Lessons from ICANN: Is self-regulation of the Internet fundamentally flawed?

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Abstract

Internet regulation is not an ‘all or nothing’ debate. Government regulation dominates the physical layer, but it is fragmented over many legal jurisdictions. Self-regulation dominates the code layer – it is powerful and unique because the code is global, cross-border and pervasive. Government regulation dominates the content layer, but is fragmented over many legal jurisdictions. Policymakers in the dominant legal systems (the EU and the US) have long considered Government regulation and self-regulation to be complementary, instead of mutually exclusive approaches. Internet governance, as it has evolved to date, can best be described as a complex tapestry of Government regulation and self-regulation. The Internet Engineering Task Force (IETF), the World Wide Web Consortium (W3C), and the Internet Corporation for Assigned Names and Numbers (ICANN) are the principal mechanisms for self-regulation in the code layer. These mechanisms fit awkwardly with

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traditional political and legal concepts that are used to test regulatory bodies, such as accountability and democratic legitimacy. In 2002, ICANN embarked on a reform process. This is a work in progress and it is too early to gauge its success. Sceptics of self-regulation in the code-layer will have to draw comfort from the rapid growth of Government regulation, and that these can be effectively marshalled to counteract the most serious abuses (such as anti-competitive conduct).

1 Introduction

1.1 Overview

The controversy on the future of ICANN puts into sharp focus a number of questions: How shall the Internet be governed? Is it possible to govern the Internet at all? Who shall govern, and how? This paper does not address all these questions in depth. However, it is useful to define this paper’s framework in terms of these questions.

How shall the Internet be governed? At the heart of this question is an age-old debate on the role of the State. This question is presented by Gibbons as involving a fundamental choice from among: no regulation; self-regulation; and Government regulation. Gibbons chooses self-regulation – because it ‘best effectuates both the vision of the founders of cyberspace and the pragmatic needs of the real world.’ The approach taken in this paper is to briefly examine the theory by presenting the traditional arguments for and against self-regulation (Part 2), and to briefly examine the practice by comparing the EU and US approaches to Internet regulation (Part 3).

Is it possible to govern the Internet at all? It is difficult to reconcile regulation by diverse jurisdictions with the cross-border aspects of the Internet. In the early years of the Internet, Johnson and Post popularised the notion that cyberspace is governed by norms of its own, independent of the law of the State, and concluded that Governments should not regulate cyberspace. For some time, the conventional wisdom was that Governments were helpless to regulate the Internet. Experience has taught otherwise – the Internet has proven to be a highly controllable medium. Since 1996, there has been a steady increase in Government regulation of the Internet. Civil libertarians are disturbed by the intrusive nature of emerging Internet regulation, particularly those granting security agencies wider powers of surveillance. A parallel development is increasingly
aggressive legislation and litigation ostensibly for the protection of intellectual property rights. No single Government can effectively regulate the Internet. However, it is now recognised that there are many choke points in this network of networks that enable a determined Government to have credible control. Governments can target what Swire calls the ‘elephants’ (i.e. large software companies and content providers, ISPs, network owners, e-businesses), instead of the elusive ‘mice’ (i.e., individual Internet pirates, pornographers, or swindlers). An example is Napster, which was sued to the point of bankruptcy by the US recording industry, while millions of individual Internet users who swapped illegal copies of music files were left alone. For purposes of analysis, treating the Internet as a monolithic structure is extremely unwieldy. The approach taken in this paper is to use Lessig’s paradigm of the three ‘layers’ of the Internet, namely, the ‘physical’ layer at the bottom, the ‘code’ layer in the middle, and the ‘content’ layer on top (Part 4). The paper will focus on the regulation of the ‘code’ layer with particular regard to technical standards (Part 5 and 6).

Who shall govern and how? Rather than attempt to answer this question as a matter of first principles, the approach taken in this paper is: (1) to assess existing mechanisms for self-regulation, namely: ICANN, the Internet Engineering Task Force and the World Wide Web Consortium (Parts 5 and 8); and (2) to attempt to draw lessons from the governance of another global network, international banking (Part 7). While there is extensive literature on domain names and associated intellectual property issues, it is not intended to discuss these aspects at length.

1.2 Objective

The starting point of this paper is the proposition that: ‘[t]he structure of the Internet is a social choice, not a technological necessity. The constraints and freedoms
of the Internet are therefore also social choices.'\textsuperscript{12} Gould observes that: 'As the Internet has grown, the debate about its governance and regulation has become more significant. . . . At its heart, however, are questions about the infrastructure. The infrastructure itself is founded on standards. Those standards, therefore, are the basic subject matter of Internet governance.'\textsuperscript{13} In the foregoing context, this paper will endeavour to assess existing forms of self-regulation in the code layer; and to consider whether self-regulation should continue to be the dominant regulatory form in setting Internet technical standards.

1.3 Definition and classification

Who is the ‘self’ in Internet self-regulation? Again, it is good to go back to what is ‘self-regulation’? European definitions are elastic and include: ‘regulated self-regulation’ as contrasted to ‘unregulated self-regulation’\textsuperscript{14}; ‘legal self-regulation’ as contrasted to ‘voluntary self-regulation’; and ‘self-regulation within a legislative framework’ or ‘co-regulation’.\textsuperscript{15} Across the Atlantic, Froomkin takes a narrow view:

True self-regulation excludes the participation of a public body. Thus, much of what is loosely called ‘self-regulation’ is not in fact self-regulation. For example, US stock exchanges engage in so-called ‘self-regulation’ but their rules are subject to approval by the US Securities and Exchange Commission.\textsuperscript{16}

Self-regulation can be found in the professions (i.e., solicitors, physicians) as well as in business (i.e., banking, insurance). Self-regulation has also been used to develop product and service standards, from paper sizes to accounting principles. As a practical matter, it is rare for self-regulation to have no relationship at all to Government regulation and enforcement.\textsuperscript{17} It is nonetheless useful to adopt this definition:

Self-regulation means in essence that rules which govern behaviour in the market are developed, administered, and enforced by the people (or their direct representatives) whose behaviour is to be governed.\textsuperscript{18}

The ‘self’ consists of those persons and entities that have meaningful

\textsuperscript{16} Froomkin, A.M., ‘Semi-private international rulemaking; Lessons learned from the WIPO domain name process’, Chapter 11, in Marsden, C., Regulating the Global Information Society (2000), at p. 211.
\textsuperscript{17} Price, M. and Verhulst, S., ‘Charting the course of self-regulation on the Internet in a global environment’, Chapter 3, in Marsden, C., Regulating the Global Information Society (2000), at p. 66.
\textsuperscript{18} National Consumer Council, supra, N. 15, at p. 4.
participation in the IETF, the W3C, and ICANN – most will easily qualify as 'elephants'. The overwhelming majority of individual Internet users are 'mice' who are rule-takers. They participate in self-regulation only in the most remote sense.

Ogus classifies self-regulation according to the following variables: (1) monopoly power – whether it regulates all suppliers or only some; (2) formality – whether it derives legitimacy from a legislative framework; (3) legal status – whether the rules have binding force; and (4) transparency – whether outsiders participate in rule formulation, enforcement, and supervision. Ogus also classifies self-regulation by the manner of its adoption: (1) unilateral codes of conduct; (2) customer charters; (3) unilateral sectoral codes; (4) negotiated codes; (5) trade association codes approved by a government office, i.e., the Office of Fair Trading; (6) 'recognised codes'; (7) official codes and guidance; and (8) legal codes. The British Code of Advertising Practice and Sales Promotion is an example of a 'negotiated code', developed by industry, government, and consumer groups. The regulation of solicitors by Law Societies in the UK under the Solicitors' Act may be classified as a 'legal code'.

2 Arguments for and against self-regulation

'Government failure is a serious problem. Indeed, it is so serious that . . . there is something to be said for taking a risk in under-government.'

2.1 Arguments for self-regulation

The classic arguments in favour of self-regulation are as follows: (1) a self-regulatory body can have better expertise and technical knowledge, and is in a better position to formulate and interpret standards; (2) access to expertise and technical knowledge reduces monitoring and enforcement costs; (3) the costs to practitioners (or firms) is reduced, as interaction with the regulatory body is likely to be fostered by mutual trust; (4) the less formal process and rules of a self-regulatory body reduces the cost of amending standards, including costs attributable to delay; and (5) the costs of the self-regulatory body are borne by the relevant trade or activity, not by taxpayers. Governments may support self-regulation in the belief that heavy-handed regulation can deter investment and innovation.

20 Consumer Council, supra, N. 15, at p. 4.
21 at p. 12.
24 Ogus, supra, N. 19.
For example, Australia’s information technology policy recognises that: ‘A regulatory regime which imposes structural rigidities will prevent adaptation, undermine structural competitiveness in domestic and international markets for networked services, and deny Australians the benefits of new technology’. The EU experience in product and technology standards, largely Government-driven, is instructive. The process of submitting a proposed EU standard, and securing its adoption can take five to six years. ‘Harmonisation directives often required years of technical discussions and many were overtaken by technical progress in the state of the art.’

2.2 Arguments against self-regulation

The classic arguments against self-regulation are as follows: (1) self-regulation results in the acquisition of power by groups which are not accountable through constitutional channels; (2) the rules adopted by the self-regulatory body may not have democratic legitimacy; (3) the self-regulatory body may adopt rules that affect not only its members, but third parties; and (4) it often occurs that the self-regulatory body is responsible for rule-making, adjudication, and enforcement – this is a breach of the separation of powers doctrine. Lack of accountability and democratic legitimacy are the principal criticisms by Froomkin and Mueller against Internet ‘self-regulation’ via ICANN. Even Lessig is wary of ‘private’ control of the Internet. The general direction of their analysis supports more Government regulation of the Internet.

Economists may object to self-regulation on several counts: (1) the self-regulatory body can act as a cartel, establish anti-competitive conditions, and generate rents (exorbitant profits) for its members; (2) the self-regulatory body can establish barriers to entry that distort competition; and (3) self-regulation coupled with the absence of external constraints, facilitates rent-seeking behaviour. The legal profession provides interesting examples of self-regulation abetting anti-competitive practices. In the 18th century, the New York bar was reported to have made a decision not to
admit apprentices for 14 years, except their own sons. Until 1990, UK solicitors had a monopoly on conveyancing and banned advertising. The lifting of the monopoly and the advertising ban has given consumers more choice and resulted in lower fees.34

While acknowledging its shortcomings, Lemley considers Internet self-regulation as better than Government regulation.35 'Group standard setting ... is generally good because it is an avenue to open systems that at least holds out the possibility of competition which would otherwise not exist in the market.'36 Lemley believes that Government regulation of Internet standards should not be encouraged for the following reasons: (1) public servants are not qualified to set the standards, and Government bureaucracy is not suitably equipped to regulate a fast-moving area of commerce such as the Internet; (2) Government standards may prove durable even when demonstrated to be ill-conceived; and (3) there is no guarantee that a government standards body will act in the public interest – Government agencies are highly susceptible to capture by private entities with an interest in the outcome.37

3 EU and US approaches to Internet regulation

With the growth of electronic commerce, the scope of Internet regulation has expanded rapidly. In the absence of global treaties and institutions, EU and US law have supplied a de facto global regime by virtue of their political leadership, economic dominance, and large base of Internet users. A joint EU-US statement on electronic commerce states that the role of Government is to 'provide a consistent and predictable legal framework, ... and to ensure adequate protection of public interest objectives such as privacy, intellectual property rights, prevention of fraud, consumer protection and public safety.'38 The EU recognises the role of the private sector 'in protecting the interests of consumers and in promoting and respecting ethical standards, through properly functioning systems of self-regulation in compliance with and supported by the legal system.'39 US policy emphasises private sector leadership: 'The Internet should develop as a market-driven arena, not a regulated industry. Even where collective action is necessary, governments should encourage industry self-regulation and private-sector

34 Consumer Council, supra, N. 15.
37 Lemley, M., 'Antitrust and the Internet Standardization Problem', supra, N. 35.
39 Recital 10, Decision 276, Adopting a multiannual community action plan on promoting safer use of the Internet (1999) O.J. L33/1, emphasis added.
leadership where possible . . . Where government intervention is necessary, its role should be to ensure competition, protect intellectual property and privacy, prevent fraud, foster transparency, and facilitate dispute resolution, not to regulate.40 Notwithstanding the difference in emphasis, it is clear that EU and US policymakers intend Government regulation and self-regulation to be complementary.

The extensive body of EU regulation includes directives on data protection41, databases42, copyright43, privacy in telecommunications44, distance selling45, encryption and electronic signatures46; electronic commerce47, and electronic money.48 The extensive body of US regulation includes: the Communications Decency Act (1997)49; the No Electronic Theft Act (1997)50; the Children’s Online Privacy Protection Act (1998)51; the Digital Millennium Copyright Act or DMCA (1998)52; the Anti-Cybersquatting Consumer Protection Act (1999)53; the Electronic Communications Privacy Act (2000)54; and the USA Patriot Act (2001). Competition law is proving to be a powerful policy instrument. A notable example is the prosecution of Microsoft for alleged anti-competitive conduct against a competing Internet browser.55 The partial settlement adopted in November 2001 resulted in changes to the design of the latest version of the Windows operating system, XP.56 This was roughly the equivalent of the US Department of Justice telling Microsoft how to write its code. US regulators approved the 1998 merger of MCI and Worldcom subject to the divestment of Internet assets to a third party, Cable and Wireless.57 The 2000 merger of Time Warner and America Online, was...

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40 A Framework for Global Electronic Commerce (1997), also known as the Magaziner Report, emphasis added.
47 O.J. L178/1, adopted 5 May 2000.
50 PL 105–147.
51 Act 47 USC §223.
52 17 USC § 512.
53 PL 106–113.
approved subject to the condition of open access. Gould has described the EU approach to Internet regulation as centralised and governmental, and the US approach as light-handed and sensitive to commercial interests. However, Gould’s description of the EU regime – ‘centralised and governmental’ – is one that increasingly describes the US regime.

4 Self-regulation in the Internet context

‘Our hands-off approach wasn’t entirely a choice. The reality is that the Internet grew so fast that policy-makers could not have written a code to govern it even of they wanted to.’

4.1 Overview

Marsden describes self-regulation as ‘a highly developed – even dominant – regulatory form in the Internet.’ To test Marsden’s statement, it is useful to examine the extent of regulation in each layer of the Internet.

The Physical Layer. – Telecommunications and cable TV networks are the physical backbone of the Internet. Telecommunications and broadcasting are highly regulated industries. Thus, Governments may be considered as the principal actors in regulating the physical layer. However, in the global context, Government regulation over the physical layer is fragmented over many jurisdictions.

The Code Layer. – The principal actors in regulating the code layer are the IETF, the W3C and ICANN. There is no body of law that governs the code layer as such, which is physically intangible. For the time being, self-regulation dominates the code layer. This is more a matter of default, rather than design. The standards of the code layer are global, cross-border, and pervasive. This makes the code layer an attractive target for tinkering by various commercial and political interests.

The Content Layer. – A well established body of law regulates content (i.e., print, radio, TV, movies). These laws deal with: the publication of obscene articles; the distribution or possession of child pornography; the transmission of grossly offensive, indecent, obscene or menacing messages; the piracy of copyrighted material and dealing with pirated...
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material\(^{65}\); unlawful procurement, processing, or disclosure of data\(^{66}\); harassment\(^{67}\); defamation\(^{68}\); deception, and blackmail.\(^{69}\) Although Government regulation is dominant in the content layer, it is fragmented over many jurisdictions.

In a hypothetical world with only four legal jurisdictions, cross-border Internet regulation can be represented as follows:

Table 1. Cross-border Internet regulation

<table>
<thead>
<tr>
<th>Layer</th>
<th>Country A</th>
<th>Country B</th>
<th>Country C</th>
<th>Country D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Co-exists with self-regulation</td>
<td>Co-exists with self-regulation</td>
<td>Co-exists with self-regulation</td>
<td>Co-exists with self-regulation</td>
</tr>
<tr>
<td>2. Code –</td>
<td>For the time being, self-regulation (i.e. through ICANN, IETF, W3C) is dominant. Local forms of 'code' regulation are emerging.(^{70})</td>
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<td>Co-exists with self-regulation</td>
</tr>
<tr>
<td></td>
<td>Global forms of self-regulation are emerging, i.e., the PICS(^{71}) protocol, and the P3P(^{72}) protocol.</td>
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</tr>
</tbody>
</table>

In the above model, Lessig’s ‘layers’ are shown horizontally, while the jurisdictions represented by countries A to D are shown vertically. What this simple model conveys is that Internet regulation is not an ‘all or nothing’ debate. What has evolved to date can best be described as a complex tapestry of Government regulation and self-regulation.

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\(^{65}\) Sec. 107, Copyright Designs and Patents Act 1988 (UK).
\(^{66}\) Sec. 21 and 55, Data Protection Act 1998 (UK).
\(^{67}\) Sec. 1, Protection from Harassment Act 1997 (UK).
\(^{68}\) Defamation Act 1996 (UK).
\(^{69}\) Theft Act 1968 (UK).
\(^{70}\) i.e., laws on digital rights management, country level domains.
\(^{71}\) Platform for Independent Content Selection.
\(^{72}\) Platform for Privacy Preferences.
4.2 Self-regulation in the code layer

US policy supports self-regulation in the code layer. ‘The marketplace, not governments, should determine technical standards and other mechanisms for interoperability on the Internet. Technology is moving rapidly and governments’ attempts to establish technical standards to govern the Internet would only risk inhibiting technological innovation.’73 The IETF, the W3C, and ICANN are the principal mechanisms for developing Internet technical standards. This section sets the scene for a more detailed discussion of the IETF and W3C in Part 5, and ICANN in Part 6.

The IETF develops communications standards for the code layer. These standards help ensure the interoperability of the hardware and software connected to the Internet.74 The W3C develops document standards for the World Wide Web. These standards help to ensure that text, graphics, audio, and video are in a format accessible and ‘displayable’ throughout the World Wide Web.75 ICANN develops standards for the Internet’s domain name and addressing system. These standards assign a unique identity and address to individual computers and users of the Internet, and ensure that data is transmitted to, or retrieved, from the correct address.

Applying the variables identified by Ogus to classify self-regulation76: (1) The IETF, the W3C, and ICANN have a high degree of monopoly power, as non-compliance with standards can result in exclusion from the Internet; (2) Self-regulation by the IETF, the W3C, and ICANN have a low degree of formality, as they do not derive legitimacy from a legislative framework; (3) The standards issued by the IETF, the W3C, and ICANN have low legal status, as these are not prescribed by law; (4) The IETF, the W3C and ICANN are notionally transparent in the sense that there is extensive disclosure (primarily through public websites) of proposals considered and standards adopted. However, there are barriers to effective participation such as the highly technical nature of the issues, or the cost of effective participation.77 Self-regulation in the code layer may be represented as follows:

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74 Gould, supra, N. 13, at p. 203.
75 Ibid.
76 See Part 1.3 of this paper.
Table 2. Self-regulation in the code layer

<table>
<thead>
<tr>
<th>Policy objectives</th>
<th>Instrument</th>
<th>Prevailing Standard</th>
<th>Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inter-operability and stability</td>
<td>Standard transport protocol</td>
<td>TCP/IP developed by IETF</td>
<td>Failure to access Internet</td>
</tr>
<tr>
<td>Optimisation of network effects</td>
<td>Standard document protocol</td>
<td>HTTP, SMTP, HTML, and XML developed by W3C</td>
<td>Failure to access World Wide Web</td>
</tr>
<tr>
<td>Accuracy in sending and retrieving data</td>
<td>Unique identity and address for computers and/or users</td>
<td>Domain name system (DNS) and IP protocols developed or administered by ICANN</td>
<td>Failure to send or receive In respect of registrars and registries – termination of their contracts</td>
</tr>
</tbody>
</table>

Self-regulation of the code layer can operate with a high degree of autonomy. The subject matter requires technical expertise. There is little need for Government enforcement as compliance results in inclusion, and non-compliance results in exclusion. However, existing methods of self-regulation in the code layer benefit from direct or indirect Government sponsorship in the form of supportive policies, or at least a legitimating tolerance. Lessig suggests that Government regulation may eventually be required to protect open Internet standards. ‘[W]hen commercial code begins to determine the Internet’s architecture, it creates a kind of privatized law that must be regulated if the public interest and public values are to be democratically represented.’ Government interest in the code layer has already manifested itself in such areas as encryption, digital rights management, and the governance of country level domains. This suggests that Governments can take on the role of ‘code writer’, albeit indirectly.

4.3 Self-regulation in the content layer

Self-regulation in the ‘content layer’ seeks to achieve different policy objectives, including: the control of illegal and harmful content; consumer protection; data protection; and control of spam. For example, the EU Action Plan on Promoting Safer Use of the Internet calls for: the adoption

of codes of conduct; enforcement by self-regulatory bodies that are backed by government enforcement and implementing legislation; and the use of self-rating, labelling and filtering.\textsuperscript{80} Self-regulation in the content layer may be represented as follows:

Table 3. Self-regulation in the content layer

<table>
<thead>
<tr>
<th>Policy objective</th>
<th>Instrument</th>
<th>Prevailing standard</th>
<th>Enforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control of illegal and harmful content</td>
<td>Self-rating, labelling and filtering, i.e., PICS Certification systems Hotlines Blacklisting</td>
<td>Codes of conduct Relevant legislation, i.e., defamation, pornography, hate speech</td>
<td>Private enforcement – i.e., ISPs Government enforcement</td>
</tr>
<tr>
<td>Consumer protection</td>
<td>Certification systems Consumer hotlines or websites</td>
<td>Codes of conduct Relevant legislation, i.e., distance selling regulations, electronic commerce</td>
<td>Private enforcement – i.e., ISPs Government enforcement</td>
</tr>
<tr>
<td>Data protection</td>
<td>Certification systems Encryption, i.e., PGP Notice and consent systems, i.e., P3P</td>
<td>Codes of conduct Privacy policy Relevant legislation, i.e., data protection, electronic surveillance</td>
<td>Private enforcement – i.e., ISPs Government enforcement</td>
</tr>
<tr>
<td>Control of spam</td>
<td>Blacklisting Filtering Termination of subscription with relevant ISP</td>
<td>Codes of conduct Terms of use under ISP subscription Relevant legislation</td>
<td>Private enforcement – i.e., ISPs Government enforcement</td>
</tr>
</tbody>
</table>

Based on the above model, there is less autonomy for self-regulation in the content-layer. Private standards (if any) operate in parallel with Government regulation, and in case of conflict (within a given legal jurisdiction) the latter normally prevails.

\textsuperscript{80} Decision 276, Adopting a multiannual community action plan on promoting safer use of the Internet (1999) O.J. L33/1, emphasis added.
5 The Code Writers

The authors of the code – code writers – are a kind of governor . . .
We should be asking, who are these law makers, and how do they make law[?]".81

5.1 The Internet Engineering Task Force

The IETF develops standards that allow the Internet to function as a global network. These include the Transfer Control Protocol / Internet Protocol (TCP/IP), and the Simple Mail Transfer Protocol (SMTP).82 The IETF evolved from one of the task forces established by the Internet Activities Board (IAB) in 1986. The IAB has been described as ‘the co-ordinating committee for Internet design, engineering and management, composed of researchers and professionals with a technical interest in the health and evolution of the Internet’.83 The IETF has been described as an ‘independent, unincorporated, international standards body of continually floating membership’.84 The term ‘IETF’ refers to a few hundred individuals, chiefly software engineers, who have taken an interest in the development of the Internet.85 The IETF describes itself as ‘a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. It is open to any interested individual.’86 The IETF’s de facto constitution is a detailed Internet Standards Process87 that aims to achieve the following goals: technical excellence; prior implementation and testing; clear, concise and easily understood documentation; openness and fairness; and timeliness.88

The early telegraph and telephone companies appreciated that the value of their networks increased with greater interconnection. This required the adoption of technical standards that led to the establishment by treaty of the International Telecommunications Union (ITU) in 1865.89 In contrast to the ITU, IETF members do not represent sovereign countries. The IETF is also characterised by the lack of formal hierarchy, extensive use of e-mail, decision-making by consensus, and an informal culture.90

83 Gould, supra N. 13, at p. 203.
85 Drake, W., ‘The rise and decline of the international telecommunications regime’, Chapter 8, in Marsden, C., Regulating the Global Information Society (2000), at p. 162.
86 http://www.ietf.org/home.html
87 RFC 2026, Internet Standards Process, October 1996, IETF.
88 Ibid.
89 Ibid., supra, N. 85, at p. 125 et seq.
90 Reagle, J., ‘Why the Internet is Good: community governance that works well’, Berkman Center for Internet and Society, Harvard Law School, 1999, par. 4.2 http://cyber.law.harvard.edu/people.reagle/regulation-19999326.html
the early 1990s, the ITU and the IETF clashed with competing e-mail standards (X.400 and TCP/IP). Market forces resolved this battle of standards. ITU lost for the simple reason that a brief message using ITU’s protocol could cost $0.70, while comparable Internet delivery cost only $0.0007. The ITU has a fairly recent history of hostility to the Internet (in particular, the threat from Internet telephony) and to the IETF. Thus, any effort to transfer IETF functions to the ITU is likely to be resisted.91

5.2  The World Wide Web Consortium (W3C)

The W3C develops transport and document standards of the World Wide Web. The core transport protocol is the Hypertext Transport Protocol (HTTP). The document presentation protocol is the Hypertext Mark Up Language (HTML), and its next generation is called Extended Markup Language (XML).92 Tim Berners-Lee first attempted to develop global standards for the World Wide Web within the IETF. Frustrated by slow progress and what he saw as endless philosophical discussions in the IETF, Berners-Lee decided to create his own group. He initiated the establishment of the W3C in 1994.93 The W3C is jointly run by the Massachusetts Institute of Technology Laboratory for Computer Science (MIT LCS) in the US, the National Institute for Research in Computer Science and Control (INRIA) in France, and Keio University (Japan). INRIA’s Jean-Francois Abramatic is the chair, and Berners-Lee is the director, of the consortium.94 Like the IETF, the W3C is not an incorporated entity. For legal contracts the W3C is represented by the MIT, INRIA, and Keio University.95 The W3C has been described, half seriously, as ‘the Web’s unelected Government’.96 Its de facto constitution is a Process Document which describes the W3C’s mission, structure, general policies, and procedures, including time limits for the consideration of proposals and voting rules.97 The W3C has developed more than forty technical specifications for Web-based text, audio, video, and graphics.98 This work has been highly praised. The W3C formally adheres to the principle of decision-making by consensus. However, compared to the IETF, the W3C’s decision-making process is considered as more ‘top-down’. Berners-Lee has been described as the W3C’s ‘benevolent dictator’.99

91 For an interesting account of the e-mail ‘standards battle’ between ITU and IETF, see: Drake, supra, N. 85.
92 Gould, supra, N. 13, at pp. 207–208.
93 The consensus machine’, The Economist, 8 June 2000.
95 http://www.w3.org/Consortium/Process-20010719/
96 Garfinkel, supra, N. 94.
97 http://www.w3.org/Consortium/Process-20010719/
98 http://www.w3c.org/Consortium/
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The W3C’s work in the ‘Technology and Society’ domain has triggered controversy. The most controversial W3C initiatives have been the Platform Independent Content Selection (PICS) protocol, and the Platform for Privacy Preferences Project (P3P). The W3C developed PICS as a response to the US Communications Decency Act (CDA). PICS is envisaged to allow content providers to rate themselves, and for web users to selectively block access. In hearings on the constitutionality of the CDA, PICS was used to support the argument that the online industry could police itself without external censorship. The W3C developed P3P as a response to a threat from the US Department of Commerce that regulations would be forthcoming unless the online industry established credible measures to protect personal privacy. P3P is envisaged to allow content providers to publish their privacy policies in machine readable form, and for web users to define their privacy preferences. P3P would alert the user of any mismatch between the provider’s privacy policy and the user’s privacy preference. The W3C formally issued the P3P specifications on 16th April 2002.

5.3 The problem of ‘capture’

The standards process is vulnerable to competition problems if a participant ‘captures’ the standard-setting process by claiming IP rights over an existing or proposed standard. In the Internet context, the problem of capture is exacerbated due to the operation of network effects – the market tends toward a single dominant standard that enables the greatest interconnection. This tension between standards and IP rights predates the Internet. Standards bodies like the International Organisation for Standardization (ISO), the British Standards Institution (BSI), and the American National Standards Institute (ANSI) have well-established procedures for coping with this problem. The BSI procedure is fairly representative of the procedure followed by standards bodies. The BSI procedure provides that:

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101 ibid.
103 ibid.
105 http://www.w3.org/2002/04/p3p-testimonial.html/aol
106 Garfinkel, supra, N. 94.
107 http://www.ansi.org/
JOSÉ MA. EMMANUEL A. CARAL

'a. If there are a variety of satisfactory solutions, inclusion of a patented invention as the sole means of compliance with a British Standard is undesirable.

...c. If the patentee is willing to grant licences, the patent may be incorporated in the standard. To ensure general access to any patented invention included in a British Standard, the patent should be endorsed 'licences of right' at the Patent Office. In the event of disagreement between the proprietor and the licensee as to the terms of the licence, the dispute will be settled by the Comptroller of the Patent Office.

...e. If the patentee refuses to grant licences, the BSI will not set a standard based on that patent. Ultimately, the BSI will consider launching revocation proceedings against an existing patent if it proves a bar to the creation of a new standard. That fact does not of itself constitute grounds for revocation. Any proceedings for revocation would be on the usual grounds set out in section 72 of the Patents Act 1977.

...g. If the patent is foreign, then an agreement should be sought with the owner that the licences will be granted on reasonable and non-discriminatory terms.'

The IETF requires disclosure of IP rights governing any proposed standard. If there are IP rights associated with a proposed standard, the IETF will seek to obtain a written assurance from the IP rights holder that once the standard is adopted, any party that desires to use the standard can do so ‘under openly specified, reasonable, non-discriminatory terms’. This is the so-called RAND approach. If the proponent does not provide the requested assurance, IETF rules provide that ‘the IESG may defer approval where a delay may facilitate the obtaining of such assurances’.

The W3C’s Process Document provides that: ‘Whenever possible, technical decisions should be made unencumbered by intellectual property right (IPR) claims.’ The W3C also requires disclosure of IP rights governing any proposed. Some W3C members, such as Hewlett-Packard, advocate that W3C standards should be royalty free. Other members, such as IBM, support the RAND approach. Advocates of royalty free standards argue that the RAND approach distorts the standards process, allows users to be ‘ambushed and exploited’, ignores the importance of open source, and is burdensome to W3C and its members.

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1. Ibid.
2. Par. 10.3.3, RFC 2026.
3. Ibid. 2.2. http://www.w3.org/Consortium/process-20010719/process.txt
4. Ibid.

110
111
112
113
114
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The IETF and W3C have historically favoured open and ‘vendor-neutral’ standards (i.e., not subject to IP rights). However, it is expected that IP issues will increasingly add to the complexity of the standards setting process. For example, while the W3C was developing two open standards for style sheets, Microsoft obtained a patent for a similar technology. After Microsoft executives were cross-examined on the matter in the on-going antitrust litigation, Microsoft subsequently announced that it would not charge royalties for the patented technology.115

In summary, the problem of ‘capture’ can be mitigated by well-established principles in use by standards bodies for decades. This suggests that the competition law issues that can arise from private standard setting are not intractable. However, in the relevant cases, it may be necessary to resort to legal remedies such as compulsory licensing or antitrust litigation.116

6 The ICANN crisis

‘Tis but thy name that is my enemy.’117

Established in 1998, ICANN is the youngest of the three self-regulatory mechanisms reviewed in this paper. It is also the most controversial. The IETF was established sixteen years ago (in 1986), while the W3C was established eight years ago (in 1994). The purpose of this section is to briefly discuss the purpose, origins, and criticisms of ICANN, and the reforms initiated in 2002.

ICANN before the 2002 reforms

ICANN is a non-profit, private corporation, registered in California. ICANN administers the Internet’s domain name system (DNS). Prior to the 2002 reforms, a 19-member Board of Directors governed ICANN. There were directors from Germany, Japan, South Korea, Ghana and Spain.118 The ICANN structure included the At Large Membership that was supposed to represent the global Internet community. The Address Supporting Organization (ASO) developed recommendations for global policies concerning allocation of IP addresses. The Domain Name Supporting Organization (DNSO) developed recommendations for global

118 http://icann.org.
policies concerning the DNS. Trademark and IP groups, businesses, registries, ISPs/Telcos, and non-profit organisations were represented in the DNSO. The Protocol Support Organization (PSO) advised ICANN on Internet protocols and technical standards. The IETF, W3C, ITU and ETSI were represented in the PSO. The Government Advisory Committee had representatives from the World Intellectual Property Organisation (WIPO), the ITU, the EU, the Organisation for Economic Cooperation and Development (OECD) and some 59 national Governments.\footnote{Mueller, M., ‘Governments and Country names: ICANN’s Transformation into an Intergovernmental Regime’, paper presented at PTC 2002 Conference, Honolulu, Hawaii. http://istweb.syr.edu/~mueller
\footnote{Froomkin, \textit{supra}, N. 84, at p. 18.
\footnote{Title 5, USC., Chapter 5.
\footnote{Froomkin, \textit{supra}, N. 84.}}}}}

The most controversial ICANN issues involved the DNSO (domain name policy), the At Large Membership (representation, democratic legitimacy) and the GAC (role of Governments, accountability). There has been less controversy with respect to the ASO and the PSO, whose remit is largely technical in nature, and less likely to impact on commercial and political interests. Internet users elected five of the 19 ICANN Directors in an online election in 2000. These directors are supposed to represent the At Large membership, i.e. the general public of Internet users. However, out of an estimated 300 million Internet users at that time, only 33,000 (or 0.01\%) cast their votes.\footnote{Froomkin, \textit{supra}, N. 84.} The EU has extended its qualified support for ICANN, but has expressed its concern on certain issues including: ‘the nature of, and arrangements for, balanced and equal oversight of some of ICANN’s activities by public authorities’; ‘the rules to govern generic domains’; ‘the redelegation of certain ccTLDs to another manager at the request of the Government concerned’, and ‘the transfer of the management of the root server system from the US Department of Commerce to ICANN, under appropriate international supervision by public authorities.’\footnote{Froomkin, \textit{supra}, N. 84.} The EU’s relationship with ICANN can be best described as one of ‘critical engagement’.

6.2 \textit{Criticisms against ICANN}

Froomkin argues that the use of ICANN to regulate the Internet, instead of an executive agency, violates fundamental values and policies designed to ensure democratic control over the use of government power. He believes this sets a precedent that risks being expanded into other regulatory activities.\footnote{Froomkin, \textit{supra}, N. 84, at p. 18.} Moreover, the US Department of Commerce’s use of ICANN to make rules violates (a) the requirements under the Administrative Practices Act\footnote{Title 5, USC., Chapter 5.} for notice and comment in rule making, and judicial review; and (b) the Constitution’s non-delegation doctrine.\footnote{Froomkin, \textit{supra}, N. 84.}
Mueller believes that the self-regulatory regime being constructed by ICANN is far more centralised and controlling in nature than the pre-ICANN Internet.\textsuperscript{125} Mueller contends that control of the DNS is being used to create a new global regime providing for expanded rights to names. ICANN and WIPO have stated that their goal is only to preserve existing rights. However, the property rights that are being created are often stronger than, and different from traditional legal rights in names.\textsuperscript{126} Mueller’s criticism that the US Department of Commerce devolved state power to ICANN, echoes the administrative due process and non-delegation arguments raised by Froomkin.\textsuperscript{127}

The Center for Democracy and Technology (CDT) contends that the ICANN governance structure is not appropriately representative of the public voice, and that non-commercial interests are underrepresented.\textsuperscript{128} The CDT argues that ICANN has failed to achieve the vision of a new form of international, non-governmental, bottom-up, consensus driven, and self-organising structure for key Internet functions.\textsuperscript{129}

6.3 ICANN’s achievements

The US Department of Commerce White Paper envisaged a new framework for DNS management that would address the following issues: competition in domain naming registration; resolution of conflicts between trademark owners and domain name holders; a more formal and robust management structure for the Internet; participation by non-US stakeholders in Internet co-ordination; and the addition of new top level domains. It was also envisioned that the governing board of the private non-profit corporation that would assume responsibility for managing the DNS would reflect the international character of the Internet, and have a work style defined by bottom-up and consensus-based decision-making.\textsuperscript{130} In respect of the foregoing, ICANN has achieved the following: (1) Network Solutions Inc.’s monopoly has been ended and there is more competition in the domain name registration business.\textsuperscript{131} (2) The cost of

\textsuperscript{126} Mueller, M., Ruling the Root, Internet Governance and the Taming of Cyberspace (2002), Chapter 11.  
\textsuperscript{127} Mueller, M., ‘ICANN and Internet Governance: Sorting through the debris of ‘self-regulation’’, supra, N. 125.  
\textsuperscript{129} Ibid. http://www.atlanticroot.com/cdtresponse.html 
registration has declined significantly from an average of US$70 to US$10 per annum. (3) The Uniform Dispute Resolution Policy (UDRP) was developed with the support of WIPO, and some 4000 cases have been resolved more quickly and at a lower cost than conventional litigation. (4) In terms of formality, ICANN is an improvement over the IETF and the W3C, as the latter two are unincorporated bodies with no legal personality. (5) Participation by non-US stakeholders in Internet co-ordination is manifested in the composition of the ICANN board – prior to the 2003 reforms 13 out of the 19 Directors were not US citizens. (6) Seven new top level domains were introduced.

6.4 ICANN’s problems

In February 2002, then ICANN President Stuart Lynn broadly categorised ICANN’s problems into three areas: too little participation by critical entities, such as: the infrastructure providers of the Internet, major users, the technical community, and national governments; too much focus on process; and too little funding to provide quality services. The core of the Internet infrastructure consists of 13 root name servers, which are hosted by a number of Government and private institutions. Ten are in the US, and one each are in the UK, Sweden and Japan. After two years of discussion, ICANN has not yet entered into agreements with the root name server operators. Under the terms of ICANN’s contract with the US Department of Commerce (DoC), ICANN has to sign contracts with all 243 country code top level domain (TLD) registries before it can assume control over the A-root server. At the end of 2001, ICANN had entered into only one agreement, governing the Australian country code TLD.

Lynn candidly admitted that: ‘The vast majority of the business community . . . has chosen not to participate in the ICANN process. . . . outside of those registries and registrars who are contractually committed, broad participation by those commercial entities that most depend on a reliable Internet has not been forthcoming. . . . [T]he ICANN policymaking process is impoverished by the absence of most of the entities with the greatest direct interest in DNS stability and those whom its decisions will most directly impact . . .’

ICANN has also not been able to secure adequate and long-term funding sources. The initial funding for ICANN was provided by loans from US technology companies. This led to questions about the undue influence of

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133 Ibid.
135 Lynn, supra, N. 132.
these companies over ICANN policy-making. There is also resistance to ICANN’s efforts to generate funds from domain name registrations. For example, European TLD registries, including .uk operator Nominet, are refusing to pay fees they consider unfair.136

In 2001, companies dissatisfied with ICANN’s TLD procedures launched competing systems. New.net Inc. offers alternative (and ICANN-unapproved) domain names, and was able to sign up BulkRegister.com (ranked no.4 in terms of market share) as a reseller.137 A German group called the Business Oriented Root Network (BORoon), is also offering alternative domain extensions and is establishing its own root server. BORoon’s CEO, Pascal Bernhard, claims (somewhat implausibly) that it is not seeking to compete with ICANN but intends to work with it. ICANN has accused these renegade registries of trying to break the Internet.138

6.5 ICANN reforms
On 24 February 2002, Lynn announced his proposals to reform ICANN. Lynn declared that the choice of a totally private model was an overreaction and was not workable. ‘ICANN was to serve as an alternative to the traditional, pre-Internet model of a multinational governmental treaty organization. I have come to the conclusion that the original concept of a purely private sector body, based on consensus and consent, has been shown to be impractical . . . But I am also convinced that, for a resource as changeable and dynamic as the Internet, a traditional governmental approach as an alternative to ICANN remains a bad idea.’139

Lynn proposed that from a purely private sector organisation, ICANN should evolve into a ‘global public-private partnership’. This new partnership would be achieved by a board of trustees with 15 members (from the current 19 directors). 10 would be At Large trustees and 5 Ex-oficio trustees. The most controversial proposals involved the selection of the 10 At Large trustees: (1) 5 would be nominated by governments, representing different geographic regions, and confirmed by the Board of Trustees. Previously, there were no government representatives in the ICANN Board; (2) 5 would be nominated by an open Nominating Committee process and confirmed by the Board of Trustees.140 Lynn’s proposal would eliminate direct election by the public at large, first attempted via online voting in 2000.141 According to Lynn, national government participation is ‘essential to end the Sisyphean effort of searching for a workable public

137 Murphy, supra, N. 134.
139 Lynn, supra, N. 132, emphasis added.
140 Ibid.
accountability mechanism for ICANN. Three years of effort have proven that a global election of ICANN Board members by an entirely unknown and self-selected membership is not a workable solution to the problem.  

There have been major changes to the proposals put forward by Lynn in 24 February 2002. Building upon the feedback received on the proposals, an ICANN Evolution and Reform Committee (ERC) drafted a Blueprint for Reform. The ICANN Board of Directors adopted the Blueprint at its meeting in Bucharest on 28 June 2002. The transition to the new structure began in December 2002, and is a work in progress. ICANN also adopted new Bylaws that took effect on 26 June 2003. The details of the Blueprint and the new structure will not be discussed at length in this paper. However, it is useful to highlight three key points:

a. **Government representation** – The proposal for Governments to nominate five directors has been dropped. There has been no further talk of a ‘global public-private partnership’. Governments will continue to participate through the GAC. The GAC will be represented in the ICANN Board by one of six ‘non-voting Liaisons’ (Art. 6, Sec. 9, Bylaws). The Blueprint states as one of ICANN’s core values that it should: ‘[a]ct with sensitivity to the public interest and related governmental concerns, so that the need for direct governmental action is minimized’. Under Art. 1, Sec. 2 of the new Bylaws, one of the core values of ICANN is that it remains rooted in the private sector but recognises that ‘governments and public authorities are responsible for public policy and duly taking into account governments’ or public authorities’ recommendations.’

b. **Global policy role** – ICANN has dropped all pretence that it is performing only technical and operational functions. Previous ICANN practice had been to deny or downplay its policy role. The Blueprint states: ‘ICANN, today, inevitably has a global policy role. That is quite different than the early days of the Internet before commercialization. . . . ICANN provides a forum where policy development can occur through a process that strives to achieve reasonable consensus wherever it can, and move forward in instances where the consensus process is deadlocked.’ The only limitation to this policy role is that it ‘should be limited to those policy areas that are reasonably related to ICANN’s technical mission’. Under Art. 1, Sec. 1 of the new Bylaws, ICANN ‘coordinates policy development reasonably and appropriately related to these technical functions’. The technical functions include the allocation and assignment of (i) domain names, (ii) internet protocol addresses

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142 Lynn, supra, N. 132.
145 ICANN: A Blueprint for Reform, supra, N. 143.
146 Ibid.
and autonomous system numbers, and (iii) protocol port and parameter numbers. For better or for worse, ICANN has now staked its claim in the policy realm.

c. **Accountability** – This hobby-horse of ICANN critics, is dealt with by a new Office of the Ombudsman (Art. V, Bylaws) and by an independent review process (Art. IV, Bylaws).

These new arrangements are unlikely to satisfy ICANN critics like Froomkin and Mueller.

### 7 Insights from international banking

‘How does a medium without borders co-exist in a territorial polity? How does a supranational order cope with territorial boundaries? These questions are at least as old as the Holy Roman Empire.’

Lack of accountability and democratic legitimacy form the bedrock of the legal critique against ICANN. The experience of international banking demonstrates that global networks may require unorthodox strategies that fit awkwardly (if at all) with traditional political and legal concepts.

According to Sommers: ‘The problems concerning sovereignty and the Internet are a subset of a more general issue: How does the law of a state deal with communities not defined by that state? How do such communities govern themselves? These problems are old ones with many manifestations. The Internet is merely another battleground for some old wars.’ Sommers suggests that the relationship between autonomous communities and the state is characterised by co-operation, and not by irreconcilable conflict or rigid separation. ‘The multinational corporation x x x dates back to the beginning of the twentieth century. Multinational religious communities are at least as old as the Catholic Church. The correspondent banking network dates back to the Renaissance. Many of these communities – even the international or virtual communities – derive strength from the state . . . The international banking community, of ancient lineage, is a good example of such a virtual community.’

For example, the international letter of credit is governed by norms codified in the Uniform Customs and Practice for Documentary Credits (UCP) of the International Chamber of Commerce (ICC). Most states have nonetheless subjected the international banking community (and letters of credit) to municipal law. However, the international banking community does not complain because this law: (1) establishes the required

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147 Ibid. See also, ICANN Bylaws.
149 Ibid.
150 Ibid., emphasis added.
framework for enforceability; (2) is sensitive to the needs of bankers and
business; and (3) is harmonised with international business practice.151

Almost one-third of total bank assets are now international in character. 
While international banking is on the rise, banking regulation has retained 
its primarily domestic character.152 However, efforts are under way to 
harmonise banking laws and to enhance international co-operation. The 
EU began with its ‘single passport scheme’ for banks licensed by regulators 
in its member-countries. With the UK as a notable holdout, the EU has 
advanced with the establishment of a European Central Bank and a 
common currency. Across the Atlantic, the North American Free Trade 
Agreement (with the US, Canada, and Mexico as parties) gives banks from 
each of the member nations access to the banking markets of other 
member nations.153

There is no global regulator for the international banking industry. The 
closest equivalent to a global regulator for banking is the Basel Committee 
on Banking Supervision. The Basel Committee has a narrow focus – the 
regulation of the world’s largest international banks. The central bank 
governors of the G10 nations established the Basel Committee in 1974, 
after two large international banks failed. The founding mandate of the 
Committee was a simple press release issued through the Bank of 
International Settlements. The Committee aims to establish minimum 
standards of financial regulation and monitoring adherence to those 
standards by member countries. It also serves as ‘a forum for on-going 
co-operation between member countries on banking supervisory matters’. The 
Committee issues policy statements for effective banking supervision 
which serve as guidelines for member countries and for non-member 
countries whose members are striving for global acceptance. The re-
commendations of the Committee are not legally enforceable, and its policy 
statements are considered ‘soft law’.154

In 1993, an informal network called a Tripartite Group was created. The 
Group was composed of representatives of the Basel Committee, the 
International Organization of Securities Commissioners (IOSCO), and 
the International Association of Insurance Supervisors (IAIS).155 Both 
IOSCO156 and IAIS157 were established as private organisations. The 
members of IOSCO and IAIS are not states, but Government agencies. The

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156 Incorporated by a private bill of the Quebec National Assembly. The IOSCO secretariat is in Montreal. See Zaring, *ibid*.
157 Incorporated in the state of Illinois as a non-profit organisation. See Zaring, *ibid*.
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Tripartite Group aims to address issues associated with the international convergence of banking, securities and insurance industries. This was an acknowledgement that the traditional boundaries of financial regulation were getting blurred. These steps were said to represent the "building blocks of the international regulatory convergence process." Zaring has identified a number of common characteristics among the Basel Committee, IOSCO and IAIS: (1) Substate actors – The members of these organisations are not national governments, but substate actors; (2) Informal creation – The organisations were not created by treaty or ratified charter; (3) Flexibility – The organisations have an informal approach to internal rules and restrictions; (4) Decentralisation – The organisations are characterised by decentralised organisation and action; (5) Secrecy – The organisations conduct much of their business in secret; (6) Ambiguous legal force – None of the organisations can promulgate binding laws or regulations. Implementation of the ‘gentlemen’s agreements’ occurs at the national level.

ICANN’s building blocks are different from that of the Basel Committee, IOSCO, or IAIS. However, there is a resemblance in key respects: (1) Substate actors – ICANN is also composed of substate actors. The entities represented in the ICANN structure are principally private parties. Government officials who participate in the GAC do so as representatives of a particular Ministry or Department (i.e., the US Department of Commerce, or the UK Department of Trade and Industry). (2) Informal Creation – ICANN was not created by treaty or ratified charter. (3) Flexibility – Compared to a treaty organisation like the ITU, ICANN has a more flexible organisation and rules. (4) Ambiguous legal force – ICANN does not promulgate binding laws or regulations.

Internet transactions may be difficult to compare with international banking transactions, as the latter can often be characterised as ‘elephant’ to ‘elephant’ transactions. Letters of credit are again a good example, where two or more banks effectively act as intermediaries to the cross-border seller and buyer. The experience of international banking suggests some insights on how global Internet governance is evolving. Self-regulation is the first regulatory form to emerge both at the domestic and global level. As Internet use has became more important to domestic economies, there is a corresponding increase in the level of Government regulation. Government regulation and self-regulation of the Internet need not be characterised by irreconcilable conflict or rigid separation. The cross-border aspects of Internet transactions result in legal ambiguities. To respond to these ambiguities, the level of global co-operation among (public and private) regulators has increased. This co-operation

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158 Hall, supra, N. 152 at p. 229.

159 Zaring, supra, N. 155, at pp. 301–302.

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may result in new forms of global self-regulation, and potentially, agreement among Governments on a new global regulatory framework. In the absence of an international treaty to underpin this global co-operation – contracts and soft law will fill the void. Global co-operation by public and private regulators will tend to focus on the largest international market players.

There is a tendency to hype-up the international aspect of the Internet. However, it should not be forgotten that the Internet is also a medium for domestic transactions. It should not be surprising that in the UK, the top e-commerce sites are those of UK companies.160 Thus, the Internet will always possess a significant domestic character that makes it susceptible to national regulation. Domestic Internet regulation should not be a problem provided these are sensitive to the needs of Internet users and e-commerce, and is harmonised with international business practice.

8 Lessons from ICANN

Life lies in a narrow band somewhere between the two extremes of absolute rigidity and absolute chaos. Any living thing, or living organization, has to position itself in the life zone.161

The Internet has changed considerably. To simplify analysis, it is useful to distinguish between the ‘embryonic period’ and the ‘commercial period’. The precise dividing line is debatable. In 1987, the National Science Foundation launched the NSFNET, which linked 4,000 research institutions. In 1990, the Department of Defense phased out ARPANET. In 1992, the US Congress then gave NSF authority to allow commercial activity on the NSFNET.162 The following table illustrates the growth of websites in the .com domain:

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Table 4. Percentage of .com web-sites over time

<table>
<thead>
<tr>
<th>Date</th>
<th>Number of websites (all domains)</th>
<th>.com websites (percent of all websites)</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1993</td>
<td>623</td>
<td>4.6</td>
</tr>
<tr>
<td>December 1994</td>
<td>10,022</td>
<td>18.33</td>
</tr>
<tr>
<td>June 1995</td>
<td>23,500</td>
<td>31.3</td>
</tr>
<tr>
<td>January 1996</td>
<td>100,000</td>
<td>50</td>
</tr>
<tr>
<td>June 1996</td>
<td>230,000</td>
<td>68</td>
</tr>
<tr>
<td>January 1997</td>
<td>650,000</td>
<td>62.6</td>
</tr>
<tr>
<td>January 2000</td>
<td>32,000,000</td>
<td>78</td>
</tr>
</tbody>
</table>

It was not until January 1996 that .com sites comprised 50% of websites in all domains. Thus, it can be fairly said that the ‘embryonic period’ covers the 1970s up to 1996. The ‘commercial period’ covers 1996 to the present. While the IETF and the W3C were established during the embryonic period, ICANN was established during the commercial period.

8.1 The embryonic Internet

The embryonic Internet originated as part of US research and development efforts to gain technological and military superiority during the Cold War. The ‘community’ was relatively small and homogeneous. In the context of a Cold War environment, there was implicit political and ideological alignment. The community spirit was essentially one of collaboration, not competition. The Internet was not in the mainstream of (US) society, and therefore, there were no open policy debates on its impact on society. The Internet community’s small size, homogeneity, and collaborative spirit fostered a high level of trust. The community had a large degree of autonomy in terms of technical issues (i.e. development of standards) because of its superior expertise. However, despite the community’s relative autonomy, there was a point of control, the US Government agencies which directed, funded and awarded the research contracts. Thus, effective incentives and sanctions were available from both the community (i.e., inclusion and exclusion) and in appropriate cases the Government (i.e., award and termination of research contracts).

8.2 The commercial Internet

The commercial Internet is radically different. There are more Internet users (today estimated at 500 million), and the distribution of users is

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becoming more international.\textsuperscript{164} In addition to the US, the following countries have household Internet penetration rates exceeding 50%: Australia (51%), Denmark (51%), Hong Kong (56%), Netherlands (52%), New Zealand (52%), Singapore (60%), South Korea (58%), Sweden (57%), and Taiwan (50%).\textsuperscript{165} As the Internet has become more ‘infrastructural’, it has attracted more Government regulation.\textsuperscript{166} But contrary to Post’s dire predictions of the ‘twilight of sovereignty’, astute Governments are embracing the Internet and computer technology as a source of competitive advantage (productivity), wealth (e-commerce) and power (surveillance). That sovereign states are weaker because of the Internet is not self-evident. Maher identified ‘excessively diverse interests’ as one of the potential causes of the failure of a standards organisation.\textsuperscript{167} This is a problem with ICANN particularly in the area of DNS policy. An ICANN working paper on the policy development process concludes that:

Consensus-based, bottom up policy development has largely been effective in the area of addressing policy. A major reason is that the ASO [Address Supporting Organization], unlike the DNSO [Domain Name Supporting Organization], is composed of relatively homogenous organizations, which have evolved to become more alike in their thinking and policy deliberations than they are different. The RIRs [Regional Internet Registries] have long histories of operation and cooperation, well-defined and active memberships, and well-developed cultures emphasizing the resolution of issues through discussion and consensus. These are not features of the DNSO, and thus the consensus policy-development effort has been considerably more difficult in the names area.\textsuperscript{168}

\textit{ICANN compared to the IETF and W3C}

Self-regulation by the IETF and the W3C has been less controversial for the following reasons: (1) Timing – By the time the Internet became ‘commercial’, the IETF and W3C were well entrenched, and the contribution of both organisations (or key personalities within the organisations) to the development of the Internet was well recognised. ICANN was...
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a relative latecomer. (2) Expectations – The consultation process leading to the White Paper, and the White Paper itself, created unreasonably high expectations about ICANN. Both the IETF and the W3C were established with a relative lack of publicity. (3) Constituency – The IETF and W3C maintain a compact, highly specialised, and relatively homogeneous constituency. On the other hand, ICANN was envisaged (at least initially) to have the global Internet community as its constituency. (4) Process – Until the recent adoption of a Policy Development Process in its new Bylaws, ICANN lacked the equivalent of the IETF’s Internet Standards Process and the W3C’s Process Document. The absence of a well-defined policy process compounded the already contentious nature of the DNS issues, and created an opportunity for critics to attack the legitimacy of ICANN decisions. (5) Object of regulation – IETF and W3C decisions were seen as largely technical in character. In contrast, ICANN was perceived by some to have usurped global policy making power, making it a lightning rod for all manner of legal and political objections.

9 Conclusion

'No amount of good code can overcome harmful laws and bad policy'.

The problems of ICANN are complex, and stem from a number of factors that include: the timing of its creation, high expectations, a poorly defined constituency, and the absence until recently of a formal policy development process. Compared to the relatively homogeneous and US-centric 'embryonic Internet', the 'excessively diverse interests' inherent in the commercial Internet will continue to be a major challenge to ICANN. In its Blueprint for Reform, ICANN took the bold step of affirming that it has a global policy role. This role is intended to be limited to those policy areas that are reasonably related to ICANN’s technical mission. Although controversial, this is a step that deserves support from the global Internet community. It is also a challenge to ICANN’s critics to develop a credible alternative to ICANN. In order to succeed, ICANN will require strong leadership. It is too early to assess the reforms that were initiated in 2002, and it remains to be seen whether the new Policy Development Process will stand the test of time.

Self-regulation to date by the IETF, the W3C and ICANN should ultimately be judged by the result. No one has seriously argued that a US Government agency, or an EU body, or an inter-governmental body like

169 Excerpt from the advocacy group Public Knowledge ‘dedicated to fortifying and defending a vibrant ‘information commons’ http://www.publicknowledge.org/news/media/media-responses.php
the ITU could have done a better job in developing the standards that made the Internet and the World Wide Web possible. So far, the result speaks for itself – *res ipsa loquitur*. The work of the IETF, the W3C and ICANN has delivered tangible results in terms of improvements in the Internet’s stability, inter-operability, technical performance, reliability, range of features, and simplicity.