused to talk about a specific example of other measures that the U.S. government used to influence members of the Board.

in to governmental pressures, ICANN became vulnerable to any group's pressure that would try to make it change previous decisions on any issue. He asserted that "changing our position after all that process will weaken [ICANN] more than it will help" (ICANN, 2006 May-b).

From a governmental perspective, however, the Board's decision had a positive impact on its institutional stability in the broader ICANN community including governments. ICANN avoided being put in "circumstances in which ICANN would be forced to assume an ongoing management and oversight role regarding Internet content, which is inconsistent with its technical mandate" (ICANN Governmental Advisory Committee, 2007 March). It also avoided serious conflict with the strongest stakeholder – governments – in the ICANN community. *From a Board majority perspective*, one can argue that if ICANN had decided to approve the proposed registry agreement against the GAC's opposition, it could have been put in a situation where governments would have tried to replace or reform ICANN through higher international forums such as WSIS.

At the organizational level, ICANN's decision on the XXX domain name had little impact on its organizational stability. Whether or not the XXX domain was introduced did not have a impact ICANN's managerial capacity (e.g., personnel and budget), process, or structure. *At the technical level*, whether or not the XXX domain name was introduced in the DNS name space, there would have been little impact on technical stability.

Competition

At the institutional level, competition refers to ICANN's development and maintenance of collaborative governing relationships with key stakeholders that introduce market mechanisms to promote consumer choice and lower costs in the technical management of the DNS. By rejecting the ICM XXX agreement, the online adult entertainment industry could not use the XXX domain name for its websites. The ICANN Board's decision undermined competition by denying an alternative choice for .com adult website operators at possibly cheaper prices.

At the organizational level, the ICANN Board's rejection of the ICM XXX application had little impact on ICANN's policies and management related to the introduction of market competition. *At the technical level* the ICANN Board's rejection

of the ICM XXX application had little impact on ICANN's technical or routine procedures related to the introduction of market mechanisms, although ICANN adopted an open bidding procedure to promote competition in the second round of new sTLD introduction.

Bottom-up Coordination

The principle of bottom-up coordination demands that ICANN make decisions through a non-governmental community consensus process that is flexible and rapid enough to meet the changing needs of the Internet and Internet users. However, the ICM XXX application illustrated how the ICANN Board's policy conservatism better served governmental concerns and interests than those of any other constituent in ICANN. Nor did ICANN take full advantage of its private policy development process so that its handling of the ICM XXX application was rigid and slow, taking three years to reach the final decision on the XXX application.

At the institutional level, the principle of *bottom-up coordination* demanded that ICANN develop and maintain collaborative governing relationships with key stakeholders in ways that produced a flexible and rapid non-governmental consensus process to meet the changing needs of the Internet and Internet users. Yet, the XXX domain name was so controversial that it sharply divided the ICANN community. Nor did the bottom-up "policy development process" (PDP) work for bringing about community consensus (ICANN, 2007 March-a).

The challenge that the XXX domain name posed to the ICANN Board was how it should handle issues without clear community consensus. The Board members stood on their own value and belief systems in shaping their decisions on the ICM XXX. Two perspectives or approaches emerged during the Board's deliberation and decisions on the ICM XXX application: policy conservatism and technical libertarianism. The former was a more policy-oriented, conservative, and governmental approach, while the latter was a more technically-oriented, libertarian, and community-based approach to the XXX domain name.

The members of the Board majority followed the approach of policy conservatism. They considered a broad range of policy issues in their deliberation and decisions. Their conservative approach to policy issues (e.g., enforcement or sponsorship)

served governments' concerns regarding the XXX adult domain name. For example, these Board members believed that if ICANN approved the XXX domain name, it could not avoid being a content regulator of the XXX adult domain name. By rejecting the XXX domain name, ICANN was able to avoid undermining the collaborative governing relationship with governments in the GAC. Since the XXX domain name did not receive broad support from the ICANN community, one can argue that the Board majority's rejection of the XXX domain name did not weaken the bottom-up consensus principle.

From a minority perspective, however, ICANN's strategic alignment with governments in handling the XXX domain name undermined grass-root libertarian values in the Internet community (ICANN, 2007 March-b). While the majority's policy conservatism served governments' concerns and interests by keeping the status quo, the minority's technical libertarianism attended to Internet community principles such as "network neutrality." In this view, the XXX sTLD should be allowed until community consensus emerged to prohibit it.

Even though many had long believed that "ICANN's job [was] to identify community consensus, and therefore input from the community was a critical part of the Board's decision-making process" (ICANN, 2000 March, p. 5), ICANN's bottom-up policy development process failed either to identify or to build consensus in the ICANN community regarding the XXX domain name. In its weighing of the GAC's policy concerns, the Board majority seemed to be captured by governments. The Board majority used a rationale similar to that of governments in the GAC to justify its rejection of the XXX domain name.

At the organizational level, bottom-up coordination means that ICANN develops and maintains policies, decisions and management in a way to establish a non-governmental consensus process that is flexible and rapid enough to meet the changing needs of the Internet and Internet users. In the first round of new GTLD introduction in 2000, no formal bottom-up policy development process defined technical standards, criteria, and procedures (related to e.g., application evaluation). The ICANN staff played a significant role in developing the application and evaluation process. In the second

round of new sTLD in 2004, however, a GNSO policy development process (PDP)¹²⁹ was employed to develop RFPs, an evaluation structure and process, and a timeline for the sTLD introduction process. In 2000, ICANN's decisions on new GTLDs were not made by a formula or a straightforward process, but rather based on ongoing consensus making in the ICANN community.¹³⁰ Even though the second round was not perfect,¹³¹ compared to the first round in 2000 ICANN better implemented the second round introduction process based on the rules and procedures developed by a bottom-up policy development process.¹³²

The ICANN evaluation team's report was an "aid" or "source" for the Board's deliberation, but it did not bind the Board on the selection of new GTLD in 2000. According to the ICANN Bylaws, the Board was not simply to reflect the ICANN community's wishes in its decision making; rather it needed to judge what would be in the best interest of ICANN and the ICANN community. From a community (minority Board) perspective, however, one can argue that the Board's power of deliberation and decision on the XXX domain name somewhat undermined the principle of bottom-up coordination by rendering itself more attentive to the voice of governments than that of any other constituent. Furthermore, the Board's deliberation on the XXX domain name took place in its special meetings that were not open to the public.

At the technical level, ICANN needs to develop and maintains technical standards or procedures to establish a non-governmental consensus process that is flexible and rapid enough to meet the changing needs of the Internet and Internet users. Regarding the first round of new GTLD process in 2000, many applicants criticized the procedure as

¹²⁹ GNSO's PDP was defined in the ICANN Bylaws after the ICANN reform in 2002.

¹³⁰ Many argued that "from the outset" the selection criteria were so vague that they would not guide the applicants in finding the relative weight of the criteria in advance, and such criteria seemed subjective (ICANN Reconsideration Committee, 2001 March-a). But ICANN contended that it did not make sense to apply a mathematical formula in evaluating a diverse set of proposals. Many also complained that the review period was short.

¹³¹ There was some criticism about the lack of transparency, because many important decisions were made too in special meetings in which the public could not observe the actual deliberation among the Board members. The deliberation was off-the record.

¹³² For example, in 2004, ICANN's decisions on new sTLDs were made in accordance with the evaluation criteria and procedures prescribed in the RFP documents. Evaluation teams consisted of only independent experts, while they consisted of both independent experts and ICANN staffers in 2000. All communication was done through an independent project manager to protect the anonymity of independent evaluators.

“short, incomplete, haste, and compressed review,” “full of errors and misrepresentation,” “unfair treatment,” and “subjective criteria” (see, e.g., Sarnoff Corporation, 2001). Based on the “trial and error” experience with new GTLDs in 2000, ICANN refined the procedures and criteria for the next round of new GTLD introduction. Even though there were criticisms and complaints about the evaluation criteria (e.g., sponsorship) and the procedures (e.g., delay), the overall technical standards and procedures in 2004 were improved compared to the previous round.

The improved procedures and criteria, however, did not work for the XXX domain name as much as for other sTLD domain names in 2004. The majority members of the Board applied a higher acceptance threshold to the XXX domain name than to any other sTLD. For example, even though many complained about the ambiguous definition of the sponsorship criterion, other failed sTLD domain names eventually passed the sponsorship test and reached an agreement with ICANN. In contrast, the Board majority believed that the XXX domain name could not overcome its deficiency on the sponsorship criterion.

The GAC was more sensitive to the XXX domain name than to any other sTLD domain name. Bertrand Chapelle, representative of the French government on the GAC, complained at a joint meeting of GAC-ICANN Board in Lisbon on March 27, 2007 that “the [ICANN Board’s] interaction with the GAC [was] not done early enough” on the XXX domain name; he argued that “xxx provided lessons for the future interaction between GAC and S.O. for the PDP process” (ICANN, 2007 March-a). The GAC however, previously had expressed little interest and input to the ICANN Board or other Supporting Organizations until the Board approved the XXX application in June 2005.

Vinton Cerf argued that the ICANN Board and the GAC needed “mechanisms to deal with controversial TLD proposals” like the XXX domain name, which he believed would not be unusual in the future rounds of new TLDs (ICANN, 2007 March-a). One Italian government representative suggested that the GAC make a judgment on the XXX domain name, while the Board make the final decision on the GAC’s judgment (ICANN, 2007 March-a). In conclusion, predefined procedures and criteria were not adequate for the ICANN Board to handle the most controversial domain name it had faced, so that the Board followed a process of muddling through in its dealing with governments and other

opposing groups regarding the XXX domain name. As a result, ICANN did not take full advantage of its flexible and rapid private policy development process. Rather, its handling of the ICM XXX application was at least as slow as a governmental process.

Representation

At the institutional level, the principle of representation demanded that ICANN develop and maintain governing relationships with key stakeholders in a way that reflect the geographical, functional and cultural diversity of Internet users and their needs in its management structure and process. The introduction of sponsored TLDs in 2004 contributed to increasing diversity in the DNS name space. Each sTLD represented a specific geographical (e.g., “. Asia”), functional (“.Tel” and “Mobi”), or cultural (“.Cat”) community. One can argue that the XXX domain name would have promoted diversity by representing the adult entertainment community whose members were willing to rate their content for easier filtering to protect children.

As some Board members noted, ICANN treated the XXX domain name unfairly by applying the sponsorship criterion more strictly than on any other failed sTLD application. In this view, the Board’s rejection had a negative impact on the principle of representation in the DNS name space (ICANN, 2007 March-b). An ICANN staffer believed that the ICM XXX domain name was rejected not because it did not meet the evaluation criteria, but because it was the first application for an adult domain name sTLD (Interview with an ICANN staffer, November 2007). He expected that in the future round, the ICANN Board might be able to select an adult TLD domain name.¹³³ The close vote of the Board on the XXX domain name signified the importance of the Board’s composition: those who sit on the Board can make a difference.

In principle, as Vinton Cerf noted, “[ICANN’s] decisions are intended to reflect consensus in the Internet community, not simply the policy preferences of those who happen to sit on its Board at any given moment”¹³⁴ (Cerf, 2001). In reality, however,

¹³³ One Board member expected that nobody would apply for an adult domain name like “.XXX” again. If somebody applied for the XXX domain name, he predicted that the Board would not approve it in the future (Interview with an ICANN Board member, November 2007).

¹³⁴ In other words, “ICANN’s role in GTLD policy development is to seek to assess and articulate the broadly-shared values of the Internet community. We have very limited authority. And we can only speak on behalf of that community” (Crawford, 2006 March).

individual Board members' background might have affected the Board's decision on the XXX domain name. Just as Vittorio Bertola, a non-voting Board member, noticed a cultural division in the ICANN community regarding the XXX domain name, individual Board members' cultural backgrounds might have affected their decisions on the XXX domain name. It is thus worth taking a closer look at the Board's composition to examine whether a relationship existed between individual Board members' cultural backgrounds (e.g., their nationality and associated stakeholder group) and their votes on the XXX domain name (see Table 6-6).

Table 6-6: Board Members' Voting Pattern in the XXX decisions

Group	Name	Nationality	Affiliation ¹³⁵	June 2005	May 2006	March 2007
Majority ¹³⁶	Hagen Hultzsch	Germany	Business	Yes	No	N/A
	Roberto Gaetano	Italy	Business	N/A	N/A	No
	Raimundo Beca	Chile	Technical	No	No	No
	Alejandro Pisanty	Mexico	Technical	No	No	No
	Hualin Qian	China	Technical	No	No	N/A
	Paul Twomey	Australia	Governmental	Yes	No	Abstention
	Vanda Scartezini	Brazil	Technical	Yes	No	No
	Njeri Rionge	Kenya	Business	Absence	No	No
	Demi Getschko	Brazil	Technical	Abstention	No	No
	Vinton Cerf	USA	Technical	Yes	No	No
Steve Goldstein	USA	Technical	N/A	N/A	No	
Rita Rodin	USA	Business	N/A	N/A	No	
Neutral	Thomas Niles	USA	Governmental	Absence	N/A	N/A
	Michael Palage	USA	Business	Abstention	N/A	N/A
Minority	Joichi Ito	Japan	Business	Yes	Yes	Yes
	Peter Thrush	New Zealand	Legal/Civic	Absence	Yes	Yes
	Susan Crawford	USA	Legal/Civic	N/A	Yes	Yes
	Veni Markovski	Bulgaria	Governmental	Yes	Yes	N/A
	Mohamet Diop	Senegal	Business	Absence	Yes	N/A
	David Wodelet	Canada	Technical	N/A	N/A	Yes
	Rajsekhar Ramaraj	India	Business	N/A	N/A	Yes

Source: Board members' biographies on the ICANN website, <http://icann.org/general/board.html>

In June 2005, three Board members from Chile, China, and Mexico voted against the XXX domain name application, while six from Australia, the U.S., Japan, Brazil, Bulgaria, and Germany voted for the XXX domain name. In May 2006, nine Board members from Australia, Brazil, Chile, China, Kenya, Mexico, Germany, and the U.S. voted against the XXX domain name, while five Board members from Bulgaria, Japan,

¹³⁵ To measure Board members' affiliations, I considered their education, recent employment and voluntary activities.

¹³⁶ I identify those who eventually voted against the XXX domain as the majority, those who voted for it as the minority, and those who did not vote at all as neutral.

New Zealand, Senegal, and the U.S. voted for it. In 2007, nine Board members from Brazil, Chile, Kenya, Mexico, and the U.S. voted against the XXX domain name, while five Board members from Bulgaria, Japan, New Zealand, Senegal, and the U.S. voted for it.

Nationality seemed to be a significant factor that is related to individual Board members' votes in June 2005. Those from developing countries –Chile, Mexico, and China – opposed the XXX domain name, but the citizens from and developed countries (Germany, Japan, and Australia) votes for it. In May 2006 and March 2007, however, nationality was not significant. Citizens of the U.S. and other developed countries voted against the XXX domain name. Paul Twomey (Australia), Vinton Cerf (U.S.), and Hagen Hultsch (Germany) changed their positions from yes to no because their perceptions of the XXX domain name had changed. Board members' organizational affiliation also did not make any evident difference in their decisions.

Such findings, however, do not mean that Board members' cultural preferences did not make any difference in their votes. Rather, Board members' cultural backgrounds could not fully explain their voting. More importantly, Board members' commitment to ICANN sometimes prevailed over their cultural backgrounds. For example, U.S. Board members (Cerf, Goldstein, and Rodin) opposed the XXX domain name in March 2007, while Susan Crawford voted for it. They all agreed, however, that they did not want ICANN to get involved in any content regulation related to the XXX adult domain name. By rejecting the XXX domain name, Cerf, Goldstein, and Rodin wanted to protect ICANN from getting into trouble with it. In contrast, Crawford wanted to make ICANN a stronger organization being consistent in its decisions on the XXX domain name.

In conclusion, the Board members did not make decisions on the XXX domain name based simply on their cultural preferences (shaped by nationality or affiliation). Rather, they also considered various factors such as its technical merits, public policy issues, and ICANN's mission in the deliberation and decision on the XXX domain name. The nationality or affiliations of Board members, then, is not a fully adequate indicator of representativeness.

At the organizational level, representation means that ICANN develops and maintains policy and management in a way that promotes the geographical, functional

and cultural diversity of Internet users and their needs in the DNS name space. In this case, the ICANN Board, however, did not fully appreciate the political sensitivity of the XXX domain name so that it missed an opportunity to consult with key stakeholders (e.g., the GAC and the U.S. government) in early discussions of the domain name.

At the technical level, even though ICANN prepared a set of predefined evaluation criteria and procedures for the sTLD applications, it could not reflect all community concerns and issues within the predefined framework. The ICANN community learned that however simple technical criteria and procedures were, the application of such rules was not easy. The XXX domain name highlighted that evaluating new TLD applications based solely on their technical merits was a naïve expectation. Rather, the evaluation process essentially was political one in which the ICANN community needed to reach consensus on a specific issue in the community. There was a structural or institutional design problem for ICANN in failing to effectively communicate with the broader ICANN community. First, ICANN was pressured to handle the controversial XXX application within its narrowly defined mission, while distancing itself from governments. Although the XXX application was a public policy issue, ICANN tried to frame it as a mere technical one so that it did not closely consult with the GAC in the first place.

Second, this distant relationship with governments hindered ICANN from quality communication with governments in the GAC. For example, to many of the Board members, the GAC's advice expressed in its communiqués was not always clear and often elusive, so that some Board members asked the GAC to clarify its advice regarding the XXX domain name. GAC members, however, refused to clarify their advice, arguing that by providing more clarification, the GAC would be telling ICANN what to do regarding the XXX domain. Such clarification could be perceived as governmental intervention in or capture of ICANN's technical business. This odd situation put ICANN in a difficult position to balance between its technical mission and political responsiveness. Without knowing its key political stakeholders' wishes, ICANN had to take responsibility to address the issues of the XXX domain name raised by governments. ICANN should have established effective routine communication with governments in the GAC based on the authentic public-private partnership.

Summary

Although the Board's pragmatic decisions on the XXX domain name helped to maintain a collaborative relationship (institutional stability) between ICANN and governments, the Board's inconsistent decisions allowed the grass-roots community to perceive ICANN as being captured by governments. The Board's decisions undermined the principle of bottom-up coordination by being more attentive to governments' regulation concerns than to the grass-root community's libertarian concerns (e.g., network neutrality).

Comparison of the Three Cases

The IDN project, the VeriSign settlement, and the ICM XXX domain name involved different tasks. Each of them, however, is a useful vehicle in helping us to better understand ICANN's governance and performance from different angles in differing policy contexts. Although these tasks do not represent all of the work that ICANN is doing, they include a meaningful range of the tasks that ICANN will continue to perform given its mission. Based on the previous descriptions, Table 6-7 compares the three tasks.

Nature of Task

Among the three tasks, the IDN project represents a more technical or operational task in which ICANN tried to introduce non-English domain names in the DNS. In a broader sense, however, the use of international languages in the DNS is an important step toward the overall internationalization of the DNS. So far, most of the IDN issues have centered around the operational feasibility of IDNs. A broad range of public policy issues has not been resolved yet. The technical challenges that ICANN has dealt with in the IDN project were to develop relevant standards or best practices for using IDNs in the DNS. ICANN has relied on *voluntary expertise* as a governance or problem-solving mechanism to address such operational issues as technical protocol, guidelines, and tests of IDNs in the DNS. Technical experts have volunteered and collaborated to solve technical matters. In particular, ICANN staffers, CCNSO, GNSO, GAC, IETF and UNESCO have played important roles in IDN development.

Table 6-7: Comparison of the Three Cases

	IDN	VeriSign	XXX
Purpose	To introduce non-English domain names in the DNS	To settle litigation with VeriSign to move forward	To evaluate the eligibility of the XXX domain name
Nature of task (issue type)	Technical (operational)	Organizational (operational and business)	Institutional (social and political)
Challenge ¹³⁷ (How to)	Standardization/ Best practices	Monopoly control	Balance network neutrality and policy responsiveness
Controversy	Low	Moderate	High
Risk	High	Moderate	Low
Governance Mechanism	Voluntary expertise	Bilateral negotiation	Community consensus
Major Stakeholder	Technical community	Business community	Government community
Major Actors	ICANN staff, CCNSO, GNSO, GAC, IETF and UNESCO	ICANN staff, IETF and VeriSign	ICANN staff, ICM and Governments (GAC, E.U. and U.S.)
Majority Approach	Technical conservatism Preemptive standardization	Organizational conservatism Avoidance of risk-taking	Institutional conservatism Shrinking involvement
Minority Approach	Little disagreement with the majority	Communitarian liberalism ¹³⁸ Resistance to pressure	Technical liberalism Decision on technical merits
Defining Value	Technical stability	Organizational stability	Institutional stability
Decision	Unanimous votes	9-5 approval	6-3 initial approval, 9-5 final denial

The VeriSign settlement represents a more managerial task in which ICANN attempted to settle a series of lawsuits with VeriSign, the strongest monopolist in the domain name market. Most of the issues were discussed in operational and business terms. The litigation settlement helped ICANN to clarify its governing relationship with VeriSign and to move forward to address other pressing tasks. The challenges that ICANN faced in dealing with the settlement were to address the Internet community's

¹³⁷ How: to develop technical standardization, to control monopoly, and to avoid being a content regulator

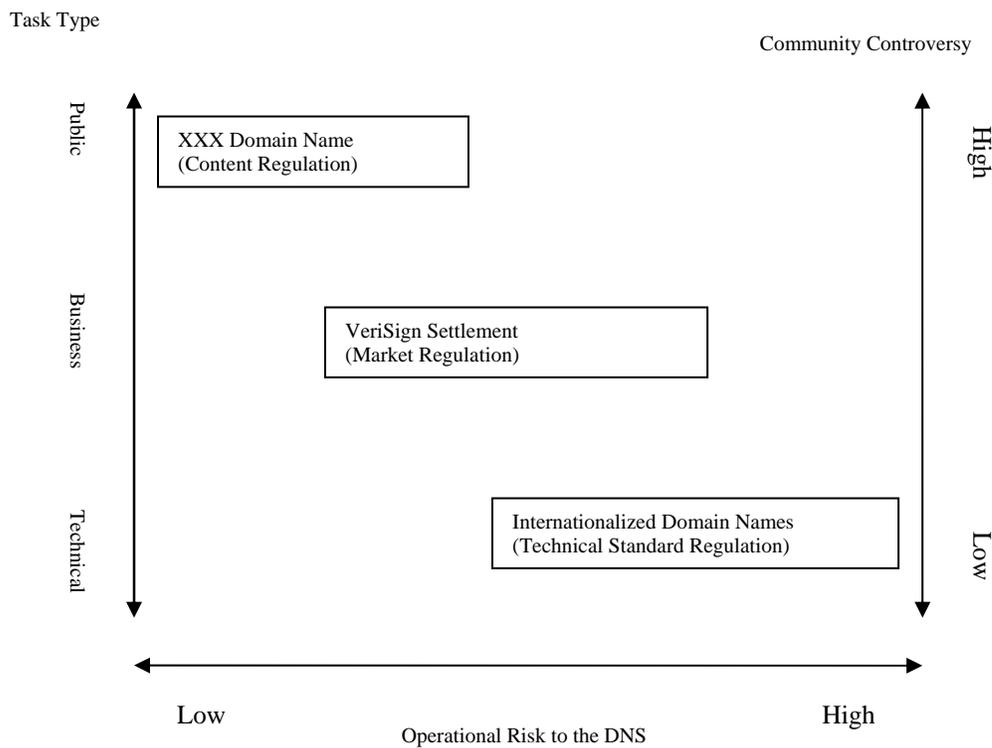
¹³⁸ "Communitarian liberalism" means that ICANN should seek community support to address any financial problems that resulted from the VeriSign litigation without giving in to pressure from inside or outside the ICANN community.

concerns over VeriSign's monopoly without transgressing the boundary of its narrowly defined technical mission. In the settlement, ICANN used *bilateral negotiation* as a governance mechanism to resolve the settlement issues with VeriSign. ICANN did not initiate its policy consensus development process to specify the terms and conditions of the settlement because the Board majority considered the settlement process to be an internal or bilateral management process that was inappropriate for public participation. The negotiation was a game in which both ICANN and VeriSign tried to maximize their interests. The business community – in particular, the “.com” community - was the stakeholder group most concerned about the VeriSign settlement process in which the ICANN staff and VeriSign played major roles.

The ICM XXX domain name case represented a more institutional task in which ICANN had to deal with broad policy issues in determining the eligibility of the XXX adult domain name as a sponsored TLD in the DNS. Unlike the IDN project and the VeriSign settlement, the XXX domain name brought up broad institutional issues (e.g., social, cultural and political), not just technical and business ones. The biggest challenge was that ICANN was supposed to avoid being a content regulator to preserve “network neutrality,” a popular norm in the Internet community, while it responded to relevant public policy issues and concerns raised by the broader Internet community. ICANN relied on *community consensus* as a governance mechanism, but it could not reach consensus over whether and how the XXX domain name would be introduced in the DNS. The government community was the most concerned stakeholder group. In particular, the GAC and the U.S. government were major actors that successfully influenced the Board's decisions on the XXX domain name.

Among the three cases, the IDN project generated little controversy, while the XXX domain name was highly controversial inside and outside the ICANN community. Although the VeriSign settlement was quite controversial, particularly, in the .com business community, it did not draw serious attention from the broader ICANN community, particularly from governments (see Figure 6-1).

Figure 6-1: Risk, Controversy and Task Type



Voting Patterns

The Board usually voted unanimously in its decisions on the IDN project. In contrast, it had sharply split votes on the VeriSign settlement and the XXX domain name. In the decisions, the Board majority took a more “*conservative*” policy approach, while the minority adhered to a more “*liberal*” approach to the three tasks. Depending on the nature of task with which it dealt, the conservative approach of the Board majority can be described as technical, organizational or institutional conservatism. Dealing with a technical task like the IDN project, the Board majority took a *technically conservative approach* that emphasized the importance of preemptive technical standardization over the policy development process so that premature policies did not harm the *technical stability* of the DNS. The Board minority did not disagree with the majority’s emphasis on preemptive standardization in the IDN project.

Dealing with the VeriSign settlement, the Board majority took an *organizationally conservative approach*. Stressing ICANN’s resource scarcity, the majority tried to avoid taking financial risk. The Board majority believed that continued litigation with VeriSign could have undermined ICANN’s *organizational stability*. In

contrast, the Board minority's view might be called *communitarian liberalism*. It emphasized that ICANN should fight back against VeriSign so as to serve the broader community's values (e.g., competition) without being captured by the strong monopolist. The minority argued that to be a strong organization, ICANN needed to be able to resist pressures from inside or outside the ICANN community.

In dealing with the XXX domain name, the Board majority was *institutionally conservative*. By rejecting the ICM application, it tried to reduce ICANN's involvement in the controversial adult XXX domain so as not to harm the institutional stability of ICANN in the broader community. Majority members believed that the content of the XXX domain name was not appropriate for the DNS name space until community consensus allowed ICANN to do so. Rita Rodin, member of the Board majority, argued that if it approved the XXX domain name, it would be a "headache" for ICANN in the future (ICANN, 2007 March-b). The minority's stance, in contrast, was one of *technical liberalism*. It contended that ICANN should determine the eligibility of the XXX domain name based solely on its technical merits rather than content appropriateness.

Whatever rationale the Board majority took to justify its decisions on the three cases, the value that its decisions advocated was related to "stability," a catch phrase that members used in many different ways. Yet, the underlying values that the minority underscored were more "communitarian" values such as competition and the bottom-up process. Table 6-8 shows voting patterns among the members of the Board majority and minority who participated in the votes on all three cases. The members of the majority had engineering backgrounds and served an average of five and half years on the Board.

In particular, Cerf and Pisanty had the longest tenures, Cerf for eight years, from November 1999 to December 2007, and Pisanty for seven and half years, from November 1999 to June 2007. Cerf also served as chairman of the Board from November 2000 to November 2007, while Pisanty was vice-chairman from 2001 to December 2006. In contrast, the minority had relatively short tenures (an average of three years). Their services started in recent years. Crawford and Thrush are lawyers and Ito is a businessman. ICANN Board members with more experience and those from engineering backgrounds were more likely to take a conservative policy approach. With less experience and coming from business and legal backgrounds, the members of the Board

minority took a more liberal policy approach. Both the majority and minority Board members in Table 6-8 agreed on the IDN project. However, they did not agree with the other two, more controversial issues.

Table 6-8: Board Members’ Voting Patterns in the Three Cases

Block	Name (service term)	IDN	VeriSign	XXX 2007 final decision	Background
Majority	Vinton Cerf (Nov.1999- Nov 2007)	Yes	Yes	No	Engineering/government ¹³⁹ Average service 5.5 years Range: 3 – 8 years Std. deviation: 2.6 years
	Demi Getschko (Feb. 2005 – Jun. 2008)				
	Alejandro Pisanty (Nov.1999- Jun. 2007)				
	Vanda Scartezini (Dec. 2004- Nov. 2007)				
Minority	Susan Crawford (Nov. 2005-Nov. 2008)	Yes	No	Yes	Legal/business ¹⁴⁰ Average service: 3 years Range: 3-3 years Std. deviation: 0 year
	Peter Thrush (Mar. 2005- Apr. 2008)				
	Joichi Ito (Dec. 2004- Nov. 2007)				

Significant Influences

Table 6-9 compares the influence of independent variables in the three cases.

Across the cases, the influence of each independent variable differed.

The IDN project received the strongest and broadest *support* both inside and outside the ICANN community, while the VeriSign settlement received little apparent support, but strong opposition from most policy bodies. Over time, the XXX domain name faced decreasing support from the online entertainment community and increasing hostility from the government community. In the IDN project, the ICANN community was supportive so that noticeable *conflict* did not arise among its multiple stakeholders. Most policy bodies shared negative views on the VeriSign settlement. In the XXX

¹³⁹ Scartezini served as National Secretary of Industrial Technology and as National Secretary of Information Technology in the Brazilian Federal Government. She also was former President of the Brazilian Patent Office. From 2000 until March 2004 she was the Brazilian representative on the ICANN Governmental Advisory Committee. She also served as a vice chair in the GAC until March 2004. Paul Twomey is a strong candidate to be considered a member of the Board majority. He showed the same voting pattern. Here, Twomey is not counted as a member of the majority group because he abstained in the final Board decision on the XXX domain name in 2007.

¹⁴⁰ Peter Dengate Thrush is a barrister practicing in civil litigation and specializing in intellectual property, competition and Internet law. Crawford is a legal professor at Cardozo Law School teaching Internet and communication law (see their biographies in www.icann.org). Ito runs several I.T. firms.

domain name case, however, sharp divisions appeared between conservative and liberal constituents.

ICANN had strong *ties* with IETF, registry operators, GNSO, CCNSO and UNESCO in the collaboration for IDN development. It also had strong ties with the U.S. government and the GAC in its decisions on the XXX domain name. In contrast, in the VeriSign case, ICANN had weak ties with its private constituents due to the nature of the VeriSign bilateral settlement process.

ICANN respected historical or past commitments in its decisions. In the IDN case, it showed strong *technical commitment* to preserving the basic architecture of the DNS such as protecting the uniqueness of the DNS in IDN development. In the VeriSign settlement case, it honored previous *contractual commitments* among ICANN, VeriSign, and the U.S. Department of Commerce. In the XXX domain name case, ICANN kept its policy commitment to the introduction of new TLDs by, for example, approving initially failed applications including the XXX domain name.

Technical certainty was high in the XXX domain name case, because few technical issues were involved in the introduction of new sTLDs in the DNS. Even though the IDN project and the VeriSign settlement cases involved more technical issues, few doubted IETF's and IAB's capacity to provide or interpret technical standards relevant to the issues in question. When the ICANN community sought more technical certainty, IETF and IAB were more likely capture ICANN's decision-making on the IDN project and the VeriSign settlement through the IDNA and wildcard standardization.

Resource scarcity was not a problem in ICANN's handling of the IDN project and the XXX domain name cases, but financial constraint was a significant problem in the VeriSign settlement instance. Among the three cases, ICANN considered stability to be the most important *performance goal* in its decisions. It sought technical, organizational, and institutional stability in the IDN project, the VeriSign settlement and the XXX domain name cases, respectively. *Contract formalization* produced an acceptable agreement in the VeriSign settlement, while it failed to generate a XXX registry agreement between ICANN and ICM. *Resource acquisition* was a significant consideration in the VeriSign settlement, but not in the other two cases. Few discussed IDNs and XXXs as significant funding resources.

Relatively, little responsibility was *delegated* to actors outside of ICANN (e.g., the independent review panel) in handling the XXX domain name or the VeriSign settlement. However, greater responsibility was delegated to IETF and other working groups in developing IDN technical protocols and guidelines. Meanwhile, ICANN tried to *decouple* ICANN’s technical mission from internal or external economic and political pressures. Framing the IDN project as a purely technical matter, ICANN successfully separated technical from policy issues (e.g., intellectual property) in the IDN case. In the VeriSign settlement, the members of the ICANN Board agreed to limit ICANN’s mission to technical matters and to avoid being a competition regulator in the domain name market. In the XXX domain name case, ICANN devised independent review panels to protect its technical evaluation process from “arbitrary” political pressure.

Government involvement varied depending on the issue. The GAC strongly supported ICANN’s proactive role in the IDN project. ICANN’s role increased in the IDN process by, for example, advocating a fast track approach to technically less problematic IDN CCTLDs. The U.S. and other governments strongly influenced the Board majority in its decisions on the XXX domain name.

Performance

Table 6-10 shows the overall assessment of ICANN’s performance in the three cases in terms of stability, competition, bottom-up coordination, and representation at the institutional, organizational and technical levels. The results of the assessment are neither simple nor neat. Rather, evaluation of ICANN’s performance varies across the levels even on the same criterion. Among the three cases, ICANN has been most successful in the IDN project, where mostly positive outcomes appear across the four criteria.

On most of the criteria, however, ICANN was not successful in either the VeriSign settlement or the XXX domain name cases. Overall, ICANN performed most strongly on the stability criterion across the three cases, while it achieved mixed performance on the other criteria. I found that ICANN’s performance on the four criteria in the three cases also showed a similar pattern to its overall performance discussed in chapter 5. The next issue is to explain this pattern of performance (strong performance on the stability and mixed performance on the other criteria), a challenge the following chapter addresses.

Table 6-9: Influences of Independent Variables in the Three Cases

Case	Support or Hostility	Stakeholder conflict	Tightness of ties	Historical commitment	Technical certainty	Resource scarcity
IDN	Strong and broad support from inside and outside ICANN community	Little conflict	Collaboration with IETF, registry operators and UNESCO	Technical commitment to preserving the basic architecture of the DNS (e.g., Uniqueness/IDNA)	IETF's technical capture through IDNA standardization	Adequate staff and funding
VeriSign	Little apparent support, but strong opposition	Moderate conflict	Loose ties with its constituents in bilateral process)	Contractual commitment to previous agreements among ICANN, VeriSign, and the U.S.DOC	IAB's technical capture through the interpretation of wildcard standard	Financial constraint
XXX	Decreasing support and increasing hostility	Sharp division between conservative and liberal stakeholders	Strong ties with its government constituents (e.g., the U.S. and the GAC)	Policy commitment to the introduction of new TLDs (e.g., final approval of failed applications)	Few technical issues Little technical capture	Little discussion about resource Scarcity
Case	Goal priority	Contract Formalization	Resource Acquisition	Delegation	Decoupling	Government involvement
IDN	Technical stability	Few contracts	Little discussion of IDNs as a significant funding resource	Responsibility to IETF and working groups for the IDN development	Separation of technical and policy issues (e.g., intellectual property)	The GAC's support of ICANN's proactive role and a fast track approach to IDN CCTLDs
VeriSign	Managerial stability	Successful to produce acceptable settlement agreement	Discussion of VeriSign as a stable and significant funding resource	Little responsibility to outside ICANN	Decoupling ICANN's technical mission from competition regulation	Reactive and non-substantive feedback from the GAC
XXX	Institutional stability	Failed to produce a registry agreement	Little discussion of XXX as a significant funding resource	Little responsibility to the independent review panels	Protection of ICANN's technical evaluation from political pressures	U.S. and other governments capture

Table 6-10: ICANN's Performance in the Three Cases

Case	Level	Stability	Competition	Bottom-up	Representation
IDN Project	Institutional	Positive: increasing ICANN's legitimacy by gaining broader support for its role in the Internet community	Positive: creating IDN name space and delegating responsibility to IDN registry	Positive: broad collaboration with and delegation to key stakeholders	Positive: delegate IDN for CCTLD to express better and more expression of their countries or territories)
	Organizational	Positive: more funding resource in the long-run, though little impact on ICANN's management capacity, structure or process in the short-run	Negative: artificial monopoly in IDN CCTLD (e.g., one IDN per CCTLD domain name policy)	Negative: conservative approach to lead to preemptive technical standardization over policy development	Positive: tried to promote broad representation in working groups including language/cultural expert such as UNESCO
	Technical	Positive: so far caused minimum risk to the DNS by taking a conservative policy approach	Positive: helping developing a competitive bidding process for new IDN	Negative: weak reciprocal cross-over coordination between technical standardization and policy development process	Negative: technical experts, e.g., engineers, are dominant in the technical standardization
VeriSign Settlement	Institutional	Positive: broaden its role in supervising VeriSign's operation in the long-run Negative: weaken ICANN's legitimacy in the short-run	Negative: maintain the status quo by extending its monopolistic status of VeriSign in the DNS	Negative: despite significant opposition from community, the Board approved	Negative: negotiation process undermine collaborative governing relationship by excluding broad stakeholders' participation to reflect their interests and concerns
	Organizational	Positive: save and expand resource	Negative: possible registration fee increase in the long-run	Negative: bilateral negotiation undermined participation and transparency	Negative: though public comment period, but little time and hasty decision
	Technical	Positive: stop questionable wildcard service in the DNS and gain more control over root server management	Negative: extend .com registry agreement without competitive re-bidding process	Negative: bilateral negotiation process replaced the community policy development procedure	Negative: no procedure to represent diverse community issue in negotiation (.com community)
XXX Domain Name	Institutional	Positive: avoid conflict with governments and being regulator Negative: captured by governments and inconsistent decision.	Neutral: little impact on governing relationships between ICANN and its constituents	Negative: took more conservative and governmental approach	Positive: made decision based on various factors rather than on nationality or cultural preference
	Organizational	Neutral: little impact on managerial capacity, process, and structure	Negative: removed an opportunity to use an alternative adult domain name at cheaper price	Positive: better PDP process for the introduction of sTLD Negative: independent review panels' recommendation not binding the ICANN Board	Negative: lack of administrative consultation with government representative, which led to political insensitivity
	Technical	Neutral: little impact on the DNS operation	Negative: unfair treatment in the application of evaluative criteria	Negative: muddling through procedure and slow decision making	Positive: used XXX as a learning experience to refine new TLD introduction

* Unshaded cells represent neutral impact; the lightest shading, positive; intermediate shading, negative; darkest shading, mixed

Chapter 7 Linking ICANN's Governance and Performance

In this chapter, by linking ICANN's governance and performance based on analytic comparisons among the three cases, I provide tentative explanations of its overall performance. The chapter is organized in two parts. First, linking ICANN's governance and performance in the three selected cases, I examine the relationships between key variables and ICANN's performance, the relationships between governance processes and ICANN's performance, and the relationships among ICANN's performance criteria. Second, I suggest tentative explanations for ICANN's overall performance drawn from ICANN's governance and performance in the three cases.

ICANN's Governance and Performance in the Three Cases

I take three approaches - *variable-*, *process-*, and *performance criteria-based* - to link ICANN's governance and performance in the three cases. The variable-based approach accounts for ICANN's performance based on the impact of key independent variables discussed in chapter 4. The process-based approach seeks to explain ICANN's overall performance based on its governance processes. The performance-based approach examines the relationships among the four performance criteria.

Relationships between Key Variables and ICANN's Performance

In this section, I examine the relationships between key independent variables (discussed in chapter 3) and ICANN's performance criteria in the selected cases. First, I translated the descriptive assessments of key variables' influences in Table 6-9 into ordinal variables by assigning values such as "high, moderate, and low," or "strong, moderate, and weak" to each variable. Second, I also converted "positive," mixed ("positive/negative") and "neutral" and "negative" performance assessments in Table 6-10 into "high," "moderate," and "low," respectively. Finally, based on these two sets of ordinal variables, I suggested how changes in the independent variables evidently affected ICANN's performance on the stability, competition, bottom-up coordination, and representation criteria. Table 7-1 shows the combinations of these two clusters of

ordinal variables – the independent variables and ICANN’s performance on the four criteria in the three cases.

Table 7-1: Three Cases and Performance

		IDN	VeriSign	XXX	
Independent variables	Support	High	Low	Low	
	Stakeholder conflict	Low	Low	High	
	Tightness of ties	Strong	Weak	Strong	
	Historical commitment	High	Moderate	Low	
	Technical certainty (IETF’s technical capture)	Low (High)	Moderate (Moderate)	High (Low)	
	Resource scarcity	Low	High	Low	
	Goal priority	Technical Stability	Organizational stability	Institutional stability	
	Formalization	Low	High	Moderate	
	Resource acquisition	Low	High	Low	
	Delegation	High	Low	Low	
	Decoupling	High	High	High	
	Government involvement	Moderate	Weak	Strong	
Performance	Stability	Institutional	High	Moderate	Moderate
		Organizational	High	High	Low
		Technical	High	High	Low
	Competition	Institutional	High	Low	Low
		Organizational	Low	Low	Low
		Technical	High	Low	Low
	Bottom-up Coordination	Institutional	High	Low	Low
		Organizational	Low	Low	High
		Technical	Low	Low	Low
	Representation	Institutional	High	Low	High
		Organizational	High	Low	Low
		Technical	Low	Low	High

Tables 7-2 ~ 7-5 summarize the relationship between each performance criterion and the key variables. Using Table 7-1, I identified the overall relationships by tracing whether and how the dependent variables changed when the independent variables changed. Many relationships are not clear because no patterns appear.

Table 7-2 shows the relationship between stability and the independent variables. Support, historical commitment, technical capture, technical stability as the priority, delegation, decoupling, and government involvement are positively associated with ICANN’s institutional stability. To increase ICANN’s institutional stability, ICANN

needs to improve its legitimacy by gaining broader political support for its role in the Internet community (e.g., the IDN project).

Table 7-2: Relationships between Stability and Independent Variables

	Stability		
Level	Institutional	Organizational	Technical
Support	Positive	Not Clear	Not Clear
Stakeholder conflict	Not Clear	Negative	Negative
Tightness of ties	Not clear	Not clear	Not Clear
Historical commitment	Positive	Positive	Positive
Technical certainty (IETF's technical capture)	Negative (Positive)	Negative (Positive)	Negative (Positive)
Resource scarcity	Not clear	Not clear	Not clear
Goal priority	High: technical stability Moderate: organizational and institutional stability	High: technical and organizational stability Low: institutional stability	High: technical and organizational stability Low: institutional stability
Contract formalization	Negative	Not clear	Not clear
Resource acquisition	Not clear	Not clear	Negative
Delegation	Positive	Not clear	Not clear
Decoupling	Positive	Not clear	Not clear
Government involvement	Positive	Negative	Negative

To gain broader support, ICANN used several strategies such as delegation and decoupling. Delegation allowed ICANN to expand its collaborative partnership with delegated stakeholders (e.g., IDN guidelines for registry operators). Decoupling helped protect ICANN from being involved in political or controversial issues (e.g., content regulation in the XXX case or intellectual property issue in IDN) so that it focused on its narrowly defined technical mission with more emphasis on technical stability as a priority.

Technical capture and government involvement improved ICANN's institutional stability. Among many stakeholders, technical experts and governments were the most powerful stakeholders whose support was crucial for ICANN to fulfill its mission: technical management (e.g., IETF's IDNA standard) and policy development (e.g., fast track policy for CCTLD IDN) of the DNS.

In contrast, stakeholder conflict and government involvement were negatively associated with organizational and technical stability (e.g., managerial capacity or policy to promote stability in the daily operation of the DNS), while technical capture and

technical stability were positively associated. It is interesting that technical capture (technical experts' involvement) also contributed to the daily operation of the DNS, but government involvement had a negative impact on the daily operation of the DNS.

Historical commitment as well as technical capture and technical stability as the top goal consistently had positive impacts on the stability criterion across the levels. This suggests that ICANN's consistent behavior and articulation of its technical mission with technical experts' involvement are the most significant variables in explaining ICANN's successful performance on the stability criterion.

Table 7-3 shows the relationship between ICANN's performance on the competition criterion and the independent variables. None of the variables show consistent patterns with the competition criterion across the levels. However, support, historical commitment, technical capture, technical stability as goal priority, and delegation had positive relationships with competition at the institutional level. Interestingly, this cluster of variables shows almost the same relationship as I found with stability at the institutional level. This implies that these variables promoted not only stability but also competition at the institutional level. In contrast, tightness of ties and contract formalization were negatively associated with performance on competition. In the VeriSign settlement, ICANN's bilateral negotiation with VeriSign did not allow other stakeholders to participate in the negotiation so that the principle of competition was less likely to have been fully considered.

Table 7-3: Relationships between Competition and Independent Variables

	Competition		
Level	Institutional	Organizational	Technical
Support	Positive	Not clear	Not clear
Stakeholder conflict	Not clear	Not clear	Not clear
Tightness of ties	Negative	Not clear	Not clear
Historical commitment	Positive	Not clear	Not clear
Technical certainty (Technical Capture)	Negative (Positive)	Not clear	Negative (Positive)
Resource scarcity	Not clear	Not clear	Not clear
Goal priority	High: technical stability Low: organizational and institutional stability	Low: technical, organizational and institutional stability	High: technical stability Low: organizational and institutional stability
Contract formalization	Negative	Not clear	Negative
Resource acquisition	Not clear	Not clear	Not clear
Delegation	Positive	Not clear	Positive
Decoupling	Not clear	Negative	Not clear
Government involvement	Not clear	Not clear	Not clear

Competition at the organizational level was negatively associated with both technical stability as a priority and decoupling. When ICANN emphasized technical issues and stability too much, its management or policy was less likely to promote competition (e.g., the proof of concept approach to the introduction of new GTLDs). Interestingly, however, technical capture, technical stability as the priority, and delegation were positively associated with competition at the technical level. When ICANN delegated developing best practices to other stakeholders, it was more likely to promote competition (e.g., GNSO policy development procedure produced rough consensus for introducing competitive bidding procedures for the selection GTLD IDN).

shows the relationship between ICANN’s performance on the bottom-up coordination criterion and the independent variables. Again, at the institutional level, I observed the same pattern that appeared in the relationships between the independent variables and ICANN’s performance on stability and competition.

Table 7-4: Relationships between Bottom-up Coordination and Independent Variables

	Bottom-Up Coordination		
Level	Institutional	Organizational	Technical
Support	Positive	Not clear	Not clear
Stakeholder conflict	Not clear	Not clear	Not clear
Tightness of ties	Not clear	Not clear	Not clear
Historical commitment	Positive	Negative	Not clear
Technical certainty	Negative	Positive	Not clear
Resource scarcity	Not clear	Not clear	Not clear
Goal priority	High: technical stability Low: organizational and institutional	High: institutional stability Low: organizational and technical stability	Low: technical, organizational and institutional stability
Contract formalization	Negative	Not clear	Not clear
Resource acquisition	Not clear	Not clear	Not clear
Delegation	Positive	Not clear	Not clear
Decoupling	Not clear	Not clear	Negative
Government involvement	Not clear	Positive	Not clear

Interestingly, however, historical commitment and technical capture were negatively associated with bottom-up coordination at the organizational level, while government involvement and institutional stability as a priority were positively associated. Too much attention to technical standards and practices evidently hindered ICANN’ responsiveness to current needs in the ICANN community. For example, the

conservative policy approach favors preemptive technical standardization over policy development in the IDN process). Governments often facilitated bottom-up policy development by supporting ICANN's proactive role in the process (e.g., the IDN process).

Decoupling and stability as goal priority were negatively associated with bottom-up coordination at the technical level. ICANN's initial overemphasis on technical aspects made its decision making process less attentive to broader policy concerns in the community so that the decision making process often resembled "muddling through" and was slow (e.g., the Board's decisions on the XXX domain name).

Lastly, Table 7-5 shows the relationships between ICANN's performance on the representation criterion and the independent variables. Tightness of ties, technical and institutional stability as goal priorities, and government involvement were positively associated with representation at the institutional level. This is interesting because at the institutional level, support, historical commitment, technical capture, delegation and decoupling have been found to be positively associated with ICANN's other performance criteria, but such clustering of variables was not here. For the first time, resource scarcity and acquisition were found to be negatively associated with ICANN's performance at the institutional level.

Support, historical commitment, technical capture, and delegation were positively, and stability as goal priority and contract formalization were negatively associated with representation at the organizational level. When ICANN emphasized stability, it was less likely to develop policy favoring representation in the DNS. Greater delegation to stakeholders and technical experts' involvement, however, were more likely to help develop ICANN's policy to reflect Internet users' diverse needs and interests in the DNS.

Interestingly, government involvement helped improve ICANN's performance on representation at the technical level. For example, the U.S. government and the GAC pressed the ICANN Board to delay its final decision on the XXX application so that the Board could hear broader concerns.

In summary, those cases exhibited several noteworthy patterns. First, a cluster of variables (support, historical commitment, technical capture, technical stability as goal

priority, and delegation) appeared to be positively associated with ICANN’s institutional level performance on stability, competition, and bottom-up coordination.

Table 7-5: Relationships between Representation and Independent Variables

	Representation		
Level	Institutional	Organizational	Technical
Support	Not clear	Positive	Not clear
Stakeholder conflict	Not clear	Not clear	Positive
Tightness of ties	Positive	Not clear	Not clear
Historical commitment	Not clear	Positive	Negative
Technical certainty	Not clear	Negative	Positive
Resource scarcity	Negative	Not clear	Not clear
Goal priority	High: technical and institutional stability Low: organizational stability	Low: technical, organizational, and institutional stability	High: institutional stability Low: technical and organizational stability
Contract formalization	Negative	Negative	Not clear
Resource acquisition	Negative	Not clear	Not clear
Delegation	Not clear	Positive	Not clear
Decoupling	Not clear	Not clear	Not clear
Government involvement	Positive	Not clear	Positive

Second, IETF’s influence on the ICANN process (technical capture) clearly helped improve ICANN’s performance on the four criteria at the institutional level. General government influence on ICANN’s performance was not as clear as technical capture, although government involvement contributed to improving ICANN’s performance on the stability and the representation criteria at the institutional level.

Third, support and delegation apparently were variables that had only positive impact on ICANN’s performance on the four performance criteria. Contract formalization, however, had only negative impact on ICANN’s performance on the four criteria, in particular, at the institutional level. Some variables - historical commitment, IETF’s technical capture, technical stability as goal priority, and delegation– had mixed effects on ICANN’s performance on the criteria. Fourth, no consistent patterns were found between independent variables and ICANN’s performance at the organizational and technical levels.

Relationships between Governance Processes and Performance

The distinct nature of the three cases evidently led ICANN to use varying governance processes in which different actors and mechanisms influenced its

deliberation and decision-making in handling each task. Since the VeriSign settlement was a more organizational (managerial) governance process, institutional (e.g., support) and technical factors (e.g., technical capture) were not as influential as organizational factors (e.g., resource scarcity, acquisition, and contract formalization) in the settlement process. Although the XXX process was a more institutional one, ICANN lacked support from the broader institutional environment (see Table 7-1).

Table 7-1 also shows that ICANN performed better on the four criteria in the IDN technical governance process than in the VeriSign managerial or the XXX institutional governance processes. This implies that ICANN might perform better generally in technical processes than in institutional or managerial processes. One possible explanation may be that ICANN can develop community consensus more easily in technical governance processes than in organizational or institutional ones.

Compared to the VeriSign and XXX governance processes, the IDN technical process was characterized by higher support from and lower conflict among stakeholders in the ICANN community as well by stronger ties with and stronger commitment to the community. In addition to institutional factors, higher levels of technical capture, greater emphasis on technical stability as a priority, more delegation and decoupling might contribute to making ICANN's bottom-up community consensus process operate more effectively.

In contrast, the VeriSign organizational process was characterized by lower support, weaker ties with stakeholders, higher resource scarcity, higher contract formalization and resource acquisition, less delegation, and weaker government involvement. Meanwhile, the XXX institutional process featured lower support, higher conflict among stakeholders, and strong government involvement.

One can argue that since ICANN performs better in developing community consensus on issues in technical governance processes than in other kinds of governance processes, it often has strategically turned complicated issues into technical ones by decoupling technical from public policy issues (e.g., denying content regulation issues in the XXX process and intellectual property issues in the IDN process), placing greater emphasis on technical stability over other competing values (e.g., organizational stability over competition in the VeriSign process),

Two points evidently support such a “framing” argument. First, although the XXX and IDN tasks involved many policy issues, ICANN did not draw attention to the policy aspects of the two tasks in the early stages. Second, higher decoupling and greater emphasis on technical stability were found in all three cases. ICANN was able to frame the IDN project as a technical task. IETF’s involvement (technical capture) helped these framing efforts. ICANN failed, however, to confine the XXX domain name to being only as a technical issue because of the GAC’s strong involvement.

The IDN and VeriSign processes produced relatively higher performance on the stability criterion than on the other three. This is because ICANN consistently emphasized technical and organizational stability as the defining values in addressing issues (see Table 7-1).

Relationships among ICANN’s Four Performance Criteria

Table 7-6 shows the relationships among the four performance criteria. *At the institutional level*, ICANN’s performance on the stability criterion was positively associated with its performance on the competition and bottom-up coordination criteria. These positive relationships are surprising because many critics have argued that ICANN has sacrificed community values such as competition and bottom-up coordination so as to stabilize its governing relationships with powerful stakeholders (e.g., VeriSign, governments). This finding here implies that ICANN’s efforts to promote institutional stability also may improve its performance on the competition and bottom-up criteria. One possible explanation is that collaborative working relationships with key stakeholders ease ICANN to ensure community consensus on policy issues, e.g., competition through the bottom-up process as well as the stable operation of the DNS.

Yet, *at the organizational level*, ICANN’s efforts to promote its organizational stability (or, managerial capacity) might contribute to lowering its performance in bottom-up coordination at the organizational level. Tables 7-2 and 7-4 showed that at the organizational level historical commitment, technical capture and technical stability as the goal priority had positive impacts on ICANN’s performance on the stability criterion, but negative effects on the bottom-up criterion. One possible explanation is that ICANN’s dependence on past decisions (historical commitment), technical expertise

(technical capture), and emphasis on technical stability might undermine its responsiveness to the broader community. For similar reason, technical stability had a negative relationship with representation *at the technical level*.

ICANN’s performance on the competition criterion was positively associated with the bottom-up coordination criterion *at the institutional level*. This implies that when more collaborative governing relationships are established among key stakeholders, ICANN is more likely to coordinate market issues (e.g., competition) through the bottom-up process. Tables 7-2~7-4 show that a cluster of variables (support, historical commitment, technical capture, technical stability as goal priority, and delegation) advanced ICANN’s performance on the stability, competition, and bottom-up coordination criteria at the institutional level. Broader support, clear mission, and stakeholder participation contributed to improving overall ICANN’s performance at the institutional level.

Table 7-6: Relationships among ICANN’s Four Performance Criteria

	Stability	Competition	Bottom-Up	Representation
Stability		Positive at the institutional level	Positive at the institutional level Negative at the organizational level	Negative at the technical level
Competition	Positive at the institutional level		Positive at the institutional level	Not clear
Bottom-up	Positive at the institutional level Negative at the organizational level	Positive at the institutional level		Not clear
Representation	Negative at the technical level	Not clear	Not clear	

Tentative Explanations of ICANN’s Overall Performance

Linking ICANN’s governance and performance in the three cases using the three approaches, I found that (1) some key variables are significant in explaining ICANN’s best performance on the stability criterion; (2) ICANN performs better not only on the stability criterion but also on other criteria in technical governance processes than in other processes, because technical governance processes are more likely to meet certain conditions under which ICANN can develop community consensus on issues more easily; and (3) ICANN’s efforts to promote stability do not always undercut its

performance on other principles. In this section, based on these findings, I try to explain ICANN's overall performance in chapter 6, which can be summarized as follows:

- (1) Among the four performance areas, ICANN has been most successful on the stability criterion, while it has achieved mixed outcomes on the other performance criteria.
- (2) When ICANN promotes the principle of stability, it seems to undermine its performance on the other principles.

First, ICANN performed better on the stability criterion because it mostly has been successful in framing or reducing its complicated tasks to technical ones. When its tasks are perceived as involving more technical than broader public policy (e.g., economic, social, and political) issues, ICANN is able to use technical governance processes in which it can meet the conditions for building community consensus on issues more easily in the ICANN community.

As the variable-based approach suggests, ICANN's consistent behavior (higher historical commitment to, for example, technical standards and architecture of the DNS), articulation of technical stability as its top priority, and IETF technical experts' involvement (technical capture) are the most significant conditions for ICANN's successful performance on the stability criterion across the levels (see Table 7-2). Greater community support, more delegation to stakeholders and higher decoupling of its technical mission from political intervention also contribute to ICANN's better performance on the stability criterion at the institutional level. Together, this cluster of six variables creates the conditions under which ICANN can perform better on the stability criterion than on any other criterion. The process-based approach shows that technical governance processes (e.g., the IDN process) best fit the conditions that the cluster of six variables suggests (Table 7-1).

Given ICANN's narrowly defined technical mission, most of its tasks will be more likely to be technical rather than political, social, or economic. Even though the three tasks examined had broader policy implications, ICANN emphasized the technical aspects of the tasks more than the broader policy aspects so that it could develop community consensus on issues more easily. It is noteworthy that such controversial tasks as the VeriSign settlement and XXX domain name so far have been rare in ICANN history. If ICANN used technical governance processes like that for IDN in addressing

most issues, it would be likely to perform better on the stability criterion than on any other criterion.

Second, as chapter 5 suggested, when ICANN promotes the principle of stability, it seems to undermine its overall performance on the other principles. Closely tracing the three cases, however, I found that ICANN's performance on the stability criterion did not always harm its performance on the other criteria. It depended on the levels of ICANN's activities that were examined.

ICANN's efforts to improve the stability of the DNS at the same time undermined its performance on the bottom-up coordination criterion. For example, when ICANN overemphasized the stability criterion from a managerial perspective (i.e., at the organizational level), it apparently weakened its responsiveness to the broader community (e.g., slow introduction of new GTLD for preserving the stability of the DNS). However, ICANN's efforts to improve its governing relationships with powerful stakeholders (tapping institutional stability) also helped advance its performance on the competition and bottom-up coordination criteria. For instance, ICANN's efforts to gain broader support for IDNs from the ICANN community seemed to improve not only ICANN's institutional stability, but also its performance on the competition criterion, because ICANN was able to reach community consensus on competition rules (e.g., bidding procedure for the introduction of new GTLD IDN) more quickly.

Summary and Conclusion

I have identified a cluster of variables – historical commitment, technical capture, and technical stability as the top goal – that clearly influences ICANN's performance on the stability criterion across the levels. In addition, support, delegation, and decoupling are significant in helping ICANN to perform better on the stability criterion, particularly at the institutional level. These six variables constitute the conditions under which ICANN can build community consensus more easily. These conditions are found in technical governance processes more often than in the other governance processes.

Interestingly, so far financial resources have not been a significant factor in shaping ICANN's governance and performance. For example, resource scarcity and acquisition mostly showed unclear relationships with ICANN's performance on the four performance criteria (see Tables 7-2 ~ 7-5). This is a surprising finding given both that

ICANN is a relatively new organization and that it has been criticized for paying too much attention to financial constraints in handling tasks (e.g., the VeriSign settlement). This finding suggests that what matters to ICANN is less money than community consensus. Community consensus appears to be the most important in improving ICANN's governance and performance.

To build such consensus more easily, ICANN either "framed" complicated issues as technical or emphasized the technical aspects of issues more than their policy aspects. When for some reason ICANN failed to contain issues in a technical framework (e.g., governments' strong intervention after the ICANN Board's initial approval of the XXX domain name), it faced more difficult governance processes in addressing the issues.

More importantly, in framing issues as technical, ICANN has relied on IETF's technical expertise on the DNS (or technical capture). IETF technical experts determine whether and how technical concerns are involved in the policy issues that the ICANN community considers. The technical experts tend to influence the ICANN process by proposing technical standards or interpreting best practices or standards relevant to the issues under consideration. So far, IETF's technical experts have been sensitive to any technical risk to the stability of the DNS so that they have had some say in most of the issues that ICANN has tried to address. IETF's technical experts' "say" has been so broad that their comments often have been criticized as having little to do with technical issues or moving beyond the boundary of the technical (e.g., IAB's comment on VeriSign's wildcard). ICANN, however, has used IETF's technical expertise as leverage to frame complicated issues as being more technical by highlighting their technical aspects.

Chapter 8 Conclusions, Suggestions and Implications

In previous chapters, I have evaluated ICANN's overall performance and explored significant factors and actors that help explain its performance by tracing its governance processes in three cases. In this chapter, based on these findings, I draw overall conclusions about ICANN's governance and performance and provide several practical suggestions for improving them. I also draw broader theoretical implications and contributions of the research, highlighting the concept of *technical capture* for studying other hybrid organizations' governance and performance and suggesting future research areas from which a theory of technical capture can be further developed. Finally, I look to the future of ICANN based on possible changes in its leadership and relationships with the U.S. government and the broader international community.

Hybridity, Conservatism, and Internet Governance

Although many have criticized ICANN's governance and performance for many reasons, their criticisms often have seemed too harsh and unfair to an Internet hybrid that is operating in a complex and sometimes hostile environment. Rather, I found that overall ICANN has fulfilled its narrowly defined technical mission. Although its evident overemphasis on the stability of the DNS frequently undermined its performance on other important criteria, its conservative policy approach was advantageous for preserving the stable and reliable operation of the DNS. This policy conservatism so far has defined the overall direction of ICANN's governance and performance.

ICANN's policy conservatism has resulted from its coping with its environments. To survive and prosper as a new organization, ICANN needed to adapt to its two distinctive environments: a private technical and a public institutional (political, social, and economic) environment. These environments are "distinct societal spheres" in which ICANN is nested. Each sphere has its own "institutional logic" – "a set of differentiated and specialized cognitive normative systems" (Scott, 1987, p. 499). Different institutional logics often provide contradictory "cultural frames" that help individuals and organizations understand "how things are interpreted and how things are to be done"

(Scott, 2008, p. 188). When ICANN handles an issue that has a broad range of technical and policy implications, its governance processes often need to deal with the clash of different “institutional logics” (for, e.g., the XXX domain name) between the private and public spheres (see Table 8-1).

Table 8-1: Distinct Institutional Logics Shaping ICANN’s Conservative Governance Approach

	Private Sector (Task environment)	Hybrid ICANN	Government Sector (Institutional environment)
Interests	Technical, business, civic	Technical, governmental	National, international
Dominant mind-set	Libertarian mind-set	Experienced engineers’ mind-set	Diplomats’ mind-set
Governance approach	Grass-root (self-regulation)	Conservative	Governmental

Those with more private libertarian mind-sets argued that ICANN should regulate little on the Internet, while those with more public governmental perspectives sought additional regulation. Dealing with divergent institutional logics, ICANN often faces organizational dilemmas in which the technical and institutional environments push it in different directions when engaged in problem-solving. When the environments push ICANN in divergent directions, it suffers a multiple-principal problem: who is ICANN supposed to serve – the private or the government community?

By its conservative decisions, the ICANN Board has been able to establish strategic alliances with key stakeholders such as IETF and the GAC in the technical and institutional environments. ICANN’s conservative decisions on issues have contributed to improving its institutional stability in the broader environment. Although ICANN has stated that it serves the international Internet community, it has attended primarily to two major principals in its decision-making: technical experts and governments. So far, more representatives of private sector groups of technical experts have served on the Board than representatives of business and civic groups. As a GAC liaison to the Board, the GAC chair represents the government community. When it comes to technical issues, ICANN has had broad support from the private and government communities. Few controversies have arisen over such issues. On public policy issues, however, ICANN often has faced controversies. For example, it was not able to build community consensus on the XXX domain name through the bottom-up consensus process. When this occurs, the ICANN Board has to make decisions by voting to resolve the controversial issues.

I observed two distinct alliances on the Board and in the ICANN community: conservative and liberal. Those in the “liberal” alliance have advocated deregulation, innovation, and competition in the Internet, while those in the “conservative” alliance have favored more protection, formal regulation and a cautious policy approach to the development of the Internet. In the VeriSign settlement and the XXX domain name cases, the conservative alliance was the majority of the Board. Most of the members of the Board majority were experienced engineers with more years of service on the Board, while lawyers and business entrepreneurs with shorter tenures were in the minority.

In terms of conservative policy approaches to issues, the technical mind-set of Board members with engineering backgrounds was similar to the governmental mind-set. By taking conservative policy approaches, the Board majority has pushed ICANN to be a more conservative governance body, favoring retention of the status quo over disagreement on issues under consideration. In *The Bureaucratic Phenomenon*, Crozier emphasized the power of those who control technical uncertainty. Crozier described the “bureaucratic personality” of technical engineers as “practical conservatism” (1964, p.203). As he put it, they are staunch conservatives who guard the status quo to protect their own privileges, and they are natural enemies of the potential innovators (p.203). Since ICANN’s representation structure has been more advantageous to groups of technical experts than to representatives of business and other stakeholders, such a conservative policy approach will remain an important reason for the former to support ICANN’s decisions and for the latter to sometimes raise questions.

In conclusion, although ICANN is a *conservative* hybrid captured, depending on specific issues, by the technical and governmental communities, it has few problems with “people” inside the ICANN process. Rather it has “structure” problems, which have been a major source of controversy about ICANN’s governance and its performance. The people inside ICANN (e.g., the members of the Board, Supporting Organizations, and advisory committees), though not perfect, are committed volunteers working to help preserve the stable operation of the DNS on behalf of the broader Internet community. I found few serious criticisms of these volunteers or of the ICANN staff. Rather, ICANN has structural problems in its hybrid institutional design – problems that it can do little

about. Despite the hostile environment at its inception, ICANN has prospered in performing its technical mission of maintaining the stable operation of the DNS.

Suggestions for Future ICANN Governance and Performance

Despite its initial lack of legitimacy, ICANN has succeeded in earning a good reputation for its overall performance. Over time, most of the participants in the ICANN process - from both the public and private sectors- have made similar comments about ICANN's overall performance: although ICANN has more to do to improve its performance, it has made great progress in tasks related to its technical mission (e.g., technical security, standards, and best practices) to ensure the stable and reliable operation of the Internet DNS.

Many, however, have critical views of ICANN's governance and performance because they still doubt its legitimacy. One noted that "as long as ICANN is under the oversight of the U.S. government, ICANN will always suffer legitimacy problems" (Interview with a member of ICANN Nominating Committee, 2007 November). To improve the public's perceptions of its governance and performance, ICANN needs to address the unilateral oversight by the U.S. government. In the short run, however, the U.S. government will not free ICANN from its oversight unless it can ensure that some mechanism will keep ICANN accountable to the public (U.S. Department of Commerce, 2008b) .

Meanwhile, ICANN should take a more practical approach to reduce the U.S. government's unilateral control. First, it needs to clarify the GAC's role. Its actual role has not been limited to that of a mere advisory committee. Rather, it is closer to an oversight committee. The GAC does not intervene in ICANN's daily operation of the DNS, but it has contributed to ICANN's deliberation and decisions on significant public policy issues. ICANN needs to use the GAC as an oversight alternative to the U.S. government. Although the GAC has some weaknesses (e.g., low participation), there is no reason to establish another layer of international structure to oversee ICANN (Canadian Government, 2005 August) as some might suggest (Gogburn, Mueller, Mcknight, Klein, & Mathiason, 2005).

One might ask how it will be possible if the U.S. government and the GAC do not agree on specific policy issues or the U.S. government determines not to give up its legacy oversight role by continuing its contract with ICANN. I do not mean that ICANN needs to overhaul its relationships with the U.S. government or the GAC. ICANN is not in a position to initiate that change. Rather, I argue that ICANN needs to exert greater effort to make the GAC a truly international forum in which learning and trust building occurs among governments, the GAC, and the U.S. government. What makes the GAC a viable international forum is not its official status, but rather the quality of its discussion and problem-solving.

Second, ICANN needs to ensure higher quality communication between governments in the GAC and private entities in the ICANN community. Many blamed ICANN for being “captured” by governments. But the problem seems not that ICANN is too close to governments, but rather that it is too distant from them. To address complicated and controversial issues, it needs to have strong partnerships with governments as represented by the GAC. Yet, so far quality interactions between governments and private entities have not been realized. The governments in the GAC have opportunities to interact with private entities during ICANN meetings, but they rarely do so.

The GAC also seems to have difficulty in communicating openly with other private entities. For example, although the advice was not clear to many Board members, the GAC refused to provide further advice to avoid telling the Board what to do in the XXX domain name case. ICANN needs to facilitate quality communication between its private constituencies and the GAC. The first step will be to encourage the GAC to open its meetings to the public and to allow private liaisons to be involved in the GAC process such as its plenary and working group meetings. More importantly, opening the GAC to the public may help lower the government-private institutional gap, a mind-set that divides the private and the government communities.

Third, the GAC’s operation should be improved for better partnership with ICANN. It seems to be the weakest link in the ICANN community, because the GAC tends to be slower in addressing issues than the private entities in the community. This is partly because the GAC has limited time for discussion and decisions on issues, but also

partly because it does not operate effectively. For example, although the At-Large committee has five interpreters for translating international languages, the GAC has no interpreters at its meetings. As a result, the representatives from English-speaking countries dominate GAC discussions.

Fourth, ICANN also needs to integrate its policy development process with IETF's technical standardization process. ICANN has respected the bottom-up coordination principle in the ICANN process. However, it could improve the bottom-up coordination process by working for greater integration between IETF's technical standardization procedure and the policy development procedures operating in GNSO and CCNSO. In ICANN's policy development process, various policy constituencies (e.g., CCNSO, GNSO, GAC, and ALAC) collaborate in a "checks and balances" manner. However, ICANN does not control the technical standardization process. Rather, with great autonomy IETF controlled its traditional RFC process in the technical community.

IETF's RFC documents are greatly respected. They are accepted as if they are ICANN's official technical standards without challenge from or much discussion in the ICANN community.¹⁴¹ Most ICANN community members, however, know little about how the technical standardization process works. Given the significance of IETF's technical standards, ICANN needs to better integrate IETF's technical standardization process with its own policy development process so that IETF's technical standardization cannot preemptively direct ICANN's policy development from outside the ICANN policy community.

Lastly, ICANN needs to improve its transparency, openness, and accountability in establishing formal contracts with specific stakeholders. The bilateral negotiation process for contracts tends to promote a bureaucratization of ICANN's business activities, bypassing its internal policy development process. For example, there was little room for the ICANN community to get involved in the bilateral negotiation processes between

¹⁴¹ Michael Froomkin and Jonathan Weinberg challenged the official status of ICANN's document "Internet Coordination Policy-3: A Unique, Authoritative Root for the DNS." They argued that ICANN made a new policy without community discussion by endorsing the IAB's technical perspective in "IAB Technical Comment on the Unique DNS Root." ICANN dismissed their reconsideration request, contending that it did not create a new policy, but rather articulated existing legacy policy regarding the DNS in the Internet community (ICANN Reconsideration Committee, 2002 January).

ICANN and VeriSign before they announced specific terms and conditions on the proposed .Com registry agreement. To improve its responsiveness and accountability to the ICANN community, ICANN should employ a policy process in such circumstances to develop community consensus on the general terms and conditions that it follows in establishing significant contracts that have broader impacts on the DNS.

In sum, the study here suggests that ICANN needs to focus on improving interaction and communication between specific communities (e.g., governmental, technical) and the general ICANN community, and between ICANN and its general community.

Theoretical Implications

In this section, I move beyond the findings on ICANN's governance and performance to highlight the utility of the conceptual framework and the concept of technical capture.

Utility of the Conceptual Framework

The conceptual framework (Figure 3-1) was developed to guide this research in examining whether and how ICANN's differing governance processes have affected its performance on the four criteria. It proved heuristically useful, providing an understanding of ICANN's governance processes and performance. The conceptual framework changed over time as I gained better understanding of ICANN's governance and performance. Independent variables and relationships have been added, deleted and refined. For example, I removed "external perceptions about legitimacy & accountability" as one of the institutional factors from the conceptual framework because it was hard to distinguish from "support or hostility."

However, most of the independent variables – institutional, technical and organizational - in the framework turned out to be significant in explaining ICANN's governance processes and decisions. I found that the tension between institutional and technical factors in the framework actually posed the greatest challenge to ICANN in developing community consensus on issues. Often, technical factors pulled ICANN in one direction (toward, e.g., stability), but institutional factors pushed ICANN in another direction (toward, e.g., political, social, and market demands). The U.S. and non-U.S. governments have influenced ICANN's institutional condition (e.g., political support),

while technical groups (e.g., IETF) were more likely to control ICANN's technical condition (e.g., standardization). Overall, the framework may be useful as a heuristic device to tap the complexity of other hybrids that operate in international policy arenas dealing with tensions flowing from conflictual organizational goals and environments.

Technical capture is a significant variable to be added as one of technical factors in the conceptual framework. It is an important phenomenon in understanding the complexity and dynamics of ICANN's governance and performance. I believe that it may be useful more generally in better understanding technical hybrids. In the next section, I further examine the concept of technical capture for broader application.

Technical Capture

Tracing the governance processes in the three cases, I have developed the notion of *technical capture* to explain the IETF's significant, but often implicit, influence over the ICANN Board's deliberation and decisions.¹⁴² The IETF has been known as the pioneer group of technical engineers involved in designing the architecture of the Internet DNS. It has developed technical standards or protocols necessary for the operation of the DNS. Few have challenged the IETF's technical standards or its authority as the technical standardization organization in the Internet community. ICANN also has shown clear respect for IETF's standards and its technical advice.

The IETF's influence has not been confined to technical matters. Rather, its decisions on technical standards and advice to ICANN often have had broader governance and policy implications. For example, one can argue that the IETF's technical choices not only have defined how the DNS operates technically, but also have shaped ICANN's overall governance and performance in certain directions (Thompson, 1967). James Thoson (1967) argued that organizational design is "guided by the nature of the technology and of the task environment" (p.50) and "the technical parts of the system will not be ignored for they provide a major orientation for the social structure" (p. 52).

¹⁴² Beyond the three cases, I came across more evidences to support technical capture. For example, ICANN took a conservative "proof of concept" approach to the introduction of new gTLD domain names in 2000. In publishing ICP-3 (Internet Coordination Policy), ICANN adopted the perspective of technical experts that the DNS needs a unique root system even though a more competitive multi-root system was technically possible.

Figure 8-1: Technical Choices and Organizational Performance

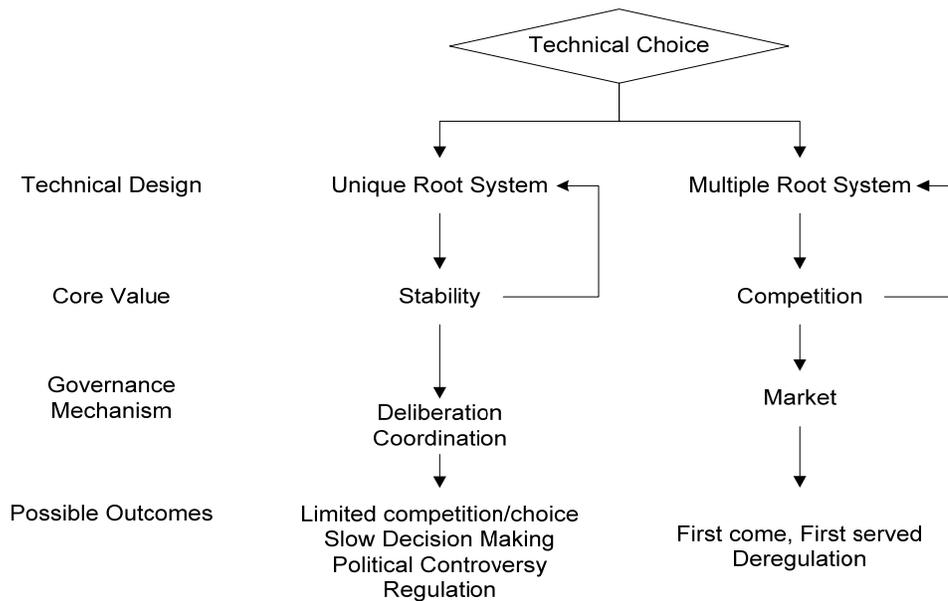


Figure 8-1 illustrates how different technical choices might have led to differences in the underlying value of the DNS architecture, in ICANN’s governance mechanisms and in possible performance outcomes. For the basic architecture of the DNS, the IETF’s technical choice of the unique root system created hierarchical name spaces that in turn helped make stability the core value of the DNS. To preserve the stability of the hierarchical DNS, ICANN needed to use deliberative coordination governance processes. As a result, ICANN produced limited competition and choice in the DNS name space, yielding slow decision making, political controversy, and more regulation. Some critics argued that if the ICANN community had chosen multiple root systems instead, it would have realized more competition and less regulation (Fromkin & Weinberg, 2001; Mueller, 2002a).

In examining the three cases, I found that the types of technical capture by the IETF varied depending on the nature of the ICANN governance processes. In none of the instances, however, did the IETF use money or power to influence ICANN’s policy decisions. Rather, the IETF’s influence has been subtle and implicit. For example, in the IDN project, its preemptive technical standardization process shaped ICANN’s IDN policy development process, as the IETF standard influenced ICANN’s decisions on the

range of language characters that can be used in the DNS. Even though the technical process may not always precede the policy development process in other task areas, it is hard to find an instance where the policy development process proceeds without prior technical consideration of the issue in question. In the VeriSign settlement, the IETF interpreted appropriate technical standards for the wildcard service of the DNS. The IETF's advice on VeriSign's wildcard service went beyond technical concern or boundary.

Table 8-2 compares these two different types of technical capture. In general, the IETF's technical capture led ICANN to take a more conservative policy approach to issues so as to ensure the stable operation of the DNS.

Table 8-2: Types of Technical Capture

Case	IDN	VeriSign
IETF's role	Development of IDN technical standard	Interpretation of wildcard technical standard
IETF's influence	Limiting the range of IDN language characters usable in the DNS	ICANN's prohibition of VeriSign's wildcard service
Mechanism	Preemptive standardization	Non-technical advice beyond technical concern

For more general application, I refer to *technical capture* as a phenomenon in which technical experts in organizations use a preemptive standardization process to influence the policy development process. Through technical capture, technical experts can shape underlying values, governance processes, and performance through the technical standardization process (Crozier, 1964). Policy decision makers in organizations, however, also might use technical capture to select a more favorable policy choice. In other words, to avoid controversial issues, policy makers can strategically rely on technical rationalization or justification provided by technical experts, although they know the issues have broader policy implications.

Future Research Areas

This section suggests some research areas in which the findings of the dissertation can be further developed and contributed to the literature on public administration and organizations.

Technical Capture: A General Theory of Organization

Technical capture is a useful concept to bring attention to the less visible but significant influence of technical experts over the policy-making process in

organizations. Technical capture also is a significant concept to help one better understand bureaucratic phenomena (e.g., routines, technical standardization) in both public and private organizations. Technical capture seems to be more frequently examined in science and technologies studies (on, e.g., the impact of E-technology on organizational form and function; (Dewett & Jones, 2001; Tassabehji, Wallace, & Cornelius, 2007) and in some areas of regulatory policy (e.g., standardization, see Brunsson & Jacobsson, 2000). The notion evidently receives little attention, in the fields of public administration and organization studies. Several research areas may benefit from the development and application of a technical capture perspective.

First, the concept of technical capture needs to be further developed in contrast with existing theories of capture (see Table 8-3 for one illustration). As the word “capture” signifies, technical capture also is useful in explaining conservative decisions or governance in organizations as other capture theories have taught us: the captured organizations usually serve established or vested interests. However, technical capture is different from other political-economic capture phenomena.

Table 8-3: Comparison of Capture Theories

	Regulatory Capture	Technical Capture
Mechanism	Revolving door	Preemptive standardization
Visibility	More explicit Position/Employment	More implicit Reputation/Deferral
Outcome	Conservative	Conservative

For example, while a political theory of regulatory capture explains how a regulatory agency becomes dominated by the regulated business, technical capture seeks to describe how technical experts influence the decision making process in organizations. Technical capture is more of an organization theory, focusing on more implicit and technical aspects of the “capture” phenomenon in organizations. Technical capture might be understood as a type of capture that has distinct characteristics from other captures.

Second, I believe that the concept of technical capture can be applied to many public organizations. Technical capture will help one better understand how public organizations whose technical tasks define their primary missions exercise influence over the broader policy development process. Technical capture also can be applied to public organizations whose organizational subunits are involved in developing technical

standards or policies. For example, the U.S. Department of Commerce has several technical units such as the National Telecommunications and Information Agency (NTIA) and the National Institute of Standards and Technology (NIST). NTIA is involved in allocating, e.g., radio frequencies; NIST develops national standards for industries. The technical capture perspective helps one understand how technical units (e.g., NTIA) or technical advisors (e.g., chief information officers) influence overall policy development (e.g., E-government) in public organizations.

Third, the concept of technical capture also will be useful in examining the influence of international technical standardization organizations (e.g., IETF) on broader international governance. More research is needed to take a closer look at the technical standardization process (e.g., IETF's RFC process) to see whether and how technical experts have significant influence on the public policy-making process. It might be interesting, for example, to compare ICANN to the International Standard Organization (ISO). Although both play a significant role in international self-regulation by developing standards, in contrast to the ISO, ICANN focuses more on technological standardization.

Fourth, technical capture can contribute to developing a general theory of organization that emphasizes the increasing power of technical experts (e.g., financial, technological, legal, and accounting) in public and private organizations. Crozier (1964) argued that although technical specialists have power as "agent[s] of scientific progress" in organizations, "the experts' success is constantly self-defeating." He predicted that technical experts' power will disappear as their scientific innovations are translated into rules and programs in society as a whole (p.165). From his perspective, technical experts' power is temporary: "experts have power only on the front line of progress" (p.165). However, the dissertation found that the technical community continually exercised its influence over ICANN's policy development, not only by setting standards (e.g., IDN standards) in the first place, but also by interpreting those standards (on, e.g., wildcard) later on. Given the increasing significance of technology in organizational management, technological experts have advanced their roles and responsibilities in organizational structures and processes (as, e.g., CIOs)

Lastly, the phenomenon of technical capture might be observed more often in technical organizations like ICANN whose technical tasks justify the existence of the

organizations. However, it also might have broader application to a wide range of organizations with specialized or professional units such as law and accounting. As legal and accounting expertise become important “core technologies” in many organizations (Thompson, 1967), for example, the concept of technical capture might help us to better understand how experts in these areas influence organizational governance and performance. Like other professionals, technical experts in the ICANN process generate and control new “technological standards” that ordinary people cannot easily understand. How does technical capture compare to the theories of professional autonomy drawn from the professions literature? One might examine whether technological professions are complementary or contradictory to other professional areas such as law, medicine, and accounting.

Increasing Role of Governing Nonprofits in Regulation

The study of ICANN also can be linked to the scholarly literature on regulation by highlighting its status as a “governing nonprofit” (Ferris, 1998; Hula & Jackson-Elmoore, 2001). ICANN is a cutting-edge case that shows how a nonprofit can play key roles as a decision maker with great regulatory power in an international policy domain. Usually, the nonprofit literature has viewed the roles of nonprofits as those of public service providers or policy advocacy groups. Meanwhile, the regulation literature has paid considerable attention to the roles of trade associations in industrial self-regulation. It has not focused on the roles of nonprofits in international self-regulation. ICANN provides an important case for such exploration.

Tension between Network Centralization and Network Effectiveness

Contracts can be problematic tools in network governance. The literature on network organization suggests that network centralization contributes to network effectiveness (Provan & Milward 1995). This study shows, however, that network centralization can undermine the effectiveness of governance networks like ICANN’s. ICANN used contracts to formalize its relationships with its stakeholders involved in governance of the DNS. By doing so, ICANN transformed an informal “social network” into a more formal “governance network.” Expanding the number of contracts (to over 500), ICANN also has increased network centralization, with itself as the Network Administrative Organization (NAO) (Provan & Milward, 1995, 2001). As chapter 7

discussed, however, contract formalization mostly appeared to have negative effects on ICANN's performance on the four criteria (see Table 7-2 ~ 7-5).

Contract formalization is the most bureaucratized process discovered, where ICANN staffers - in particular, legal experts for contract management- played key roles in defining the terms and conditions of agreements with specific stakeholders. For instance, in the VeriSign Settlement case, the bilateral negotiation between ICANN and VeriSign bypassed the bottom-up policy development process so that the public and other stakeholders were not granted opportunities to get involved in the initial negotiation process. In the XXX case, the ICANN Board approved the ICM XXX application and entered into negotiation with ICM to define the contractual terms and conditions on the usage of the XXX domain names, while the ICANN community (or, the ICANN governance network, see p.13) had no consensus about the introduction of XXX domain names in the DNS. In both cases, ICANN did not open the contract negotiation processes to the public. As a result, the proposed contractual agreements were controversial in the larger ICANN governance network.

These instances imply that although contracts might be a useful organizing tool to initially transform a social network into a more formal network around a network administrative organization, contracts can be problematic in governing the network as a whole. The dyadic contractual relationships between the NAO and its contractors can be resistant to policy consensus on issues developed among network participants. In this sense, I argue that contract formalization contributes to network centralization but undermines the effectiveness of a governance network whose mission is to make policy decisions on issues through a bottom-up consensus process. From this perspective, one also can better understand why the contractual relationship between ICANN and the U.S. government has been a major source of controversy. For ICANN, this contractual relationship is a source of power in centralizing the Internet DNS community around ICANN, but it also has made ICANN's governance network vulnerable to the criticism that it has been captured by a government.

These findings contradict those Provan and Milward suggest. One possible modification to their conceptualization might be to view the relationship between network centralization and network effectiveness as contingent on the nature and the

context of particular networks. Although network centralization may contribute to network effectiveness in the case of domestic service delivery networks, network centralization may undermine network effectiveness in at least some international governance networks.

Public Private Partnership under Private Leadership

ICANN represents a new, emerging international governance model in which private actors take the lead and governmental actors assist. Its emergence may indicate that one needs to rethink the role of governments and of public-private partnerships in international public policy arenas. The institutional settings of ICANN provide a significant twist to the literature on public private partnership, because most of this work has supposed that the government sector takes the lead, while the private sector tries to increase its partnership roles under governmental leadership.

Since ICANN's structure and process illustrate a new public-private partnership experiment, it is worth taking a closer look at what has happened in the ICANN partnership experiment over the last ten years. Few empirical studies, however, have been done on the public-private partnership in ICANN. In particular, *what will be the possible roles of the governments under the private-actor leadership in this new form of governance?* One needs to fully examine the "advisory" role of the Governmental Advisory Committee in the ICANN private decision processes to explore *the actual roles governments in the GAC perform under the private-actor leadership in the governance network.* One can use the metaphors of "rowing" or "steering" as traditional roles for governments as opposed to the "advising" that the Governmental Advisory Committee is supposed to do in the ICANN process.

Partnership, however, is never static. It would be worth tracing the dynamics of the partnership between the Governmental Advisory Committee and various ICANN

bodies (the ICANN Board and other policy bodies) to see *whether and how this public-private partnership has changed over time as ICANN has evolved*. Based on preliminary study, I hypothesize that from 1998 to 2002, the Governmental Advisory Committee was relatively marginalized in the private ICANN process. However, from 2003-2007 it gained significance in the ICANN process through structural and procedural changes in the ICANN Bylaws. Finally, one can suggest some lessons from the ICANN public-private about the prerequisite conditions for new public-private partnerships that rely on private-leadership and public-advisorship.

Contributions

The dissertation contributes to several literatures in public administration and management. First, the study contributes to the literature on Internet governance, adding substantive empirical knowledge on how the Internet is being governed. In particular, it highlights why and how the Internet is governed in a conservative manner, as opposed to the popular myth that the Internet is a liberal governance zone. The concept of technical capture is useful in explaining not only the conservative governance of the Internet, but also the power of technical experts in the policy development process in public organizations or programs such as E-governmet projects. Second, since ICANN is a special type of hybrid - a nonprofit with regulatory power, the study of ICANN sheds light on the increasing role of nonprofits in international self-regulation policy domains. Third, the dissertation contributes to the performance literature, providing empirical examples of how different governance processes can lead to different performance outcomes in an organization (Lynn et al. 2000). Fourth, it contributes to the literature on network governance by providing a contradictory view of the relationship between network centralization and network effectiveness.

Looking to the Future of ICANN and Internet Governance

Leaving the ICANN Board in November 2007, Vinton Cerf asserted that “ICANN has earned its place in the Internet” (Cerf, 2007 October). However, he also urged

ICANN to seek greater public confidence in it as an organization by addressing myriad technical, organizational and institutional challenges. Cerf suggested that technical challenges will include the transition of IPv4 to IPv6, the implementation of TLD IDNs, and the introduction of Domain Name System Security (DNSSEC). Among the organizational challenges will be more accommodation of the general public (through, e.g., five Regional At-Large Organizations) and the organization of civil society constituencies in the ICANN policy process. Finally, the institutional challenges Cerf saw include the establishment of more productive relationships with the international community – both private and public (Cerf, 2007 October).

Recent technological integration (e.g., Internet broadcasting, instant messaging, video upload, and pod casts) renders it harder for ICANN to maintain the stable and reliable operation of the Internet DNS. As the number of Internet users is expected to increase from 1.2 to 6 billion in a decade, ICANN will have more jobs to do for the stable operation of the DNS. While addressing technical challenges, ICANN also needs to continually evolve to adapt to its broader institutional environments.

Two points are important in predicting the future of ICANN's governance and performance. One is whether and how recent leadership changes in the ICANN Board will make any difference in ICANN's governance and performance. The other is whether and how ICANN will be fully internationalized, disconnecting its contractual ties with the U.S. government.

First, ICANN is undergoing a significant change in leadership on the Board. When Cerf stepped down from the Board in November 2007, some worried about ICANN's future, while others welcomed the change. Cerf has been called the "Father of the Internet," and he led the ICANN Board for eight years. He was a symbolic figure representing ICANN's leadership in the Internet. One Board member expressed how important his presence on the Board was for ICANN's survival as an organization at the Board meeting in November 2007. However, another who had been involved in ICANN since its inception said that the Internet does not need "one big hero" (Interview with a member of the At-Large Committee, 2007 November). Although Cerf's leadership might have been controversial, his long tenure as chairperson of the ICANN Board influenced overall ICANN's governance and performance. I argue that under Cerf's leadership there

was a clear link between conservative values and their institutionalization in ICANN governance. Under his leadership, those with technical engineering backgrounds were dominant on the ICANN Board. Vinton Cerf and his colleagues have showed a more pragmatic or “conservative” (i.e., conservative in the sense of not undertaking major changes unless the ICANN community shows strong consensus) approach to policy issues.

Earlier chapters mentioned the new chairperson, Peter Thrush, a more liberal Board member. Will the liberal alliance become the majority of the Board under his leadership? Will ICANN’s conservative governance be changed? Although it is too early to tell whether the liberal alliance will dominate ICANN’s structure and process, the new leadership may be able to make changes in the Board’s conservative path for DNS governance.

Second, ICANN is seeking its independence from the U.S. government (Thrush, 2008). Trying to liberate itself from the U.S. government, ICANN is advertising in the Internet community that it has fulfilled all the responsibilities defined in the Memorandum of Understanding or the Joint Project Agreement (JPA) in 2006. Yet, the U.S. Department of Commerce does not appear to have “institutional confidence” in ICANN (U.S. Department of Commerce, 2008a). Although the transition of the MOU to the JPA may signify that the privatization process has made some progress, it is not clear whether the U.S. government will let ICANN go in the near future. Rather, its complete privatization likely will not occur until the U.S. government is confident about ICANN’s accountability to the Internet community. In the public meeting held by the U.S. Department of Commerce in February 2008, although many participants were uncomfortable with the oversight of the U.S. government over ICANN, not all of them had full confidence that ICANN was ready to be on its own (U.S. Department of Commerce, 2008b).

One can argue that ICANN will be more likely to be released from the U.S. government if the Democratic Party controls the U.S. presidency, given that the Clinton administration initiated the privatization policy of the DNS, while the Bush II administration retained its control over ICANN (see Appendix E.2). Therefore, if the Democratic Party won the coming U.S. presidential election, it might be a good

opportunity for ICANN to pursue its complete independence from the U.S. government. However, its formal release from contracts with the U.S. government would not mean that ICANN would be free from any kind of external oversight. Rather, it may be reformed to be accountable to the international Internet community under new institutional arrangements, such as an international oversight council like that proposed by the Working Group on Internet Governance for the WSIS meetings (WGIG, 2005).

Although ICANN was organized as a private self-governance model for the Internet, it has not been completely free from governments' influence. ICANN will be hard to disconnect completely from governments as long as its technical mission is perceived as having a broad range of public policy implications. This is mainly because ICANN's self-governance model relies heavily on the notion of a policy-technical dichotomy, where ICANN handles technical matters. However, ICANN's self-governance model is vulnerable to governmental intervention because the policy-technical dichotomy is a misleading and simplistic in its definition of the boundaries within which ICANN should self-govern. The dichotomy does not protect ICANN from governments' encroachment into its self-governance territory. For public administrators and managers who are familiar with the problems of the politics-administration dichotomy, it will be interesting to see whether and how a private entity like ICANN does better in dealing with the policy-technical dichotomy as it seeks to ensure its autonomy in self-governance.

Appendix A: Specification of Meanings of Four Performance Criteria

	Policy Formulation		Policy Implementation	
Performance Criteria	E-commerce Framework (July 1997)	The White Paper (June 1998)	The Memorandum (Nov. 1998)	ICANN’s first status report (June 1999)
Stability	“secure and reliable telecommunications network” (p. 16)	“security and reliability of the DNS” (p.16)	Transition to the private sector “without disruptions to the functioning of the DNS” (p.2)	“operational stability” to meet increasing demand for domain name services and new top level domain (p.4)
Competition	“more access to market” at both technology and market policy levels (p.18)	“decentralized system [market mechanism] that encourages innovation and maximize individual freedom and consumer choice in the technical management of DNS” (p.17)	“market mechanism” that supports competition and consumer choice in the technical management of DNS (p.2)	transition from monopoly to competitive service by accrediting new domain name service registrars (p.5)
Representation	private sector leadership - partnership between government and private sector with private sector in lead (p. 22)	“a private entity” that reflects functional and geographical diversity of Internet users and ensure international participation in decision making (p. 17)	management structure that reflects “global and functional diversity of Internet users and their needs” (p.2)	functionally and regionally diversified Board of Directors (p.5)
Private Bottom-up Coordination	“voluntary standards” or “consensus-based process” (p.22)	“a private coordinating process” that is more flexible than government and rapidly enough to meet the changing needs of the Internet and Internet users (p.17)	“a private coordinating process” “private sector management system” (p.2)	“self-organization of its constituent units through bottom-up efforts” “open and transparent” decision making process (p. 5)

Appendix B: Performance Indicators, Data Collection and Data Sources

Criteria	Indicators	Data Collection/Sources
<p>Stability</p> <p>Institutional Level</p> <p>Organizational Level</p> <p>Technical Level</p>	<ul style="list-style-type: none"> - Number, types and nature of agreements with other key DNS operators (e.g., SDOs, RIRs and cc TLDs) - Size of annual budget - Funding mechanism - Capacity of ICANN staff - Nature of volunteerism of Board of Director members and other key positions - Number/nature of breakdowns or disruptions of DNS - “Enhanced Architecture for Root Server” - Transition from IPv4 to IPv6 - Response to root server attack - Workshops/ R&D 	<p>ICANN’s agreement documents; organizational charts; meeting minutes; observation; interviews with key operators</p> <p>ICANN’s annual strategic plan, annual/quarterly reports, organizational charts, staff profile; congressional testimony; critiques from watchdog organizations (e.g., ICANNWATCH.org)</p> <p>Technical report by ICANN, IANA, NTIA, and other key standard organizations like IETF; media reports; interviews with technical experts who knows the technical performance of ICANN</p>
<p>Competition</p> <p>Institutional Level</p> <p>Organizational Level</p> <p>Technical Level</p>	<ul style="list-style-type: none"> - Number/nature of agreements with registries and registrars - Types of top level domain names - Adoption of new domain names - Regulation of service fees for domain name registration - Promotion of market competition across registries and registrars - Proposal/Adoption procedure of new domain names - Bidding procedures for being registries and registrars 	<p>ICANN’s agreement document; annual/quarterly reports; court decisions; media reports; congressional testimony from various service providers as well as customer advocate organizations; meeting minutes; correspondence</p>

<p>Representation</p> <p>Institutional Level</p> <p>Organizational Level</p> <p>Technical Level</p>	<ul style="list-style-type: none"> - Number/nature of agreements with constituent bodies that represent sectoral communities in the ICAAN process (e.g., SOs and GAC) - Number/nature of sponsored domain names that represent specific communities in the Internet - Diversity of Board of Directors - Operation of nominating committee - Diversity of ICANN staff - Election procedure of Board of Directors - ICANN's review of representation rules of constituent bodies' governing councils (e.g., SOs) 	<p>ICANN Bylaws, organizational charts, and annual/quarterly reports; representation rules of constituencies; media reports; congressional testimony; meeting minutes; written critiques from watchdogs</p>
<p>Bottom-up Coordination</p> <p>Institutional Level</p> <p>Organizational Level</p> <p>Technical Level</p>	<ul style="list-style-type: none"> - Delegation agreements with constituent bodies (e.g., ccTLDs) - Reconsideration/Independent Review policy - Operation of Ombudsman - ICANN's review of S.O. councils' consensus rules - Consensus procedure - Frequency of public meeting/forum - Types of issues in public meetings - Number and types of participants in the ICANN process (e.g., forum) - Types of information provided by ICANN and its policy bodies for informed participation - Types and nature of information of ICANN website 	<p>ICANN Bylaws, annual/quarterly reports; consensus rules of constituent bodies; media reports; meeting minutes; interviews</p>

Appendix C: Independent Variable Indicators, Data Collection and Data Sources

Factors	Indicators	Data Collection/Sources
Institutional factors Support or hostility Stakeholder conflict Historical commitment Tightness of ties	Key stakeholders' overall support for or hostility against ICANN Divergent interests; conflicting norms among various stakeholder groups Previous agreement/contract; critical decisions in the past Financial contribution; representation in the Board related to specific issues	Interviews; Media reports; Documents (e.g., agreements, correspondence) Interviews; Media reports; Documents (e.g., input in public forum) Documents (e.g., contract); Interviews Documents (e.g., ICANN Bylaws, budget/financial report)
Technical Factors Technical certainty Nature of task	Consensus of technical requirements among technical/business/consumer community Types of issues (technical, business or social); most concerned stakeholder group Degree of controversy among various stakeholder groups	Documents (e.g., IETF's RFC); Interviews Media reports, Interviews; Documents (e.g., correspondence) Media reports, Interviews; Documents (e.g., meeting minutes)
Organizational Factors Performance Goals Performance Strategies - Resource Acquisition - Contract formalization - Delegation - Decoupling Managerial Capacity - resource scarcity	Priority/ Weight placed on the four Principles in policy statements or reports Formal/legal agreement Delegation agreement Possibility for fee collection; expansion of funding source Available staff dealing with specific issues Money/external expert for specific issues Existence of consensus procedures for policy regarding specific issue	Interviews; Documents (e.g., policy statements, Board's minutes) Documents (e.g., agreements, Board's minutes, strategic plan) Documents (e.g., ICANN Bylaws, budget/financial report)
Government involvement	Correspondence/letter/announcement/policy statements/resolution/court decision	Documents (e.g., ICANN Bylaws, budget/financial report, consensus procedures)

Appendix D: Sample Performance Evaluation

Performance Criteria: Stability

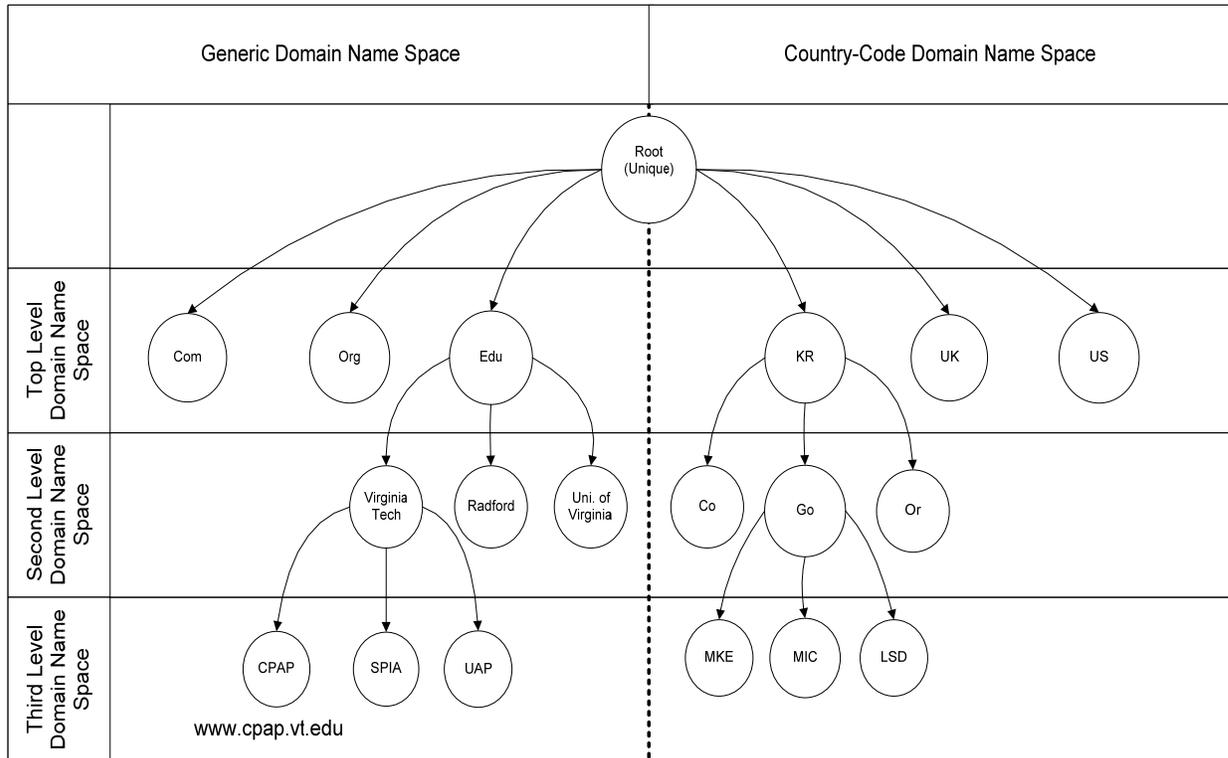
Evaluation	Indicators	Data Collection/Sources
<p><u>Institutional Level</u></p> <p>Smooth transition ICANN has successfully established governing relationships, collectively or individually, with other key DNS operators through binding/non-binding agreements</p>	<p>1. Various formal and/or informal agreements between ICANN and key DNS operators which define functional roles, obligations, and procedures for the stable and secure operation of the DNS</p> <p style="padding-left: 20px;">a. Transition Agreements for transferring the existing responsibilities to ICANN</p> <ul style="list-style-type: none"> - MOU with the U.S. Dept. of Commerce (NTIA); recognizing ICANN as a private entity to oversee the technical management of the DNS on behalf of the U.S. government - Transition agreement with USC; USC, former contractor for the U.S. government, transferred the IANA function to ICANN <p style="padding-left: 20px;">b. Implementation Agreements for defining functional roles and procedures between ICANN and key DNS operators</p> <ul style="list-style-type: none"> - MOU with IETF concerning the technical work of the IANA within the scope of IETF protocol standard - Contract with the U.S. Dept. of Commerce concerning performance of the IANA function - MOU with Address Supporting Organization: establishing collective role of Regional Internet Registries in the consensus process of ICANN - Thirty Sponsorship/Manager agreements/informal exchange of letters with ccTLD registries: defining roles and obligations between ICANN and ccTLDs <p>2. Continuing efforts to formalize the relationship with individual RIR, Root Name-server Operator and ccTLDs</p> <ul style="list-style-type: none"> - Model MOU for individual RIR and Root Name-server operator - Ongoing negotiation for sponsorship agreement with ccTLDs 	<p>ICANN’s agreement documents: e.g., http://www.icann.org/general/agreements.htm, and www.icann.org/cctlds/agreements.html</p> <p>ICANN’s annual/quarterly status reports concerning ICANN’s efforts to formalize the relationship with key DNS operators: http://www.icann.org/general/agreements.htm</p> <p>ICANN’s Model MOU for individual Root name-server operators and regional IP address registries: www.icann.org/committees/dns-root/model-root-server-mou-21jan02htm, and www.icann.org/general/draft-icann-rir-agreement-09apr02.htm</p>

Evaluation	Indicators	Data Collection/Sources
<p><u>Organizational Level</u></p> <p>Strong performance; ICANN has successfully built up organizational (managerial) capacity to support various activities (e.g., policy coordination) for the stable operation of the DNS</p>	<ol style="list-style-type: none"> 1. The annual revenue has multiplied over time to adequately cover the expenditure incurred in the operation of the DNS <ol style="list-style-type: none"> a. FY 2006-07 budget is five times larger than the first budget of FY 1999-00 b. Every year, ICANN has achieved budgetary surplus c. At the end of FY 2005-06, ICANN has accumulated 18,4 million dollars of net asset d. For the last three years, the revenue has increased at the rate of 60% 2. The funding sources has been diversified and stabilized over time <ol style="list-style-type: none"> a. Diversified funding sources: gTLD registrars and registries, ccTLD registries, and IP registries b. Improved funding structure: majority funding from permanent base (e.g., fixed registry/registrar fee) rather than one time transaction base (e.g., registrar application fee) c. Revenue growth strongly associated with the growth of domain market 3. The staff has multiplied and built capacity to deal with various task demands <ol style="list-style-type: none"> a. Full time staff has increased from 14 in FY 1999-00 to 89 in FY 2006-07 b. Increased capacity to support professional/technical task such as contract/litigation, project management, accounting and public relations c. More staff to enhance better communication with various sectoral communities in the Internet (e.g., registrar/registry/regional liaisons) 4. Volunteerism has been an important legacy in operating ICANN and the DNS <ol style="list-style-type: none"> a. Voluntary contribution to the development of DNS technical standards and the organization of ICANN b. Commitment by members in the Board of Directors and advisory committees without full compensation for their works 	<p>ICANN's Budget documents http://www.icann.org/general/financial.html</p> <p>ICANN's annual/quarterly status reports http://www.icann.org/general/agreements.htm</p> <p>ICANN's staff profile http://www.icann.org/general/staff.html</p>

Evaluation	Indicators	Data Collection/Sources
<p><u>Technical Level</u></p> <p>Strong performance; ICANN has successfully established and implemented technical policy, standards, and procedures necessary for the daily operation of the DNS without disruption.</p>	<ol style="list-style-type: none"> 1. Various technical standards/procedures published by IANA/ICANN to maintain the stable and secure operation of the DNS <ol style="list-style-type: none"> a. Technical requirements for new regional IP address registries (ICP-2) b. Technical policy for ccTLDs concerning delegation (ICP-1) c. Request procedure for domain registries to update the root-zone file d. IPv4 and IPv6 address allocation policy 2. No major breakdowns or disruptions to the daily functioning of the DNS <ol style="list-style-type: none"> a. Smooth transition from IPv4 to IPv6 protocol in the DNS b. No technical disruption caused by the deployment of Internationalized Domain Names c. Multiple root name-servers for backup in case of emergency 3. Response system to deal with root name server attack <ol style="list-style-type: none"> a. SSAC's assessment/recommendation to reduce threat/risk of malign DNS attack such as Distributed Denial of Service/DNS cache poisoning attack b. Anycast scheme to mitigate impact of distributed denial of service attack c. Contingency plan in the event of organizational disruption of key DNS operators 4. Workshops/ R&D to enhance the security and stability of the DNS <ol style="list-style-type: none"> a. CRADA project to design and implement the enhanced architecture for the Root name-server system b. Workshops to address security/stability issues of the DNS: e.g., DNS Root Server System Advisory Committee/ Security and Stability Advisory Committee 	<p>ICANN's technical policy documents: e.g., http://www.icann.org/icp/icp-1.htm, http://www.icann.org/icp/icp-2.htm, http://www.icann.org/policies/proposed-ipv6-policy-14jul06.htm</p> <p>ICANN's annual/quarterly status reports http://www.icann.org/general/agreements.htm</p> <p>ICANN's response to DNS attack: e.g., http://www.icann.org/announcements/factsheet-dns-attack-08mar07.pdf</p> <p>ICANN's R&D for stability and security of the DNS: e.g., http://www.icann.org/committees/dns-root/crada.htm</p>

Appendix E: Backgrounds of Internet DNS Management

E.1 Hierarchically Distributed Domain Name System



Source: Mueller 2001, modified

The technical management of the DNS involves four types of functional coordination. Firstly, the assignment of domain names must be coordinated to avoid any duplication. Secondly, the allocation of Internet Protocol (“IP”) numbers should be coordinated to avoid any duplication. Thirdly, root name servers need to be controlled. Root name servers are machines that store all the information on the mapping of IP address to domain names. If root name servers do not work properly, the Internet becomes chaotic. Fourthly, technical standards – e.g., protocol port and parameter – must be coordinated to ensure the Internet’s interoperability. The Internet is composed of many and varied types of machines –e.g., computers, routers, servers, and networks. Somebody must establish technical standards to interconnect these different machines on the Internet. Altogether, the four areas – domain names, IP numbers, root name servers, and technical standards - constitute a critical infrastructure of the Internet: the DNS.

E.2 Historical Development of Intent DNS Governance

I conceptualize the historical development of DNS governance in three stages. Stage I covers the time period from the early 1980's to November 1998, during which

	Stage I	Stage II	Stage III
Issue Level	Technical	Organizational	Institutional
Formality	Informal Governance	Formal Governance	
Organizing Principle	Networking by Decentralized Coordination	Networking by Centralized Coordination	
Sectoral Role	Private sector leads government follows U.S. government oversees	ICANN leadership Governments advisorship U.S. government stewardship	
Coordinating Agency	IANA	Original ICANN	Reformed ICANN
Major Actors	IANA, Technical Groups, U.S. Agency (NSF, DARPA),	IANA/ICANN, Technical Groups, U.S. Agency (NTIA), ITU, Governments	
Performance Principles (Goals)	-	Stability Competition Representation Bottom-up Coordination	
Time Line			

Internet technologies were developed by a small number of computer and networking engineers and then adopted as a means of electronic commerce (“E-commerce”) around the world. In this stage, the Internet was built up and recognized as a vital resource for the global economy. The main function of the DNS – managing the database of the domain names – was taken care of by U.S. government agencies (DARPA, NSF)¹⁴³ and their contractor - “IANA” (the Internet Assigned Numbers Authority, also known as the predecessor of ICANN), led by Jon Postel. However, the Internet governance of the day was characterized by informal, voluntary coordination among various technical expert groups without the centralized coordination that ICANN performs today in controlling the DNS. As Internet governance received more attention in the 1990's, the international Internet community sought a more formal, open, and transparent governance mechanism to effectively address emerging global policy issues related to the Internet (e.g., domain name disputes, new domain names, privacy, and intellectual piracy).

Stage II covers the period from November 1998 to February 2002. During this time, the Clinton Administration endorsed ICANN as a private nonprofit organization that would perform the technical management of the DNS that U.S. government agencies

¹⁴³ Defense Advanced Research Projects Agency, National Science Foundation.

or their contractors had performed in the past. The E.U. and developed countries welcomed and supported U.S. government's privatization policy of the DNS to ICANN. In Stage II, ICANN developed rules, standards, and procedures to establish a more formal, open and transparent decision-making process to improve Internet governance. Despite controversies, ICANN succeeded in addressing important governance policy issues (e.g., introducing a uniform dispute resolution procedure), promoting more competition in domain names service, and constituting supporting organizations to develop bottom-up policy consensus.

Stage III covers the time period from February 2002 to the present, during which ICANN initiated a reform project that significantly changed the structure and process of Internet governance. However, in this stage, many national governments have challenged the ICANN governance model as inadequate to address a variety of global issues and concerns related to the Internet. The ITU (International Telecommunications Union) – a branch organization of the United Nations that traditionally governs the international telecommunications system – has proposed alternative governance mechanisms that might replace or supplement the current ICANN governance mechanism. Opposing U.S. government's unilateral control over ICANN, the E.U. urged the Bush II Administration to complete its transition of ICANN's technical mission to the international community.

Across the stages, the characteristics of Internet governance have changed. The focus of governance issues has moved up from the technical to the organizational (managerial) to the institutional levels. In the later stages, the governance process and structure became more formalized for centralized coordination. The private sector has maintained the central role in governing the DNS, while national governments and inter-governmental organizations have played more marginal roles. Yet, the dynamics between the private sector and the government sector have changed over time. Governments could participate in the original ICANN process through the Governmental Advisory Committee (GAC), which advises or assists the ICANN Board of Directors on government-related issues. In the reformed ICANN process, the government sector receives greater emphasis. Unlike other national governments, from the beginning of the Internet the U.S. government has greatly influenced Internet governance directly or indirectly across the stages. Currently, ICANN is legally accountable as a contractor to the U.S. Department of Commerce. Thus, the U.S. government has the potential power to steer or alter the course of ICANN's action.

ICANN can be developed in two possible directions. One is that no substantial changes occur in governing relationships between ICANN and the U.S. governments. The other is that given the international opposition (the ITU, the E.U), the U.S. government may hand over its legacy control over ICANN to the international community. In the former scenario, ICANN will keep doing what it has done to run the Internet DNS, while the U.S. government keeps strong ties with ICANN. In the latter scenario, the E.U. the I.T.U. and the U.S. government need to negotiate to establish an

overseeing body to monitor and evaluate ICANN's governance and performance. The international oversight body may decide important political issues relevant to the Internet DNS, it would grant technical autonomy for ICANN to perform daily operation of the DNS.

Appendix F: Informed Consent for Participants

Research Project: Linking Governance and Performance: ICANN as an Internet Hybrid.
Researchers: Dr. Karen Hult and Maeng Joo Lee

Despite its significance as a new, emerging governance model for the Internet, little is empirically known about ICANN. Few have attempted to assess ICANN's performance. Nor have scholars tried to explain ICANN's overall performance by tracing its governance process in which multiple actors and factors converge and interact with each other in complex ways. This study tries to fill such knowledge gaps by linking ICANN's performance and its governance. To do so, the researchers need to interview or survey experienced people inside and outside ICANN to get a better understanding of ICANN's governance and performance.

Your participation in this research is absolutely voluntary. The data collected from you will be used for Maeng Joo Lee's Ph.D. dissertation and academic paper. Should you be willing to participate in this research, please sign in the bottom or respond to the email to which the consent form is attached. I will then contact you and arrange for an interview time that fits with your schedule. The interview can be performed in person, by telephone or email at your convenience. The interview should take no more than one hour. After the interview, investigators may ask follow-up questions by email or telephone.

After interview, investigators will produce an interview transcript or summary that will be used for the dissertation. The investigators will provide opportunities for interviewees to review the transcript or summary. Investigators will get interviewee's permission in order to quote what they have said during the interview in the dissertation. It is possible that the Institutional Review Board (IRB) may view this study's collected data for auditing purposes. The IRB is responsible for the oversight of the protection of human subjects involved in research (see contact information below).

The interviews are intended to learn about respondent's experiences with and perspectives on ICANN's governance processes and its performance. The interview

questions are designed to capture daily procedures and activities in the ICANN process. The questions do not involve any kind of personality, trade secret, or highly controversial issues which might put respondents in more than minimal risk of harm.

Sharing your experiences, however, is important to help the researchers better understand what is happening in ICANN. In return, I will be happy to share my research findings with you. You can contact me at later time to request the summary of the dissertation. If you have any questions or concerns about the research, please do not hesitate to contact my dissertation advisor or me (1-540-961-0731, gopeace@vt.edu). My advisor is Dr. Karen Hult, professor of Political Science; she can be reached at khult@vt.edu or 1-540-231-5351. Regarding the IRB, please contact David M. Moore, Departmental Reviewer/Department Head [540-231-4991](tel:540-231-4991)/moored@vt.edu Thank you in advance for your cooperation.

Participant's Permission

I have read the Consent Form and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent:

_____ Date _____
Signature

Appendix G: Interview Questions (Sample)

These questions are used for interviews with ICANN Board members. Some questions are added, deleted, and modified depending on interviewees.

-----Initial Opening Question-----

Q1. Tell me a little bit about your major involvement with ICANN so far.

Possible responses: organizational affiliation, projects/issues, and decisions

Probe: Let's talk a little bit more about [your specific involvement] that you mentioned.
What were the issues and challenges involved?

-----Specific Performance Area Question-----

In its 1997 White Paper and the Memorandum with ICANN, the U.S. Dept. of Commerce suggested four guiding principles: stability, competition, representation and bottom-up coordination.

Q2. Are they discussed much?

Q3. How do you think ICANN has done so far for each area of the four guiding principles?

Stability

- Do you agree that ICANN emphasizes stability as a sort of overriding principle that drives its actions or decisions?

Competition

- Do you think there is enough competition in the domain name registry market?

Representation

- What stakeholder groups do you think are represented in the ICANN Board? Is there any stakeholder groups more or less represented in the ICANN process? Some have told me that some stakeholder groups (civic or individual domain holder) are less represented. How do you respond to that statement?

Bottom-up

- The ICANN Board holds its discussion off-the-record in special meeting? How you think about this? (e.g., benefit and cost)
- Have you observed or heard of any specific issues in which the ICANN Board turned down the bottom-up recommendation from S.O and advisory?

[If interviewee seems to be able to answer specific questions regarding one or two performance areas, then ask the relevant questions in Table 1.]

Table 1: General Question and Possible Interviewee Location

Questions	Description	Evaluation	Improvement	Key Interviewees
Stability	What are the challenges or threats that might undermine the stability of the DNS?	How has ICANN done so far?	What can be improved?	David Conrad, the general manager of IANA
Competition	Is there enough competition in the domain name market? How so?	How has ICANN done so far?	What can be improved?	Business and End-users constituent group
Representation	Is ICANN fairly represented? How so?	How has ICANN done so far?	What can be improved?	At-Large/End-user group Watchdog
Bottom-up Coordination	Is usually bottom-up consensus process viable (working)?	How has ICANN done so far?	What can be improved?	S.O Council

----- **Overall Performance Evaluation** -----

Q5. In general, how do you think ICANN has done so far?

Q6. In which areas do you think ICANN performs best? Worst? Why?
Please give me examples

Q8. What areas do you think should be improved for ICANN to survive as self-governing body?

----- **Three Governance Processes** -----

Q9. What were the most difficult decisions that you have ever made? Why?

I am interested in ICANN’s decisions regarding the Internationalized Domain Names, the VeriSign settlement, and the XXX proposal.

Q10. How do you think ICANN handled the cases?

Q11. What were the most important factors for those decisions?

Q12. What made the ICANN Board change its decision regarding XXX over time? Was it the U.S. government's influence or else?

[If interviewee seems to know about one of three decisions, ask relevant questions in the Table 2.]

Table 2: Interview Questions for Three Cases

Cases	Questions		
	Opening	Evaluation	Exploration
IDN	What are the issues and challenges related?	How has ICANN handled it so far?	What were the most important factors so far?
VeriSign Settlement	What were the issues and challenges?	How did ICANN handle it?	What were the most important factors?
XXX proposal	What are the issues and challenges?	How did ICANN handle it?	What were the most important factors?

----- **Closing Question** -----

Q13. What other questions do you think I need to ask to have a better understanding of ICANN's governance and its performance?

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