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Internet governance (IG) as a diplomatic priority

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Declaration

I hereby declare that this dissertation is my own original work.

Virginia L. Paque
18 June 2013, Edgerton, Wisconsin

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Dedication

To the Pleiades and DiploTeam.

Abstract

This dissertation demonstrates that IG is a significant, emerging diplomatic process that should be studied and addressed seriously by diplomats to prepare them to manage the implications it has for future impact on global governance of the Internet. It does this by providing definitions of both the *Internet* and *governance*, and a basic overview of the antecedents of Internet policy processes. This serves to show the complexities and cross-linkages involved in the growth of the Internet, and the development of Internet governance (IG) as a global process area. Briefly exploring how IG is different from other processes where diplomats act, it introduces the idea of multistakeholder policy-shaping for IG. A review of the main issues in IG, classified in the broader areas of infrastructure, legal, cybersecurity, economic, sociocultural, and development issues, offers a foundation for understanding the importance of IG, how the issues interact, and how they affect the global IG policy environment. An overview of the main processes and venues where IG is addressed underscores the multiplicity of fora where issues are addressed, and the need to achieve crossover between policy and issue silos. These conditions all point to the important potential role for diplomats in IG.

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Glossary of abbreviations, acronyms, and initialisms

ACTA	**Anti-Counterfeiting Trade Agreement**
AOL	**America OnLine**
APC	**Association for Progressive Communications**
ARPANET	**Advanced Research Projects Agency Network**
AT&T	**American Telephone and Telegraph**
BBS	**Bulletin Board System**
CERN	**European Centre for Nuclear Investigations**
CERT	**Computer Emergency Response Team**
CIX	**Commercial Internet Exchange**
CoE	**Council of Europe**
Cyclades	**not an acronym, a name taken from the Greek**
DCAF	**Democratic Control of Armed Forces**
DDoS	**Distributed Denial of Service**
DPI	**Deep Packet Inspection**
DNS	**Domain Name System**
DNSSEC	**Domain Name System Security Protocol**
DoD	**Department of Defense**
DRM	**Digital Rights Management**
enQuire	**not an acronym, but the name of a software project written in 1980**
GAC	**Governmental Advisory Committee (part of ICANN)**
gTLDs	**generic Top Level Domains**
HTML	**HyperText Markup Language**
IANA	**Internet Assigned Numbers Authority (IANA)**
ICANN	**Internet Corporation for Assigned Names and Numbers**
ICC	**International Chamber of Commerce**
ICT	**Information and Communication Technology**
IDN	**Internationalised Domain Name**
IEC	**International Electrotechnical Commission**

IEEE	**Institute of Electrical and Electronics Engineers**
IETF	**Internet Engineering Task Force**
IG	**Internet governance**
IGF	**Internet Governance Forum**
INTERNET	**INTERconnected NETworks**
IP	**Internet Protocol**
IPO	**Initial Public Offering**
IPR	**Intellectual property rights**
IPv4	**Internet Protocol version 4**
IPv6	**Internet Protocol version 6**
IRC	**Internet Relay Chat**
ISOC	**Internet Society**
ISP	**Internet Service Provider**
ITR	**International Telecommunication Regulations**
ITU	**International Telecommunication Union**
JANet	**Joint Academic Network**
kbps	**kilobits (thousands of bit) per second**
mbps	**megabits (millions of bits) per seconds**
MILNET	**Military Network**
MIT	**Massachusetts Institute of Technology**
modem	**MOdulate-DEModulate**
MP3	**Music file MPEG Layer 3**
MSP	**Multistakeholder process**
MUD	**originally Multi-User Dungeon, later both Multi-User Dimension and Multi-User Domain**
MSP	**Multistakeholder process**
NIC	**Network Information Center**
NNTP	**Network News Transfer Protocol**
NSF	**National Science Foundation**
NSFNET	**Net National Science Foundation Network**
OECD	**Organisation for Economic Co-operation and Development**

OSCE	**Organization for Security and Co-operation in Europe**
OSI	**Open Systems Interconnection**
PC	**personal computer**
PGP	**Pretty Good Privacy**
PKI	**Public Key Infrastructure**
PS	**Packet-switching**
RFC	**Request for Comments**
RSRE	**Royal Signals and Radar Establishment**
SETI@home	**the Search for Extraterrestrial Intelligence at Home**
SOPA	**Stop Online Piracy Act**
Spam	**adopted from the brand name SPAM (Hormel brand Spiced Ham)**
SRI	**Stanford Research Institute, now called SRI International**
SSL	**Secure Sockets Layer**
TCP/IP	**Transmission Control Protocol/Internet Protocol**
TRIPS	**Trade Related Aspects of Intellectual Property Rights**
UCLA	**University of California, Los Angeles**
UCSB	**University of California, Santa Barbara**
UDHR	**Universal Declaration of Human Rights**
UDRP	**Uniform Domain-Name Dispute-Resolution Policy**
UK	**United Kingdom**
UN	**United Nations**
UNODC	**United Nations Office on Drugs and Crime**
UNCITRAL	**United Nations Commission on International Trade Law**
UNESCO	**United Nations Educational, Scientific and Cultural Organization**
UNIX	**not an acronym, but an Open Group brand for a computer operating system, based on a play on words for MULTICS multitasking, multi-user computer operating system**
US	**United States (US when used as an adjective)**
USA	**United States of America (USA when used as a noun)**
USENET	**slang for use the net**

USSR	**Union of Soviet Socialist Republics (now Commonwealth of Independent States)**
UUCP	**Unix-to-Unix Copy**
VoIP	**Voice over Internet Protocol**
W3C	**World Wide Web Consortium**
WCIT	**World Conference on International Telecommunications**
weblog	**for web + blog or online blog**
WELL	**Whole Earth 'Lectronic Link**
WGIG	**Working Group on Internet Governance**
WIPO	**World Intellectual Property Organization**
WSIS	**World Summit on the Information Society**
WTO	**World Trade Organization**
www	**World Wide Web**

Chapter 1: Introduction

Internet governance (IG) – the global strategy to manage the Internet – as an area of study for diplomacy, is unique in that its origins and development include relatively recent technical and access factors that offer a complicated challenge for control by states, and cross traditional state boundaries. 'The Net thus radically subverts a system of rule-making based on borders between physical spaces, at least with respect to the claim that cyberspace should naturally be governed by territorially defined rules' (Johnson and Post, 1997). Its parts and pieces – the users, the service providers and applications, the cables and hardware – are both physically located and subject to the laws that govern them. Yet the Internet as a phenomenon, as a Gestalt, seems not to be geographically anchored to any one state, but rather to be a borderless global community, as the Internet was considered to be by academics in the 1990s (Goldsmith and Wu, 2006). The Internet's complex web of interconnections covers the whole globe. As such, the Internet affects the communications, legal, economic, and sociocultural dimensions of every country's political and governance structure. However, this perception of borderlessness has changed, at least from a legal viewpoint. In what Professor Michael Geist calls 'CyberLaw 2.0', 'the borderless Internet becomes bordered, bordered laws become borderless' (Geist, 2003).

In such a dynamic topic, there is a risk that before this dissertation is finished, it will be outdated. IG is changing daily, and it is impossible to stay current on all facets of the issues. Some issues overlap, positions change, and positions vary, depending on where, how, why, and when they are presented.

Inconsistencies, even apparent incoherence, cannot be avoided. Constant study and vigilance are important, but even so, flexibility and adaptation are indispensable at every stage. For the same reason, a traditional review of the literature will not serve as an introduction to the dissertation topic. Rather each area will refer to recent, principally online, resources[1] that address the relevant point. Examples will be drawn from discussions in current IG fora, both formal and informal, to illustrate these points.

This thesis will present a sampling of issues and their complexities to support the position that IG is a new area of diplomacy, an area requiring attention, study, strategic thinking, and due diligence by governments to be carried out by their diplomats.

As this dissertation will show in reviews of the issues, actors, and fora in Chapter 4, there is no clear definition of where the organisational structure of the Internet can be comprehensively addressed. No one country can manage it alone, nor is there a global body or an international body with the mandate to govern the Internet. 'One problem with Internet governance as a concept … is that there is no natural institutional home for all of the issues that are involved' (Mathiason, 2009, p. 133).

To complicate matters, from its beginnings, IG has been treated as a multistakeholder process, involving not only governments, but civil society, the private sector (business), and academia as well as international organisations. This research will delve into the background of IG, in particular, the main IG issues (infrastructure, legal, economic, security and socio-cultural/developmental), the principal differences from other diplomatic processes (multistakeholder complexities, discussion fora processes), and the importance of equipping knowledgeable diplomats to work in the area of IG to ensure coherent policy.

[1] In a rapidly changing area such as IG, the principal papers and texts are available online almost immediately. The need to stay abreast of current events requires this immediacy, in ways that are similar, but even more accentuated than in other areas of diplomacy.

Many related topics are outside of the purview of this dissertation. There is a need to define whether IG is in fact a separate diplomatic process – such as humanitarian diplomacy, climate change diplomacy or refugee diplomacy – that requires dedicated study, analysis, and treatment. If so, what areas of IG should be addressed in international arenas, and which are issues of national concern involving state sovereignty? Where should IG matters be addressed? In the United Nations (UN)? (The UN as an intergovernmental body is not a multistakeholder organisation.) Can the UN – or one of its bodies such as the International Telecommunication Union (ITU) – deal with IG? Is it appropriate that questions regarding Internet addresses and Domain Name nomenclature and classification continue under the control of a private corporation in the United States of America (USA): the Internet Corporation for Assigned Names and Numbers (ICANN)? How does this complexity of jurisdiction affect the IG issues that surround ICANN's mandate? What diplomatic process involving states can address the subject of IG in a multistakeholder process? If diplomats should indeed address the issue of IG, how can they be prepared to do so? And, of course, how can a search for these answers be undertaken? This dissertation will lay the groundwork indicating the justification and basic areas of knowledge necessary for diplomats to address these questions.

States, or their governments, as part of their mandate, regulate telecommunications within their borders. However, throughout most of history, communications have not been restricted by borders. Messages have been delivered across international borders by runners, carrier pigeons, and on horseback, even when smoke-signal (visible) or drum (audible) communications were not easily transmitted over long distances. International communications became an issue for state diplomacy (in addition to the obvious ramifications for the practice of diplomacy (Nickles, 2003) with the invention of the telegraph. The International Telegraph Union began in 1865, to regulate the use of the telegraph as an international medium, and updated its name to the currently used International Telecommunication Union in 1932. The ITU has now evolved to include more areas related to the Information and Communication

Technologies (ICT) sector, which comprises the telecommunication technologies that support communications and the transport of information. With 193 member countries and approximately 700 private sector members, the ITU became a formal part of the UN in 1947. The ITU's main activities facilitate discussions on cross-border issues of radio communications (including communications satellites), standardisation (to ensure that protocols and technical norms remain compatible), and development (including emerging markets and corporate social responsibility).

The lack of expertise on the part of some lawmakers has caused bloggers and other critics to write, for example, that 'When people who have no idea how the internet actually works start drafting laws, this is what happens...' (Wolford, 2013) and an open letter to the United States (US) Congress, entitled: 'Dear Congress, It's no longer OK to not know how the Internet works' (Kopstein, no date). Even more than domestic national guidelines, international guidelines must be carefully crafted and negotiated, to ensure that the principles espoused by the UN, the ITU, and the founders of the Internet are kept alive. A lack of clear and timely communication, alongside a lack of analysis of the harmonisation of different national and regional policies, guidelines, and actions, increases the possibility of complications and risks, for example, in security issues, if jurisdictional or other legal conflicts arise.

Among these risks are social confrontations, such as the reaction to the Stop Online Piracy Act (SOPA) and Anti-Counterfeiting Trade Agreement (ACTA)[2] movements (Black, 2012), the Arab Spring (Anderson, 2011), and the possibility of unforeseen fragmentation of the Internet into national, regional, or other walled gardens.

Fragmentation could arise from unresolved differences in approaches to access and human rights, as addressed, for example, by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO, no date) in the follow-up to the World Summit on the Information Society (WSIS). These differences may arise from technical and government control issues in talks and treaties, or their ramifications for sovereignty (or perceived sovereignty)

[2] See Footnote 22.

(UNESCO, no date). As Jonah Hill, former fellow at the Belfer Center for Science and International Affairs, notes in his paper on Internet fragmentation, while the Internet currently operates in an open and unified manner, policymakers, in his case from the USA, must take care to address the challenges to avoid fragmentation in the future (Hill, 2012).

Richard Hill, blogger and former counsellor for the ITU, in an online discussion on the Internet Governance Caucus mailing list, sees two sides to policymakers learning about Internet issues, saying that: 'This raises two important points: 1) maybe more needs to be done to explain why certain technical features impose certain policy choices. 2) But be careful what you wish for (in this case that policymakers understand that they have no choice) because your wish may be granted, and policymakers might then impose alternate technology or prohibit a technology' (Hill, 2013).

However as Grigori Saghyan, vice-president of the Internet Society Armenian Chapter, notes in that same discussion, there is a need for expertise that crosses policy and issue areas: 'I am sure, that against cyber-crime there are specialized structures, and appropriate intergovernmental organization – Interpol – crime is crime, and ITU can act here only as a technical expert, can say – not the best one. ITU can give its expertise on radio frequencies, fiber optic communications, xDSL technology (level 1, maybe 1.5 of ISO model). On the higher technological levels better to ask for expertise from ICANN structures[3] – IETF [the Internet Engineering Task Force], W3C [the World Wide Web Consortium]. On the highest level – freedom of speech, human rights, there are European Parliament, UN, NGOs [non-governmental organizations] from real democratic countries, their governments. ITU do not have enough expertise in this field, you can find there technical specialists in radio frequencies and telecom standardization, but not experts in cyber-crime and freedom of speech, for sure' (Saghyan, 2013).

[3] Here the author probably means structures that address ICANN-related issues, as these organisations are not part of ICANN.

Hill and Saghyan both express typical concerns about diplomats and members of international organisations who are involved in decision-shaping and decision-making processes, but do not have the wide range of expertise necessary to carry out the overarching obligations of policy negotiations that diplomats and governments face.

If the diplomats and lawmakers in large, dominant, developed countries such as the USA, where the Internet had its beginnings, face these challenges in mastering the complex technical, legal, sociocultural issues involved in IG, it is possible, if not probable, that this problem is widespread in developing countries, too, and in the rest of the world as well.

This dissertation will start by offering a basic overview of the antecedents and history of Internet policy processes, a timeline, and a definition of governance in Chapter 1. Chapter 2 will examine the complexities involved in the concept of IG as a global policy issue, its evolution, and the main topics it addresses. It will also briefly explore how IG is different from other diplomatic processes, and analyse the UN Internet Governance Forum (IGF) as an example of a global IG forum. Chapter 3 will review the main issues inherent in IG, as a foundation for understanding the importance of IG, how the issues interact, and how they affect the global environment. An overview of the main processes and venues where IG is addressed will be discussed in Chapter 4. Diplomatic priorities will be proposed for analysis in Chapter 5 before proceeding to the conclusion and recommendations, which will summarise the need for diplomatic training in IG issues.

The dissertation will demonstrate that IG is a significant, emerging diplomatic process that should be studied and addressed seriously by diplomats to prepare them to manage the implications IG has for future impact on global governance of the Internet, as appropriate and necessary to carry out their functions.

Chapter 2: What is the Internet? What is governance?

2.1 What is the Internet?

Many experts define the Internet as a network of networks (University of North Carolina, 2008; InterConnections, 2012), which not only connects computers to each other, but also connects computer networks to each other. A computer network is a set of computers which communicate with each other through some medium such as a coaxial cable, a fibre optic cable, infrared frequency, telephone lines, wireless frequencies, or other forms, in order to share resources and information. The Internet is a global connection of interconnected computer networks. However, not all computer networks are connected to the main global network known as the Internet. Some computer networks are isolated, and communicate in a smaller network.

The word Internet is an acronym for INTERconnected NETworks. This network uses a common protocol called the Transmission Control Protocol/Internet Protocol (TCP/IP) as a medium of communication (Computación Aplicada al Desarrollo, no date). Depending on whom one talks to, the Internet began as either an academic or a military project in the USA, in the 1960s, during the Cold War between the USA and Russia (Abbate, 2000; *The Economist*, 2000).

US academics, working across university and geographical boundaries shared information. With funding from the Advanced Research Projects Agency Network (ARPANET), in 1969, four universities across the USA first communicated with each other. Two years later, 40

computers were connected. The growth of this network was so rapid that the preliminary communication system became obsolete, and two principal investigators, Vinton Cerf and Robert Kahn, created the TCP/IP suite, which became the standard of communications for information networks, and is still in use today (Living Internet, no date).

This network continued to grow freely and openly, allowing connection by any academic or research organisation. In 1983, the military function of the ARPANET separated and became the Military Network (MILNET), and the National Science Foundation (NSF) also created its own information network called NSFNET, which would later absorb ARPANET, creating one larger network for scientific and academic purposes. The development of these networks gathered momentum, joining with NSFNET and becoming the first steps of what is now known as the Internet. In the 1970s, France worked on its Cyclades [not an acronym, a name, taken from the Greek] project, which was not long-lived, but did introduce an important concept: that the host computer, rather than the network, be responsible for data transmission (Chapman, 2009).

The first known trans-Atlantic connection was between the University College London and ARPANET in 1973. At the time, 75% of ARPANET traffic consisted of email.

By 1985, the Internet was well established, although not yet known to the mainstream public. At this time the author William Gibson (1984) coined[4] the term cyberspace,[5] although back then the network was basically text-based, and thus more one-dimensional than today's text/visual/audio/even tactile[6] medium. The growth of the NSFNET continued such that by about 1990, there were some 100 000 servers connected to the Internet.

[4] First used in his book *Neuromancer* in 1984 (Tech Terms, 2013). Available at http://www.techterms.com/definition/cyberspace

[5] 'Cyberspace refers to the non-physical environment created by joined computers interoperating on a network. In cyberspace, computer operators interact in ways similar to the real world, except cyberspace interaction does not require physical movement beyond typing. Information can be exchanged in real time or delayed time, and people can shop, share, explore, research, work or play' (wiseGeek, 2013). Available at http://www.wisegeek.com/what-is-cyberspace.htm

[6] Olfactory Internet was broached in a Google Nose Beta April Fool's Joke in 2013 (Google, 2013). Available at http://www.google.com/landing/nose/

At the European Centre for Nuclear Investigations (CERN),(CERN, no date) Tim Berners Lee (w3.org, no date) directed the search for a storage and data retrieval system. He revived Ted Nelson's Xanadu idea to use hyperlinks, and with the cooperation of Robert Caillau, another Internet Hall of Fame inductee, the World Wide Web (www) was conceived in 1989 (Internet Hall of Fame, no date).

The increasing importance of the Internet can be shown by the numbers of users connected to the Internet. In 1969, the Internet connected four computers, all in the state of California, in the USA. In 2012, over two billion users were online, in all regions of the world (Figure 1), on all continents.[7] This progression underlines the importance of the Internet as a global phenomenon, one that states and diplomats must understand in order to form effective strategies for its positive use as a resource for both government and citizens, and to minimise the myriad risks for both states and individuals (i.e. security/cybercrime/cyberwar, human rights/freedom of expression/privacy).

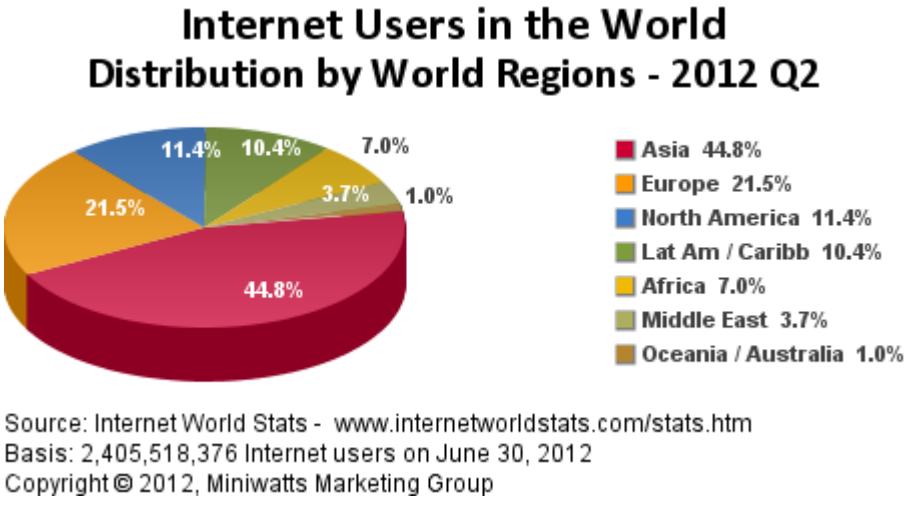

Figure 1. Demographics of Internet Users

What the Internet is used *for* defines it even more than its technical foundation does. From its early emphasis on email use, widely used functions have expanded dramatically, as shown in Table 1. Table 1 indicates who is online, what kind of devices they own, what they do

[7] For more Internet usage statistics, see: http://www.internetworldstats.com/articles/art006.htm

online on a typical day, and other data which are explored by the Pew Internet & American Life Project,[8] filling in many of the details of what the Internet is to end users. Who is online? Who is performing these activities? Note that the data refers only to adult users in the USA, and cannot be extrapolated to the entire world.

Table 1. Trends of Internet use in the USA

Use	% of adult Internet users in the USA who do this online	Survey month/day/year
Use a search engine to find information	91	2/1/2012
Send or read email	88	12/1/2012
Look for info on a hobby or interest	84	8/1/2011
Search for a map or driving directions	84	8/1/2011
Check the weather	81	5/1/2010
Look for information online about a service or product you are thinking of buying	78	9/1/2010
Get news	78	8/1/2012
Go online just for fun or to pass the time	74	8/1/2011
Buy a product	71	5/1/2011
Watch a video on a video-sharing site like YouTube or Vimeo	71	5/1/2011
Visit a local, state or federal government website	67	5/1/2011
Use a social networking site like Facebook, LinkedIn or Google Plus	67	12/1/2012
Buy or make a reservation for travel	65	5/1/2011
Do any banking online	61	5/1/2011
Look online for news or information about politics	61	12/1/2012
Look online for info about a job	56	5/1/2011
Look for ‘how-to’, ‘do-it-yourself’ or repair information	53	12/1/2012
Look for information on Wikipedia	53	5/1/2010

[8] More details about the project are available through the dedicated website at http://www.pewinternet.org/

Use online classified ads or sites like CraigsList	53	5/1/2010
Get news or information about sports	52	1/1/2010
Use	**% of adult Internet users in the USA who do this online**	**Survey month/day/year**
Take a virtual tour of a location online	52	8/1/2011
Search for info about someone you know or might meet	51	8/1/2012
Send instant messages	46	12/1/2010
Upload photos to a website so you can share them with others online	46	11/1/2010
Pay to access or download digital content online	43	8/1/2008
Look for info about a place to live	39	8/1/2006
Download music files to your computer	37	12/1/2007
Get financial info online, such as stock quotes or mortgage interest rates	37	5/1/2010
Rate a product, service or person using an online rating system	37	5/1/2011
Play online games	36	9/1/2010
Categorise or tag online content like a photo, news story or blog post	33	12/1/2008
Read someone else's online journal or blog	32	5/1/2010
Look for religious/spiritual info	32	9/1/2010
Post a comment or review online about a product you bought or a service you received	32	9/1/2009
Post comments to an online news group, website, blog or photo site	32	9/1/2010
Share something online that you created yourself	30	9/1/2010
Make a phone call online, using a service such as Skype or Vonage	30	12/1/2012
Research your family's history or genealogy online	27	9/1/2009
Participate in an online auction	26	9/1/2010
Make a donation to a charity online	25	5/1/2011
Download a podcast so you can listen to it or view it later	21	9/1/2010

View live images online of a remote location or person, using a webcam	17	9/1/2009
Use	**% of adult Internet users in the USA who do this online**	**Survey month/day/year**
Use Twitter	16	12/1/2012
Download or share files using peer-to-peer file-sharing networks, such as BitTorrent or LimeWire	15	8/1/2006
Sell something online	15	9/1/2009
Create or work on your own webpage	14	1/1/2010
Create or work on your own online journal or blog	14	5/1/2011
Buy or sell stocks, bonds, or mutual funds	11	9/1/2009
Use an online dating website	8	9/1/2009
Visit virtual worlds such as Second Life	4	9/1/2009

Source: Pew Internet (2013). Available at http://www.pewinternet.org/Static-Pages/Trend-Data-(Adults)/Online-Activities-Daily.aspx

The Internet's beginnings were firmly embedded in existing information and technology, but sparks of genius, serendipity, and innovation pushed forward the evolution of this phenomenon, as shown in the timeline of events in Table 2. The interconnection of different actors (the military, academia, governments, business, civil society, and individuals) demonstrates the Internet's strong roots in the multistakeholder process, which will be discussed further in Chapter 4. The range of topics and issues that play a part in the development of the Internet demonstrates the challenge to assimilating the complex interplay of diverse aspects. These aspects of policy and politics, government and governance, need to be understood by professionals and diplomats working in IG.

An overview of major incidents in the history of the Internet, and related concepts, illustrates its development and complexity, as well as the interlinkages between diplomatic activity and IG.

Table 2. Compiled timeline of Internet events

1836	Cooke and Wheatstone patented the telegraph. Morse code established a distant relative to the binary language of 0/1 with its system of dots and dashes.
1858	First transatlantic cables were laid, the first step towards direct instantaneous communication across the Atlantic.
1859	The largest recorded geomagnetic solar storm took down telegraph systems in North America and Europe (Scientific American, 2008).[9]
1902	The first working teleprinter was produced for use in teletype transmission(Nelson and Lovitt, 1963).
1945	Vennevar Bush conceptualised the idea of mass information storage, a Memex machine, to assist human memory. The Memex machine was never built, but was described as a desk and camera (monitor) for recording and linking information.
1957	The Union of Soviet Socialist Republics (USSR; now Commonwealth of Independent States) (launched Sputnik, considered by some to be the impetus for ARPANET and the US push for science and technology.
1962	Packet-switching (PS) networks were conceived by Leonard Kleinrock at the Massachusetts Institute of Technology (MIT) (Leiner *et al.,* 2012), allowing for secure transfer of information.
1963	The Moscow–Washington teletype hotline, popularly known as the 'red telephone', was installed to provide direct communication between the presidents of Russia and the United States (Kennedy, no date).
1969	ARPANET linked the first computers at UCLA, SRI, the University of Utah and the UCSB for discussions about US Department of Defense (DoD) projects; UNIX[10] operating system was started at AT&T Bell Laboratories (What is UNIX, 1995).
1970	ARPANET was expanded into a network.
1971	The first email was sent by Ray Tomlinson, who also implemented the use of @ for email addresses (he considered it the least-used character on the keyboard) (Internet Hall of Fame, 2012); a volunteer online organisation, Project Gutenberg, began producing e-books: digital versions of print books (Project Gutenberg, 2011).
1972	More than 50 universities and military agencies were linked to what was still considered by some to be a top secret US defence project (ARPANET); Cyclades, a French packet switching research network was created.

[9] For a description of how a similar storm would affect systems today, see http://news.nationalgeographic.com/news/2011/03/110302-solar-flares-sun-storms-earth-danger-carrington-event-science/

[10] Not an acronym, but an Open Group brand for a computer operating system, based on a play on words for MULTICS multitasking, multi-user computer operating system.

1973	The first transatlantic (and international) connection (London and ARPANET) was established; email became popular.
1974	The Transmission Control Protocol/Internet Protocol (TCP/IP) was first implemented.
1975	The email client, software to read, write, and manage email, became available.
1976	Queen Elizabeth II, of England, sent her first email from the Royal Signals and Radar Establishment (RSRE), a research facility in Malvern, Worcestershire, England (Computer History Museum, 2006).
1977	The personal computer (PC) modem[11] came into use.
1978	The first public Bulletin Board System (BBS) was launched by Ward Christensen and Randy Suess (Gilbertson, 1978); Spam was born when Gary Thuerk sent a message to 400 of the 2600 people then on ARPANET (Quigley, 2013).
1979	MUD, (originally Multi-User Dungeon, with later both Multi-User Dimension and Multi-User Domain) the earliest form of online multiplayer games, where players interact through text communications, began; USENET slang for *use the net* (still in use today), was established using Unix-to-Unix Copy (UUCP); machine-to-machine UNIX communication became possible (Lener *et al.,* 2012); News Groups, collections of discussion groups, were conceived.
1980	The enQuire[12] software project, predecessor to the World Wide Web (www) began.
1982	The first emoticon, a smiley -- :) -- was used by Scott Fahlman.
1983	ARPANET computers switched over to TCP/IP; MILNET (the Military Network, associated with ARPANET) split off from ARPANET.
1984	The Domain Name System (DNS) was launched by ARPANET (now managed by ICANN); the Joint Academic Network (JANet) was launched to connect British universities.
1985	The Whole Earth 'Lectronic Link or the WELL, called the first and most influential virtual community, was founded (The Well, no date).
1986	The NSF established NSFnet and Network News Transfer Protocol (NNTP) was introduced; online interactive discussion became a reality (Legal Practitioner, no date); backbone speeds reached 56 kilobits per second (kbps) Internet newsgroups were born; Rick Adams at the Center for Seismic Studies released software which enabled news transmission, posting and reading, using Internet-standard TCP/IP connections (McManus, 2013); the Protocol Wars, between the Open Systems Interconnection (OSI) emerging in Europe, and the Internet/ARPANET protocol used in the USA, took place.[13]
1987	1 000th ITU Request for Comments (RFC) emitted; and 10 000th Internet host established.
1988	First major malicious Internet-based attack took place when Robert Tappan Morris released the first Internet Worm, and the Computer Emergency Response Team (CERT) was set up in response; backbone speed was upgraded to 1 544 megabits per second (mbps); Internet Relay Chat (IRC) was first developed;

[11] Now considered a word, modem is actually an acronym for MOdulate-DEModulate.
[12] Not an acronym, but the name of a software project written in 1980.
[13] TCP/IP (used by ARPANET 'won' the 'war'. This short video gives an introduction to the Protocol Wars http://www.computerhistory.org/revolution/networking/19/376/2326

1989	America OnLine (AOL) was launched; the proposal for the World Wide Web was envisioned; 100 000th Internet host registered; Cuckoo's Egg released by Cliff Stoll, telling the true story of an East German cracker accessing US installations (Legal Practitioner, no date).
1990	ARPANET ceased to exist and the Internet effectively took over its role; the first commercial dial-up Internet Service Provider (ISP) was established; the World Wide Web protocols were finished.
1991	Gopher, a software program for retrieving information from servers on the Internet was made available by the University of Minnesota. The US government announced that it no longer intended to restrict activity on the Internet to research. This policy shift was sufficient for 12 companies to cooperate and produce a Commercial Internet Exchange (CIX). Phil Zimmerman released Pretty Good Privacy (PGP) for email encryption; backbone speeds were upgraded to 44 736 Mbps; the first web page was created; the first content-based search protocol was implemented; Music file (MPEG Layer 3 MP3 music files) became a standard; the first webcam was developed.
1992	The World Wide Web became a possibility after CERN, in Switzerland, released hypertext; 1 000 000th Internet host established.[14]
1993	Governments first went online: The US White House and the UN came online, and the .gov and .org Domain Names were implemented; Mosaic, the first graphical web browser easily used by the general public (as opposed to the technical community) was released.
1994	Netscape Navigator was launched; Jerry and David's Guide to the World Wide Web is renamed Yahoo! and received 100 000 visitors, and in 1995 began displaying advertising.
1995	The commercialisation of the Internet began; shopping malls opened on the Internet as the Secure Sockets Layer (SSL) enabled secure online financial transactions, such as credit card payments; the United Kingdom (UK) Treasury went online, and the first cyberbank opened. The first banner advertisements appeared for Zima (a drink) and AT&T; Digital Equipment Corporation's research lab launched the AltaVista search engine, which it claimed it could store and index the Hypertext Markup Language (HTML) from every Internet page. It also introduced the first multilingual search; Geocities and the Vatican went online; JavaScript started; Netscape went public and had a record-breaking Initial Public Offering (IPO); Jeff Bezos launched Amazon.com, an online bookseller that pioneered e-commerce; eBay was launched, allowing Internet users to trade with each other.
1996	HoTMaiL, the first web-based (webmail) service was launched.
1997	The term 'weblog' for web blog was coined (online blogs had already existed); the 2 000th ITU RFC was emitted; 16 million hosts now existed; the 1 000 000th Domain Name was registered (6 March for Bonny View Cottage Furniture Company).
1998	The first news story was broken online instead of traditional media (the Bill Clinton-Monica Lewinsky scandal in the USA).
1998	The 3 000 000th Domain Name was registered; US Postal authorities allowed purchase of postage stamps online for downloading and printing; the Gigabit ethernet standard was ratified; Google was launched; Internet-based file-sharing got its start, as file-sharing between users became more popular.

[14] An Internet host is a computer or other device with an IP number that is connected to the Internet. For a graph of the increase in hosts, see: http://www.navigators.com/statall_1996_2001.gif

1999	The first full service bank opened on the Internet (First Internet Bank of Indiana); the first forged web page, looking like Bloomberg, raised the shares of a small company by 31% (7 April); the Melissa virus struck; the 5 000 000th Domain Name was registered; the first Cyberwar started between Serbia and Kosovo; the Search for Extraterrestrial Intelligence at Home (SETI@home) Project started; Shawn Fanning launched Napster. The peer-to-peer software enabled Internet users to swap MP3 music files stored on their computers and to find each other through a central directory. Record labels were furious. By July 2001, they had effectively stopped Napster from operating. Companies such as Sony launched Digital Rights Management (DRM) strategies; CompuServe, the first online Internet connectivity service, offered its proprietary email service.
2000	The dotcom collapse (11 March 2000 to 9 October 2002) occurred (Beattie, 2013), causing huge losses for investors; the 10 000 000th Domain Name was registered; French Courts required that 'hate' memorabilia for sale on Yahoo!'s auction site must be removed; Gnutella was launched; ICANN selected new Top Level Domains; the backbone was upgraded to Internet Protocol version 6 (IPv6).
2001	Wikipedia was launched; forwarding email became illegal in Australia (Digital Agenda Act); Napster was forced to suspend service after legal action; the Taliban banned the Internet in Afghanistan; the Nimda worm was released on the Internet.
2002	A Distributed Denial of Service (DDoS) attack hit 13 DNS root servers, causing security concerns.
2003	The first official Swiss online election took place in Anières (7 Jan); also in January, the SQL Slammer worm went around the world in only 10 minutes, and took out 3 of the 13 DNS Servers); it was followed by two other worms in August: Blaster (11 Aug) and SoBig.F (19 Aug); Voice over Internet Protocol (VoIP) went mainstream; nearly half of the UK was now connected: UK telecoms regulator Oftel reported that 47% of UK homes had internet access and 58% had a PC. Of those online, 15% used broadband and 92% were satisfied with their service. MySpace became the most popular social network (Leandro Arts, no date); the CAN-Spam Act put a lid on unsolicited emails; the first phase of the UN WSIS Geneva took place.
2004	Lycos Europe released a screen saver to help fight Spam by keeping Spam servers busy with requests (1 Dec). The service was discontinued after a few days when backbone providers blocked access to the download site and the service caused some servers to crash; the term Web 2.0 (using software and applications that allow the user to interact with web pages, and to do things, rather than just observe) took off when O'Reilly and MediaLive hosted the first Web 2.0 conference (web2con, no date); photo sharing website Flickr was born, coinciding with the rise in digital photography (Kodak discontinued reloadable film cameras in Western Europe and North America in this same year); Social Media and Digg first started to be widely used; Facebook opened to college students.
2005	YouTube – streaming video for the general user – went online; the second phase of the WSIS took place in Tunis.
2006	The non-profit media organisation Sunshine, established WikiLeaks (WikiLeaks, no date) in Iceland; Twitter started tweeting; the first IGF took place in Athens, Greece.
2007	The impetus to offer TV shows online started with Hulu; the iPhone and the Mobile Web changed the online focus to mobiles; the 2nd IGF took place in Rio de Janeiro, Brazil.
2008	The Internet became an active venue for the US presidential election campaign as Hillary Clinton posted campaign videos on YouTube and US presidential candidate Ron Paul raised a then-record $4.4 million in online donations in only one day; a court order in San Francisco, USA, ordered the takedown of Wikileaks.org; the 3rd IGF took place in Hyderabad, India.
2009	ICANN policy changed as the USA softened its control over the Internet for the first time, allowing a multi-national oversight group (Lenard and White, 2011); applications opened for Internationalised Domain Names (IDN); the Domain Name System Security Protocol (DNSSEC) became operational on .gov, org and .us; the US government asked Twitter to delay maintenance on its service, in support of Iranian users during unrest (Grossman, 2009); the 4th IGF took place in Sharm El Sheikh, Egypt.
2010	The Arab Spring, a groundbreaking series of violent and non-violent protests and demonstrations, started in the Arab world, supported by Internet communications, (Saletan, 2011); the International Space Station crew got live Internet (Malik, 2010); the 5th IGF took place in Nairobi, Kenya.

2011	The 6th IGF took place in Vilnius, Lithuania.
2012	SOPA and ACTA protests take place online (and in the streets of the world), effectively shaping politics and law; the 7th IGF took place in Baku, Azerbaijan; the World Conference on International Telecommunications (WCIT) took place in Dubai.
2013	Google Glass hit the news (CNET Reviews, 2013).

Sources: Zakon (1993); PBS Nerds 2.0.1 (1998); Computer History Museum (2006); Infoplease (2007); Chapman (2009); Maltha (2009); Webopedia (2010); Whatafy (2011); McManus 2013: The History of the Internet, (no date); Legal Practitioner (no date); Marshall (no date).

2.2 What is governance?

Governance is a word with many meanings and many uses. Its root indicates its action 'to govern', or to manage within a set of rules. For the purposes of this dissertation, governance is the process by which policy is shaped and influenced, designing rules which can then be enforced and modified (World Bank, 2013). It is increasingly linked to complex organisations such as the Internet, and to the global development policy agenda. Different perceptions of the word governance, and what constitutes its mandate, i.e. what it encompasses, have complicated the process of its constructions. Different languages also tie different connotations to the word, some calling it an organising mechanism, others imbuing it with the characteristics of *government* or *to govern*, as shown in these translations of the word *gouvernance* from French into English, Spanish, Portuguese and Italian, as noted in the Working Group on Internet Governance (WGIG) (2005a) report.

French: **gouverner, gouvernement, gouvernance, etc.**

English: **govern, government, governance, etc.**

Spanish: **gobernar, gobierno, gobernanza, etc.**

Portuguese: **governar, governo, governação, governança, etc.**

Italian: **governare, governo, governamento, etc.**

One obvious example of the difficulty of translation is to look at the word governance in simplified Chinese: **治理**[15]

In a governance process, problems must be identified and prioritised, and solutions designed and implemented. Governance might then be described as a process of meeting expectations surrounding a situation needing organisation. Governance mechanisms operate at four levels: global, regional, national, and local, and include intergovernmental agencies with private sector participation, as well as private sector and industrial organisations (WGIG, 2005a).

Randy Fay, a blogger and developer, concisely explains the importance of governance for any process – in his case, for the Drupal[16] governance – which is applicable to the global situation in IG. The elements Fay (2012) considers indispensable for governance are: consistency, accomplishing shared objectives, conflict resolution, communication, effective action, policy shaping, flexibility, and coherence. Achieving these goals clearly lie within the purview of diplomats.

According to the World Governance Index (François, 2008), global governance, with the help of the index, should provide a framework where diplomats and other governance actors ask the right questions before moving to find the answers. This will allow world governance to solve the dilemmas presented by new challenges such as IG, within the parameters stipulated by the desired principles outlined, for example in the Universal Charter of Human Rights, while maintaining innovation and technical standards to stimulate development, and reduce not just differential access, but the real digital divide, fostering not just access (e.g. only playing online games), but actual *benefit* from ICT (productive use of knowledge and resources) (Smith, 2010).

This chapter has separately discussed the words 'Internet' and 'governance'. Chapter 2 will join these two words, and analyse the connotations of the compound term 'Internet

[15] The phrase Internet governance is translated to simplified Chinese as 互联网治理. Both translations are from Google translate http://translate.google.com/#en/zh-CN/governance%0AInternet%20governance
[16] 'Drupal is an open source content management platform' http://drupal.org/

governance', what it includes, and some of the characteristics that make it unique as a set of global policy processes.

Chapter 3: What is Internet governance?

Chapter 2 defined *Internet* and *governance*. This chapter will explore the nuances of the concept of IG and the issues contained in this overarching phrase.

One of the main challenges has been precisely to find a workable definition of IG. The most prevalent definition of IG was proposed by the WGIG as part of the UN WSIS summit process. The WSIS process is comprised of the planning, strategies, and follow-up of the two-phase UN summit process described in UN General Assembly Resolution 56/183 (United Nations, 2002), and which led to the IGF process starting in 2006. The First Phase meeting, held in Geneva in December 2003, was designed to 'develop and foster a clear statement of political will and take concrete steps to establish the foundations for an Information Society for all, reflecting all the different interests at stake' (ITU–WSIS, 2006). The Second Phase's (Tunis, November 2005) objective was to put the Geneva Plan of Action into practice, and to offer suggestions for IG, financing, follow-up and implementation of the Geneva (ITU–WSIS, 2013) and Tunis (ITU–WSIS, 2013b) documents. The foundation for the definition of IG was described in the WSIS Declaration of Principles and the WSIS Plan of Action, and the most significant contribution to a definition of IG was developed through the work of the WSIS, which recognised that the Internet was at the centre of the evolving information society. WSIS also accepted that there are diverse positions about the choice of organisations or bodies for discussion of the policies and principles that should govern the global Internet in the common or public interest. As a result, the UN Secretary General was asked to establish WGIG (WGIG, 2005b) for the purpose of analysing the background and issues in order to prepare a framework for discussions during the WSIS summit process. The definition agreed upon by the WGIG is part of the June 2005 report and reads:

> *Internet governance is 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 programmes that shape the evolution and use of the Internet* (WGIG, 2005a).

3.1 How has the governance of the Internet evolved?

IG as a concept began with the WGIG definition. IG is a phrase that now describes the set of principles, standards, rules, and guidelines which shape decision-making procedures that help the Internet function across borders without being anchored in any specific geolocation or government. Though each government or country must have its own sovereign set of rules, by its nature the Internet requires that each cooperates to ensure the seamless interaction of the network. There is no particular body, global, national, regional or international that governs 'the Internet'. This results in the need for the development of complex agreements that can foster the cooperation of different governments and stakeholders (civil society, technical community, business, government, academia) to avoid fragmentation or disagreement that could divide the Internet into regional or national sub-nets, or walled gardens, caused by heavy-handed blocking and filtering, firewalls needed for security from cyber attacks, differing technical standards or alternate DNS systems.

IG has required the development of a unique process to deal with the cross-border complexities and the fact that governments alone do not own or control the Internet, given that other stakeholder groups including the technical community, business, academia, and civil society have played an important role in the development of the Internet and its management. These groups came together in the UN WSIS process and addressed, among other things, the difficulty of working in this new modality. The definition quoted above came out of that process, but not without difficulty in reconciling different approaches by, and points of views of,

stakeholders and regional groups, especially with the inclusion of civil society in discussions traditionally controlled by governments, without the intervention of civil society.

The WSIS process continues through the UN IGF process which started in 2006 and will hold its 8th meeting in Bali, Indonesia in October 2013 (Internet Governance Forum, no date). Governments, civil society, and academia all take part in the agenda and organisation process through open consultations and preparatory meetings to discuss current IG issues. Other fora such as ICANN, ISOC (the Internet Society), and the ITU also have significant input into different areas of IG. These processes and actors will be addressed in more detail in Chapter 5.

3.2 What does Internet governance encompass?

According to the WSIS plan of action and WGIG, IG should be

- sufficient to address global IG issues (adequate);
- flexible enough to apply to overarching principles (generalisable);
- clear enough to illustrate the management situation (descriptive);
- brief and precise enough to make it useable and effective (concise); and
- adaptive enough to support the ongoing constant changes in the Internet and the world (process-oriented).

The Declaration of Principles also gave high importance to the identification of public policy issues that are an integral part of IG, and the constant review of IG management strategies. As a result, four main policy areas were identified:

- Issues of infrastructure and critical Internet resources (Domain Name system, Internet protocol (IP) addresses) the root server system, technical standards, peering – linking agreements between Internet service providers (ISPs) (Webopedia, no date) – and interconnection, telecommunications infrastructure, etc. These issues are addressed by existing organisations (i.e. ICANN, the Internet Engineering Task

Force (IETF), regional Network Information Centers (or NICs), but fall within the purview of IG.

- Issues of Internet use which need global interaction and coordination to manage properly, including Spam, cybersecurity, and cybercrime.
- Wider issues that are affected by the Internet, such as intellectual property rights (IPR) and international trade. These issues are already being addressed by existing organisations such as the World Intellectual Property Organization (WIPO) and the World Trade Organization (WTO). However, they have significant implications for IG.
- Development facets of IG, especially related to education and capacity building for developing countries.

The WGIG report identified a series of IG issues that needed to be addressed as priority areas in 2005. Table 3 shows the issues, IG focus areas, and principle complexities identified by the WGIG report in 2005, and any significant change as of 2012.

Table 3. Development of IG focus areas identified by the WGIG report (2005)

Issue	Area	Problems and Complexities	Main discussion forum[17]	Change in status as of 2012 (if any)
Administration of the root zone files and system	Critical Internet Resources	• Unilateral control by the United States Government • Historical ties to state of California, USA • Lack of formal relationship with root server operators • No agreement with any governing body authorizing root server operators	ICANN/ITU/ Civil society	Same controversy continues
Inter-connection costs		• Uneven distribution of cost • Internet service providers (ISPs) based in countries remote from Internet backbones, particularly in the developing countries, must pay the full cost of international circuits • Absence of an appropriate and effective global IG mechanism to resolve the issue		• Same concerns • Work is being done towards more local and regional backbones
Internet stability, security and cybercrime		• Lack of multilateral mechanisms to ensure the network stability and security of Internet infrastructure services and applications • Lack of efficient tools and mechanisms to be used by countries to prevent and prosecute crimes committed in other jurisdictions, using technological means that might be located within or outside the territory where the crime had a negative effect		• Some multilateral initiatives (CCI) • Similar concerns

[17] Note that this column remains almost completely empty. With the exception of very few purely technical issues, IG issues do not have a clear host forum for discussion, nor clear stipulation as to which stakeholder should or does moderate the debate. For more detailed information on discussion fora for specific issues, please refer to Tables 15-24 in Chapter 4.

Issue	Area	Problems and complexities	Main discussion forum[18]	Change in status as of 2012 (if any)
Spam	No unified approach	• No global consensus on definition of Spam • No global agreement to address Spam • No support for national anti-Spam laws to be effective. • Bilateral and plurilateral agreements help enforce national anti-Spam laws, share best practices, cooperate on solutions		• Some national solutions improve the international scene • Similar concerns
Meaningful participation in global policy development	There are significant barriers to multi-stakeholder participation in governance mechanisms	• Significant barriers to multistakeholder participation in governance mechanisms. • Lack of transparency, openness and participatory processes • Participation in some intergovernmental organisations and other international organisations is often limited and expensive, especially for developing countries, indigenous peoples, civil society organisations, and small and medium-sized enterprises (SMEs) • Content produced by some intergovernmental organisations and other international organisations is often restricted to members only or is available at a prohibitive cost		Similar concerns

[18] Note that this column remains almost completely empty. With the exception of very few purely technical issues, IG issues do not have a clear host forum for discussion, or clear stipulation as to which stakeholder should or does moderate the debate. For more detailed information on discussion fora for specific issues, please refer to Tables 15-24 in Chapter 4.

Issue	Area	Problems and complexities	Main discussion forum[19]	Change in status as of 2012 (if any)
		• Frequency and location of venues for global policy meetings limits participation of some stakeholders from more remote areas • Lack of a global mechanism for participation by governments, especially from developing countries, in addressing multisectoral issues related to global Internet policy development		
Capacity-building	Perceived importance of education and capacity building	• Unavailability of adequate resources in a range of areas relevant to Internet management at the national level and to ensure effective participation in global IG, particularly for developing countries		Similar concerns, exacerbated by global funding difficulties
Allocation of Domain Names	Need for further develop-ment of policies and procedures for generic top-level Domain Names (gTLDs).	• Need for further development of policies for the management and further development of the Domain Name space, has a significant impact on key issues, such as the equitable distribution of resources, access for all and multilingualism		Similar concerns

[19] Note that this column remains almost completely empty. With the exception of very few purely technical issues, IG issues do not have a clear host forum for discussion, or clear stipulation as to which stakeholder should or does moderate the debate. For more detailed information on discussion fora for specific issues, please refer to Tables 15-24 in Chapter 4.

Issue	Area	Problems and complexities	Main discussion forum[20]	Change in status as of 2012 (if any)
IP addressing	Concerns over allocation policies for IP addresses	• For historical reasons, there is an imbalance in the distribution of IPv4 addresses • In the light of the transition to IPv6, some countries feel that allocation policies for IP addresses should ensure balanced access to resources on a geographical basis		Similar concerns
Intellectual property rights (IPR)	Application of IPR to cyberspace	• While there is agreement on the need for balance between the rights of holders and the rights of users, there are different views on the precise nature of the balance that will be most beneficial to all stakeholders, and whether the current IPR system is adequate to address the new issues posed by cyberspace • IPR holders are concerned about the high number of infringements: digital piracy, and the technologies developed to circumvent protective measures to prevent such infringements • Users are concerned re market oligopolies, the impediments to access and use of digital content and the perceived unbalanced nature of current IPR rules		Similar concerns, with heightened global awareness

[20] Note that this column remains almost completely empty. With the exception of very few purely technical issues, IG issues do not have a clear host forum for discussion, or clear stipulation as to which stakeholder should or does moderate the debate. For more detailed information on discussion fora for specific issues, please refer to Tables 15-24 in Chapter 4.

Issue	Area	Problems and complexities	Main discussion forum[21]	Change in status as of 2012 (if any)
Freedom of expression	Restrictions on freedom of expression	• Measures taken in relation to the Internet on grounds of security or to fight crime can lead to violations of the provisions for freedom of expression as contained in the Universal Declaration of Human Rights and in the WSIS Declaration of Principles		Similar, with additional concerns that technology will enable hidden techniques for surveillance and control
Data protection and privacy rights	Lack of existence or inconsistent application of privacy and data-protection rights	• Lack of national legislation and enforceable global standards for privacy and data-protection rights over the Internet; as a result, users have few if any means to enforce their privacy and personal data-protection rights, even when recognised by legislation • An apparent lack of personal data protection in some of the WHOIS databases		Similar, with additional concerns that technology will enable hidden techniques for surveillance and control
Consumer rights	Lack of global standards for consumer rights over the Internet, for example in the international purchase of goods through e-commerce	• Users have few if any means to enforce their rights, even when these rights are recognised by legislation. In the case of digital goods and online services • Complexities for the practical and full application of traditional consumer rights		Similar concerns

[21] Note that this column remains almost completely empty. With the exception of very few purely technical issues, IG issues do not have a clear host forum for discussion, or clear stipulation as to which stakeholder should or does moderate the debate. For more detailed information on discussion fora for specific issues, please refer to Tables 15-24 in Chapter 4.

Issue	Area	Problems and complexities	Main discussion forum[22]	Change in status as of 2012 (if any)
Multilingualism	Insufficient progress has been made towards multilingual-isation	• Standards for multilingual TLDs, email addresses and keyword lookup • Insufficient multilingual local content • Lack of international coordination		Similar concerns with some progress in International-ised Domain Names
Additional issues	• Converg-ence • 'Next gener-ation networks' (NGNs) • Trade • E-commerce			• Similar concerns • Mobile Internet and other new concerns
Developing a common understanding of the respective roles and responsibilities of all stakeholders from both developed and developing countries				• Similar concerns • Awareness of govern-ments' role

3.3 Why is Internet governance different from other diplomatic processes?

Modern diplomacy is traced to the concept of state introduced by the Westphalia Treaty in 1648. State has three defining elements: territory, government, and population. Perhaps two other characteristics are similarly significant: sovereignty and nationality. In general terms, the Westphalia Treaty posited that if a population in a geographically limited territory has an entity (a government) with the ultimate power to rule, under an established political structure, a state

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exists. States can talk to each other, can even cooperate on some common objectives, but still will remain independent of each other. States are unique players in interactions in foreign affairs. Diplomacy is the way to achieve this communication among states.

However, the Internet and IG, with its academic origin and its management in the technical community, emerged on the international level, outside of the typical inter-state dynamics, and has complicated its global governance. It has loosened the basic pillar of *territory*. Borders do not function as limits for academia and the technical community. The concepts of population and nationality of the user are not of primary importance. With anonymity, blurring borders, and unclear jurisdiction, the ultimate power to govern the Internet resides in the design and use of technology, by human beings, as exemplified in the IETF mantra, attributed to David D Clark: 'We reject: kings, presidents and voting. We believe in: rough consensus and running code.' This mantra is outdated, according to Director of DiploFoundation, Jovan Kurbalija (pers. comm.), for two main reasons. First, governments are back, although still with limited power, as Clark indicated. Second, new 'kings' are emerging. The new power brokers in the Internet policy space are Internet companies and technical communities. For example, the IETF is increasingly run by corporate engineers. Although the power distribution and appearance has developed between governments and new players, the power base of politics has not undergone any fundamental changes. It requires a more careful look at the evolution of Internet politics, beyond the simplification that it overcomes traditional politics. So, one king may be dead. But, as the saying goes, 'Long live the king'.

This substantial shift in global Internet politics, from traditional governments to new power brokers, requires an adaptation in diplomacy and by diplomats. This thesis proposes that the Internet, beginning with IG, is a significant force in the world of the 21st century, and eludes the restrictions imposed by the concept of *state.* As a force which changes constantly, and changes the world constantly, states, and therefore, diplomats and diplomacy, must learn how it works, in order to guide its growth, its use, and its presence towards their best interests, and that

of their citizens, without risking distortion and loss through interference which might affect the balance of its integrity.

The multistakeholder model often employed in IG discussions presents an innovation and new model for diplomacy. According to Jean-Marie Chenou, researcher at the Université de Lausanne, IG employs

> *… new forms of governance beyond state-to-state diplomacy. As other highly specialised issues in the global political economy, Internet governance is semi-privatised – it includes both state and non-state actors; and transnational, where space is reconfigured through processes of de-territorialisation and re-territorialisation. Several concepts have been used to qualify this type of governance, with multistakeholderism being the most common and most widely accepted among Internet governance scholars* (2010).

The complexities and ramifications of the multistakeholder model will be addressed in Chapter 3.

3.4 The evolution of Internet governance issues in the Internet Governance Forum

At the time of the WGIG report, a set of issues was set out as being of highest priority for follow-up by the WSIS and IG processes. The issues continue to be of significant importance for IG, and are described below. They are addressed in specific fora dealing with their issues, and in the main discussion areas of the IGF. Four areas were originally designated by the IGF 2006: Openness, Security, Diversity, and Access. The IGF 2007 added an additional main session area: Critical Internet Resources.

Another source of comparison of the development of discussion issues is the evolution of main session and workshop proposal designations for the annual IGF meeting:

Table 4. Changes in IG priority areas of the IGF 2006–2012 (IGF, 2013)

Year	Venue	Main Theme	Main Sessions	Workshop Areas
2006	Athens, Greece	Internet Governance for Development	• Setting the scene • Openness • Security • Diversity • Access • The way forward • Emerging issues	
2007	Rio de Janeiro, Brazil	Internet Governance for Development	• Critical Internet resources • Openness • Security • Diversity • Access • Taking stock and the way forward • Emerging issues	
2008	Hyderabad, India	Internet for All	• Reaching the next billion • Promoting cybersecurity and trust • Managing critical internet resources • Emerging issues - the internet of tomorrow • Taking stock and the way forward	• Access • Diversity • Openness • Security • Critical internet resources • Development and capacity building
2009	Sharm El Sheikh, Egypt	Internet Governance for Development	• Managing critical internet resources • Security, openness and privacy • Diversity • Access • IG in the light of WSIS principles • Emerging issues – impact of social networks	• Access • Critical Internet resources • Diversity • Openness • Security • Development • Capacity building
2010	Vilnius, Lithuania	Developing the future together	• Managing critical Internet resources • Security, openness and privacy • Access and diversity • Internet governance for development (IG4D)	• Managing CIR • Security, openness and privacy • Access and diversity • IG for

			• Emerging issues: cloud computing • Taking stock of Internet governance and the way forward	development (IG4D) • Emerging issues: cloud computing • Taking stock of IG and the way forward
Year	**Venue**	**Main Theme**	**Main Sessions**	**Workshop Areas**
2011	Nairobi, Kenya	Internet as a catalyst for change: access, development, freedoms and innovation	• IG4D/Internet governance for development (IG4D) • Emerging Issues • Managing critical Internet resources • Security, openness and privacy • Access and diversity • Taking stock and the way forward	• IG4D / Internet governance for development (IG4D) • Emerging Issues • Managing critical Internet resources • Security, openness and privacy • Access and diversity • Taking stock and the way forward
2012	Baku, Azerbaijan	Internet Governance for Sustainable Human, Economic and Social Development	• IG4D / Internet governance for development (IG4D) • Emerging Issues • Managing critical Internet resources • Security, openness and privacy • Access and diversity • Taking stock and the way forward	• Access and diversity • Emergingissues • IG for Development [IG4D] (cross cutting priority) • Managing critical Internet resources • Security, openness and privacy • Taking stock and the way forward
2013	Bali, Indonesia	(tbd) Current suggestions: Building bridges, and enhancing multistakeholder cooperation for growth, development and human	(tbd) Current suggestions: • Enhanced cooperation • Human rights/Freedom of expression on the Internet • Internet governance principles • Legal frameworks and cybercrime (Spam, cybersecurity, etc.)	(tbd) Current suggestions: • Access and diversity • Emerging issues • IG for Development [IG4D] (cross cutting priority) • Managing critical

		rights	• Principles of multistakeholder cooperation • The Internet as an engine for growth and advancement	Internet resources • Security, openness and privacy • Taking stock and the way forward

This chapter has reviewed the meaning of the phrase *Internet governance*, the evolution of the concepts involved in IG from the first definition offered by the WGIG; and the issues being addressed as they have been discussed in the IGF from 2006 to 2012. Other priorities are evident in forums that discuss narrower ranges of IG, such as ICANN, which addresses infrastructure and technical issues, and other actors and groups. These more specific issues will be addressed in Chapter 5: Internet governance processes and actors.

Chapter 4: Diplomats and Internet governance: the issues

4.1 Introduction

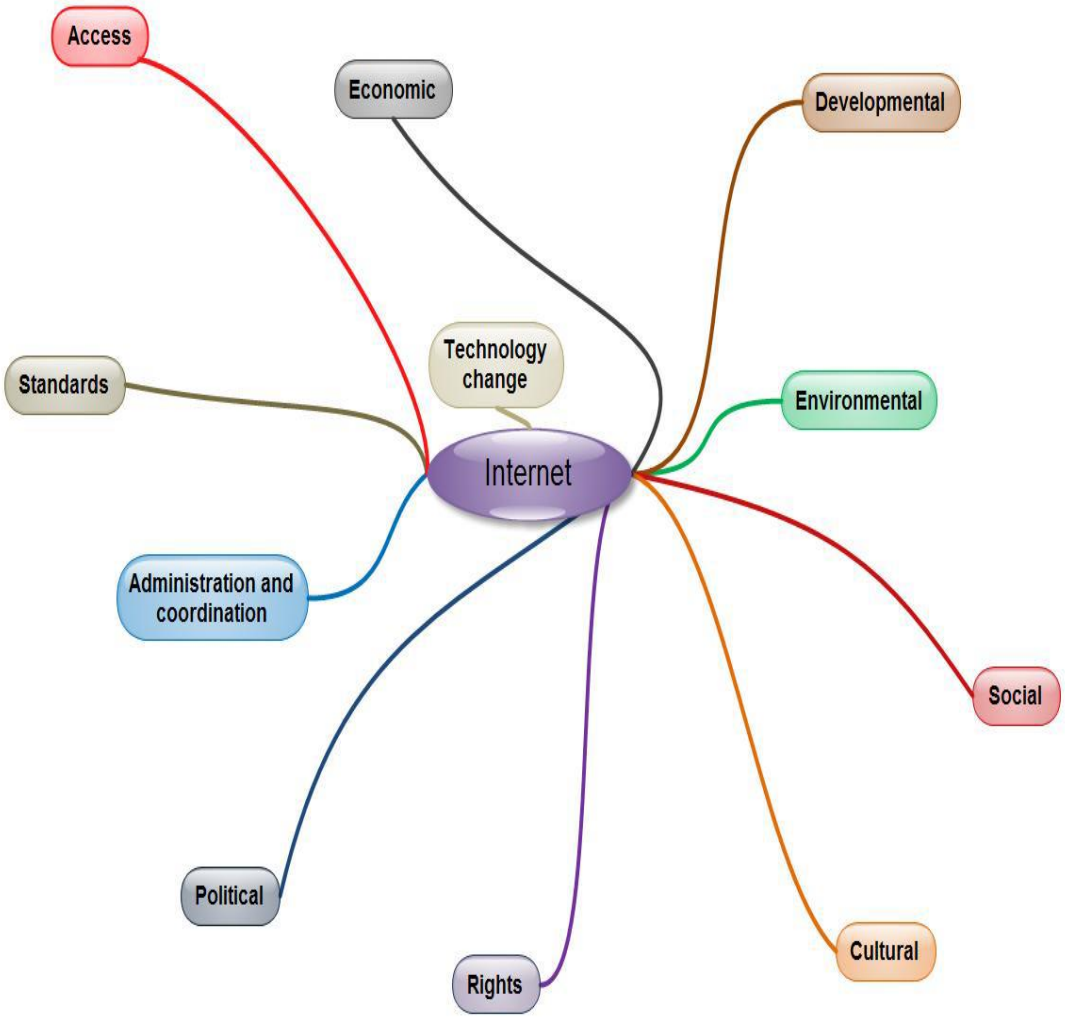
This chapter will describe some of the main issues involved in IG. A basic mastery of these issues is necessary to understand the underlying functioning of the Internet, to grasp the interaction between different elements, and to begin to understand how decisions may affect a related technical issue or issues, or have planned or unplanned, or predictable or unpredictable effects on a different area. An understanding of the *whole* begins with an understanding of the *parts.* If diplomats have a sound understanding of the main technical and policy areas, they can then zoom out to view how these issues interact as a whole, and how they affect each other and the overall function of the Internet environment. For example, changes in critical Internet infrastructure, such as how an individual computer finds other computers or applications, may affect security issues. State security issues of surveillance of terrorist activities may affect the privacy of users. Legal issues of intellectual property rights (IPR) may affect economic issues of e-commerce in the sale and lending of books or music. Government regulation of pricing, designed to increase low-cost access, may affect investment and innovation. The list of issues is endless, and each must be dealt with as it arises in practice.

The Internet has become an integral part of most states' daily administrative life. Developing and maintaining a viable Internet infrastructure is vital to a state's interests. In addition, those citizens who are connected to the Internet are rapidly become dependent upon its resources. And those who are not yet connected must acquire access or risk being left increasingly disadvantaged. Diplomats who deal with these and other IG

issues for their ministries have a grave responsibility as well as an opportunity to guarantee access for their citizens.

The WGIG[23] Report of 2005 (WGIG, 2005a) identified a series of public policy issues for IG. These areas are a) Issues relating to *infrastructure and the management of critical Internet resources* (the DNS), Internet Protocol (IP) addresses, root servers, technical standards and similar issues); b) Issues relating to the *use* of the Internet (like Spam, network security and cybercrime), and where global cooperation was not well defined in 2005, and still is not clearly stipulated; c) Internet issues that have a significant impact outside the Internet, where there is significant overlap with existing organisations, such as IPR (WIPO) and international trade (WTO) and d) development issues, especially capacity building. The many IG issues[24] (Kurbalija says there are at least 40 (2012, p. 28)) do not fit easily into these four categories, even though they are closely related. For ease of review, they can be roughly divided into five main structural areas as in the charts below, to provide an overview of their main controversies and policy instruments. This thesis identifies the main areas as: 1) infrastructure 2) cybersecurity, 3) legal, 4) economic, and 5) sociocultural and developmental.[25]

[23] The Working Group on Internet Governance (WGIG) is introduced in Chapter 2.
[24] A list of IG issues, as identified by http://www.idgovmap.org can be found in Appendix 1.
[25] DiploFoundation uses a basket classification for infrastructure and standardisation; legal; economic; development; and sociocultural (Kurbalija, 2012, p. 28). Other organisations use different structures to describe the issues (Souter, 2010).



Available at http://www.apc.org/en/system/files/APCMappingInternetPublicPolicy_Slides.pdf

Figure 2. Mapping Internet Issues: The Big Picture

Source: David Souter – Networking Networks in Internet Public Policy APC Symposium, Ancona, July 2010

Further complexities arise as cross-cutting issues are seen in a larger context of the juxtaposition of effects on the overall interrelated functioning of the Internet. This occurs, for example, when discussions showcasing different stakeholder viewpoints attempt to reconcile issues which are sometimes seen as contradictory, such as security (which might require control by governments) and privacy and human rights (which might suffer from control by governments), although both are also complementary parts, necessary for the stability of the Internet infrastructure. In addition, any overview of the issues changes daily, as events, updates,

and discussions take place. Therefore, the following charts are not meant to be an up-to-date snapshot of the issues, but an example of their complexity and possibilities. With a firm grasp of the necessary issues, diplomats will be able to extract the most important information from the information overload, synthesise the most important points, write pertinent position papers, and advise their capital how to proceed in global fora, discussions, and processes.

4.2. Infrastructure main issues

Essential issues for Internet function

Infrastructure and standardisation include the underlying, principally technical, issues which explain how the Internet functions:

> *'A name indicates what we seek.*
>
> *An address indicates where it is.*
>
> *A route indicates how we get there.'*
>
> attributed to Jon Postel.

This simple quote explains quite well how the Internet works: The *name* is the website (such as http://www.diplomacy.edu) the user is looking for. The *address* is the number assigned to it in the DNS system,[26] and the *route* is the transmission protocols and applications that resolve the address, resulting in the web page being displayed on the user's screen. IG infrastructure is often viewed as having three parts which include 1) the physical network of the infrastructure, which carries all Internet traffic in the physical network; 2) the code or technical standards, where the software and protocols carry out the exchange of data; and 3) the applications, including, for example, HTML, and the protocols for email clients (POP, SMTP), streaming video, web servers and browsers used for authentication, error checking and retrieving files (Palme, no date; Tech-FAQ, no date).

[26] A user can find the IP address of a domain by navigating to a site such as http://finddomainip.com, and entering the domain name (website name) in the window labelled 'Find Domain IP'. 'For DiploFoundation, diplomacy.edu, the IP address is 176.58.120.13, so a user can type the number (176.58.120.13) or the name (http://www.diplomacy.edu/) in the address line, with the same result. It is however, easier for most people to remember a website's name than its IP address.

Issues that address the security and stability of the Internet infrastructure are comprised in another group which will be discussed in the section on cybersecurity. These technical issues include cybersecurity and encryption, but are sometimes considered to encompass issues such as Spam.

The explanation of how an Internet address works is relatively simple. Other infrastructure topics, such as how countries and regions will manage the transition from Internet Protocol version 4 (IPv4) to Internet Protocol version 6 (IPv6) are more complex, and critical for the functioning of the Internet. Will diplomats negotiating in the ITU understand that the remaining IPv4 addresses are a valuable resource, and will be costly to acquire if they do not make a timely transition to IPv6?[27] Are diplomats who must deal with overarching IG issues prepared to understand the nuances of infrastructure that may arise in general (non-technical) discussion fora?

Table 5. Main IG infrastructure issue controversies (Kurbalija, 2013)

Issue	Controversies	Proposed solutions
Telecommunication Infrastructure	Review of International Telecommunication Regulations (ITRs) at the Dubai Conference (December 2012).	International Telecommunication Regulations are the key instrument in the global telecommunication policy. In the past, it regulated mainly the questions of the telecommunication infrastructure. Some governments (e.g. Russia, Saudi Arabia, Iran, and China) would like to extend the ITRs' coverage to the broader Internet governance issues. ITR negotiations were one of the decisive Internet governance developments in 2012.
Transport Control Protocol/Internet Protocol (TCP/IP)	How to deal with limitation of IP numbers and facilitate transition from IPv4 to IPv6	The issue is being addressed by both ICANN and ITU communities.

[27] There is a large, but insufficient, number of IPv4 addresses (4,294,967,296). IPv6 has a much larger, but finite number of IP addresses, 340,282,366,920,938,463,374,607,431,768,211,456, considered impossible to exhaust. In addition, IPv6 offers additional options for encryption and authentication, resulting in improved security. IPv4 and IPv6 are not interoperable, but are designed to run in parallel during the transition.

Issue	Controversies	Proposed solutions
The Domain Name System (DNS)	Introduction of new generic top level domains (gTLDs); gTLDs are .com, .edu, .org	12 January 2012, ICANN began the registration process for new gTLDs. Controversial preparatory discussion between governments, trademark lobbies, and international organisations about implementation of new gTLDs seek resolution for the process.
Internet root servers	Internationalisation of control of root servers	States have concerns about the current arrangement in which the ultimate decision about content of root servers[28] remains the responsibility of the United States. Solutions are being sought in ICANN reform, with change in the ICANN Internet Assigned Numbers Authority (IANA) arrangement. Suggested solutions: strengthen the role of ICANN's Governmental Advisory Council (GAC) to influence ICANN's decisions on critical internet resources (principally root servers), Enhanced Cooperation policy discussions with the UN Commission on Science and Technology, discussion sessions at the IGF.

[28] A root server is one of a series of Internet servers that store the Internet's master list of a database with domain name information. Read more about it here http://www.iana.org/domains/root/servers

Table 6. Main policy instruments in Internet infrastructure issue areas (Kurbalija, 2013)

	Telecommunication Infrastructure	Transport Control Protocol/Internet Protocol (TCP/IP)	Domain Name System (DNS)	Web standards	Root servers	Network Neutrality	Cloud Computing
Conventions and Treaties	ITU's International Telecommunication Regulations (ITRs) from 1988 (reviewed in December 2012)	ITU's International Telecommunication Regulations (ITRs) from 1988 (reviewed in December 2012)					
Standards	ITU, International Electrotechnical Commission (IEC) and Institute of Electrical and Electronics Engineers (IEEE) standards	IETF RFC	IETF RFC	World Wide Web Consortium (W3C)	IETF RFC		
Policy	ITU technical coordination; WTO liberalisation	ICANN	ICANN	W3C	ICANN - IANA contract with US Department of Commerce		

4.3. Legal issues

Principal legal Issues are more within the grasp of today's diplomat, dealing with issues addressed in major global fora. Nonetheless, there are increased complexities due to the debate over 'real' law versus 'cyber' law, and implications such as the following:

Jurisdiction

Jurisdiction is one of the most interesting phenomena in IG. Common sense and traditional thinking tend to define jurisdiction by physical, geographical borders as shown on maps, and intrinsically linked to the concept of sovereignty. States may have the right to establish control and laws over actions taking place within, and even above and in the seas surrounding their borders. The Law of the Sea was a groundbreaking treaty which solved some very important dilemmas arising from territorial limits. However, Internet cross-border flows and transactions are more complex. State of origin, state of transaction, state of purchase, and state of manufacture may vary with physical merchandise, and be even harder to trace with *digital* merchandise, for example. Cybercrime similarly can complicate jurisdiction as a physical location for the crime, whether it be a security breach or child pornography, may be hard to determine. Diplomats, with their understanding of complex state interactions are well-positioned to study these situations. A clear understanding of concepts is indispensable in addressing these issues.

Arbitration

Arbitration is an area where Internet issues have required new dispute resolution resources. For example, the case of Domain Name (such as whether there is a limited right to cocacola.com, mcdonalds.com or the like) disputes, problematic issues may arise from trademark rights. The Uniform Domain-Name Dispute-Resolution Policy (UDRP) was negotiated by the World Intellectual Property Organization (WIPO) and is overseen by ICANN to resolve disputes in this area. Other controversies and e-commerce may require new techniques to address jurisdiction and other elements.

Intellectual property rights (IPR)

Internet file-sharing, copyright and digital rights management have complicated the arena of IPR. Citizens have always lent and borrowed books, and audio disks and tapes. Does that mean they can share digital files? Digital files are more easily copied than hard copies, and are open to manipulation and commercialisation in new forms, often across borders. The Anti-Counterfeiting Trade Agreement (ACTA), explained in footnote 22, caused global controversy and protests, indicating the level of importance these issues have for business, states, and citizens. These dilemmas will need to be addressed by professionals who understand the technical, legal and diplomatic implications of the issues, in the search for a balanced solution.

Labour Law

Labour may not necessarily present a diplomatic dilemma, but it does have some interesting ramifications. Not only online or teleworkers, but even traditional office workers may now be expected to check email, and be 'on call' for more hours each day, and even on traditional weekends and holidays. Will this affect labour policies? Some companies surveil and control their employees' Internet access and use. This raises serious questions of privacy and other rights. Will states need to intervene both domestically and internationally to protect their own and their citizens' rights?

Table 7. Main IG legal issue controversies (Kurbalija, 2013)

Issue	Controversies	Proposed solutions
Arbitration/ Jurisdiction	How to address the increasing number of court cases on the Internet involving cross-border elements.	• Improve efficiency of traditional jurisprudence by using International Private Law • Adjust traditional arbitration for Internet cases • Develop a new approach based on arbitration (UDRP)
Intellectual Property Rights (copyright)	ACTA-triggered controversy: how to strike the right balance between protection of IPR and fair use of protected materials. How to enforce intellectual property rights in cyberspace.	• Introduce a new legal framework which would involve stricter protection of IPRs (ACTA attempt) • Amend the existing international legal framework (WIPO/WTO) in order to achieve the right balance

Table 8. Main policy instruments in IG legal issue areas (Kurbalija, 2013)

	Jurisdiction	Arbitration	Intellectual Property Rights (Copyright)	Labour Law
Conventions and Treaties	The Hague Conventions on International Private Law (Conflict of Laws) – not adjusted to the Internet cases	New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards	WIPO Copyright Treaty WTO TRIPS Economic Partnership Agreements (EPA) between the EU and former colonies in Africa, the Caribbean and the Pacific	
Standards				
Policy	Juridical cooperation based on bilateral and regional agreements	UNCITRAL Model Law on International Commercial Arbitration (1985) Uniform Domain-Name Dispute-Resolution Policy (UDRP)	Creative Commons Initiative	ILO Recommend-ations

4.4 Cybersecurity issues

The cybersecurity framework includes policy principles, instruments, and institutions dealing with cybersecurity. Are the UN Charter provisions on global security applicable to cybersecurity? Is there a gap? If there is a gap, how should it be addressed? Are changes so profound that there is a need to amend the UN Charter in order to include cybersecurity aspects? Would it be appropriate to adopt a global cybersecurity treaty, as was indicated in the September proposal to the UN General Assembly by China, Russia, Tajikistan, and Uzbekistan (a proposal outlining an international code of conduct for information security)?

Global critical infrastructure now depends on the Internet. Many vital parts of global society, including energy, water, and finance, are heavily dependent on the Internet and on other computer networks. The vulnerability of the Internet is the vulnerability of modern society.

Cyberwar has high media visibility, and is an obvious area for diplomatic intervention. It is, however, an aspect of cybersecurity that is rarely analysed. Cyberwar should be addressed through three main areas of the traditional law of armed conflicts: conduct of war (mainly The Hague Convention), weapons and disarmament (what is a cyberweapon and how can it be controlled?), and humanitarian law (Geneva conventions and protocols).

Cybercrime is crime committed via the Internet and computer systems. It includes unauthorised access, damage to computer data or programs, and child pornography. The fight against online child pornography is the most developed area of international cooperation in the field of cybercrime. Cyberterrorism came into sharper focus after 9/11, when an increasing number of cyberterrorist attacks were reported. Cyberterrorists use similar tools to cybercriminals, but for a different end. While cybercriminals are motivated mainly by financial

gain, cyberterrorists aim to cause major public disruptions and chaos. In this area, the difference between *real* and *cyber* approaches is both complex and significant.

- Cybersecurity issues, similarly to legal issues, typify the debate of *real* vs *cyber* as actors dispute whether these issues should be treated in the current *real* world treaties or should have special treatment as uniquely *cyber* issues. Diplomats must have mastery of these basic issues to enter these discussions.

Table 9. Main IG cybersecurity issue controversies (Kurbalija, 2013)

Issue	Controversies	Proposed solutions
Protection of critical infrastructure	Lack of global framework/ mechanism	Two main approaches: • Bottom-up: develops current network of professional organisations Computer Emergency Response Teams (CERTs). This approach was initiated and promoted by the G8 and supported by the USA and most developed countries. • Top-down: includes protection of critical infrastructure in cybersecurity treaties and ensures its protection through newly established international mechanisms (hosted by the UN or the ITU); supported by China, Russia and most developing countries
Cybercrime	Lack of global legal instrument on cybercrime	There are three main and mostly competing approaches: • Council of Europe (CoE): trying to extend coverage of the existing Cybercrime Convention to global level (advantages: existing, well-established practice, adopted by the CoE which has strong human rights tradition; disadvantages: adopted by CoE countries – questionable legitimacy for non-CoE countries unless they are adopted) • The ITU: utilises a holistic approach to become the host of the defining 'global cybercrime arrangement'. (a) offers a bottom-up approach with model cybercrime law for states; (b) features cybercrime prominently in the Global Cybersecurity Initiative; (c) provides technical assistance; (d) included cybersecurity in the new 2012 International Telecommunication Regulations • The UN Office on Drug and Crime: trying to extend its crime conventions and instruments to cyberspace

Issue	Controversies	Proposed solutions
Cybercrime – child protection	Lack of global legal instrument	• Amend the Child Protection Convention • Introduce online aspect to reporting on the child protection convention
Cyberterrorism	Lack of coordinated global approach	• n/a
	Lack of balance between anti-cyberterrorism measures and protection of human rights	• Introduce this balancing act into the discussion on terrorism and human rights
Cybersecurity framework	Lack of international cybersecurity legal instruments Although most states agree there is a need to fight cybercrime and increase cybersecurity, consensus does not exist on how to achieve these goals. The main concern is that cybersecurity could be used as a 'backdoor' for Internet regulation and control (beyond security)	USA: mixed position: interest to have a 'safer' Internet because of business and other interests vs a reluctance to have cybersecurity as a backdoor for overall regulation of the Internet; USA so far focuses on bilateral agreements, limited multilateral regulation (party to the Council of Europe Convention on Cybercrime), and private security initiatives. International Code of Conduct for Information Security (proposal by Russia, China, Tajikistan and Uzbekistan); risk of 'backdoor' approach for broader Internet governance'; where to address cultural differences The ITU uses a comprehensive approach, including: • Policy level: the Global Cybersecurity Agenda – GCA and keeping cybersecurity track in the follow-up to the WSIS (Action Line C5). • Legally binding level: the ITU may push a global cybersecurity arrangement through the new International Telecommunication Convention (adopted in October 2012)
Cyberwar – conduct	Lack of updated rules of conduct of the war	• Questions are being asked: Can the existing law, mainly the Hague Conventions, be applied to cyberspace? If not, what type of new legal instruments should be developed? • Many countries are introducing 'cyber' into their military strategy and operational procedures. • Global discussion is still in decision-shaping phase.
Cyberwar – weapons and disarmament	Need to define cyberweapons	
	Need to introduce cyberweapons into the disarmament process	

Table 10. Main policy instruments in IG cybersecurity issue areas (Kurbalija, 2013)

	Cybersecurity framework	Protection of critical infrastructure	Cyberwar			Cyber crime		Cyber terrorism
			Conduct of war	Weapons and disarmament	Humanitarian law	General cybercrime	Child-related	
Conventions and Treaties	Not available; two proposals: International Code of Conduct for Information Security (proposal by Russia, China, Tajikistan and Uzbekistan) The ITU's new International Telecommunication Regulation (possible inclusion of cybersecurity)	ITU Resolution 130	Hague Conventions (1899 and 1907)	Wassenaar Arrangement (dual use technology) Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons[29]	Geneva Conventions and Protocols	CoE Convention on Cybercrime Convention on Organised Crime of the United Nations Office on Drugs and Crime (UNODC)	n/a	
Standards	ITU: Public Key Infrastructure (PKI) standards, ITU –T Study Group 17	IETF (DNSSEC)						

[29] Full title: Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects (28 November 2003).

	Cybersecurity framework	**Protection of critical infrastructure**	**Cyberwar**			**Cybercrime**		**Cyber-terrorism**
			Conduct of war	**Weapons and disarmament**	**Humanitarian law**	**General cybercrime**	**Child-related**	
Policy	ITU Global Cybersecurity Agenda Organization for Security and Co-operation in Europe (OSCE) guidelines for online security Organisation for Economic Co-operation and Development (OECD) Guidelines for the Security of Information Systems	Policy of establishing CERTs worldwide G8 – Lyon Group 2001 Recommend-ations				ITU Toolkit for Cybercrime Legislation		G8 Lyon Group 2001 Recommend ations; G8 Justice and Interior Ministers 2002; Statement on Data availability to Protect Public Safety

4.5 Economic issues

Economic issues are ubiquitous, touching every person, and every area of daily life. The advantages and disadvantages of online commerce are subjects for economic expert advisors, but diplomats must have an understanding of how Internet structures influence these aspects of state diplomacy. How will cross border taxes be handled? Should taxes be collected at the point of origin of each sale, benefitting the purchasing state, and possibly more supportive of developing countries? Or should taxes be collected by the state of sale, perhaps favouring developing countries? Again, overlapping jurisdiction and other issues complicate decisions, and require an understanding of the surrounding issues.

E-commerce

The private sector (business) has driven much of the innovation and growth of the Internet, especially since 1995, with the launch of eBay and Amazon.com. The Internet, or e-commerce, has also empowered individual buyers and sellers with new emphasis on private transactions such as eBay and CraigsList, and their counterparts around the world. This is recognised in the ICANN Framework for Global Electronic Commerce[30] which clearly recognises the role of e-commerce and business for the development of the Internet.

Consumer protection takes on special significance in e-commerce, with the possibilities for online fraud and identity theft. Resolution of traditional consumer rights issues such as truth in advertising, product quality and delivery time become more complicated without face-to-face interaction, and with possible cross-border jurisdiction disagreements. These areas require careful preparation and study for proper resolution as well.

Taxation, especially sales tax, is an integral part of traditional commerce and e-commerce. Diplomats with financial and economic, as well as IG expertise will have to address

[30] For more information about the framework, see http://www.w3.org/TR/NOTE-framework-970706

and balance issues of jurisdiction, fairness, support for online business development, growing public debt, and sources for government income.

Digital signatures and e-payments

Digital signatures, which allow authentication of digital documents and transactions, bring convenience and transparency. They also have important aspects of privacy and identification in common with text messaging and mobile phone use. Digital signature, e-payments, e-banking, and e-money details must be resolved on ideological and technical levels to foster growth in e-commerce and online finance. Additional complexities of cross-border currency flows and exchanges require careful monitoring by states as well as the private sector and individuals.

Table 11. Main IG economic issue controversies (Kurbalija, 2013)

Issue	Controversies	Proposed solutions
Taxation and Online Gambling	How to tax trans-border transactions performed over the Internet. Triggered by Antigua online gambling case – WTO Dispute Resolution mechanism.	• Use WTO jurisprudence • Develop a new regulatory framework in the context of the WTO
Digital signature	How to provide authentication on the Internet in legal and administrative transactions?	• Use of secure software • Development of standards

Table 12. Main policy instruments in IG economic issue areas (Kurbalija, 2013)

	Jurisdiction	Arbitration	IPR (Copyright)	Labour Law
Conventions & Treaties	The Hague Conventions on International Private Law (Conflict of Laws) – not adjusted to Internet cases	New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards	WIPO Copyright Treaty WTO TRIPS	

	Jurisdiction	Arbitration	IPR (Copyright)	Labour Law
Standards				
Policy	Juridical cooperation based on bilateral and regional agreements	United Nations Commission on International Trade Law (UNCITRAL) Model Law on International Commercial Arbitration (1985) Uniform Domain Name Dispute Resolution Policy (UDRP)	Creative Commons Initiative	ILO recommendations

4.6 Sociocultural and development issues

Sociocultural and development issues are the natural arena of the diplomat, requiring careful understanding of the nature of cross-cultural differences that are the purview of the diplomat. However, the technical appearance of net neutrality, for example, as 'data management' might lead one to consider it best left to the control of the telecommunications companies. However, diplomats and policymakers must understand the importance of transparency of traffic management (or manipulation) systems and how they affect their citizens, or they might find that access to their populations have been distorted by commercial interests.

Human rights

Human rights are controversial in global policy in all arenas, so it is not surprising that these debates have entered the WSIS and the IGF processes. Thus far, human rights have not been directly addressed in global IG agendas, but are often included in overarching issues of access (to information, communication), diversity (minority rights, gender, culture), openness (content, freedom of expression) and cybersecurity (privacy, security). Human rights are considered in cross-cutting issues, such net neutrality (right to access, freedom of expression, anonymity), and child protection as well. Cultural definitions and differences make human rights a particularly

delicate area for diplomacy, and Internet rights require even more in-depth understanding of the concepts surrounding the issues, offering a rich area of study and practice to the interested diplomat.

Content policy

An important sociocultural issue is the shaping of content policy. On a cultural level, the advantages for preservation of language, arts, and history are incalculable. However, shaping of policy can involve manipulation or distortion if improperly used. Care must be taken on all levels to address issues of human rights, such as access to information, freedom of expression, and the right to communicate. These must be balanced with state security needs and the use of technology for surveillance and control. Diplomats have dealt with this equilibrium throughout history, and with understanding of Internet infrastructure and digital possibilities will understand how mechanisms for Internet and control overlap. This understanding will allow them to advise their superiors and interact with domestic and international ramifications of policy-making.

Privacy and data protection

Privacy and data protection work together and separately. Data protection helps guarantee privacy (Gutwirth *et al.*, 2010). However, there might not be agreement across cultures and states as to what constitutes privacy. Although these rights are enshrined in universal documents, different interpretations of privacy, for example, exist on the Internet, the same way they do in traditional arenas. In addition, the security and privacy overlap must be understood in order to comprehend the undertones and different uses of techniques such as, for example, Deep Packet Inspection (DPI), which may be invasive of privacy in the name of security.[31]

[31] An accessible explanation of Deep Packet Inspection can be found at http://www.pcworld.com/article/249137/what_is_deep_packet_inspection_.html

Development: The digital divide

The most significant concern about the so-called digital divide is that Internet resources and access be best utilised to decrease the digital and other divides. New Internet resources must offer opportunities and support for least developed and developing countries. Vigilance must be carried out that technologies do not increase the divide for the have-nots, as the developed and richer countries use Internet innovations to improve their positions.

Development issues are generally of a cross-cutting nature. Other IG issues have development aspects, and they are often addressed in those areas. For example, the questions of access and costs are discussed in infrastructure strategies. Legal and IPR issues affect access to knowledge, applications and copyrighted materials. Developing economy advantages and disadvantages are appropriately discussed in the relevant economic issues.

Table 13 shows a sampling of other issues and controversies in sociocultural and development issues.

Table 13. Main IG sociocultural issue controversies (Kurbalija, 2013)

Issue	Controversies	Proposed solutions
Human rights	How to establish the right balance between freedom of expression and protection of public order on the Internet How to deal with cultural differences in dealing with global policy	Policy process was initiated by the panel discussion at the UN Human Rights Council (29.2.2012).
Content control	How to ensure free flow of information while addressing problems with child pornography and hate themes	High level of controversy and different views; unlikely to establish international regime; a possibility of introducing filtering for internationally prohibited activities

Issue	Controversies	Proposed solutions
Privacy and data protection	How to protect personal data collected by major Internet services such as Facebook, Google and Twitter and others Since the business model of these Internet companies depends on access to their user's data, the question of privacy and data protection has high economic relevance.	Possibilities include: • Extending European (higher) level of data protection to other regions and countries (opposed by the USA) • Implementing a compromise solution such as Safe Harbour agreement (USA –EU) Privacy and data protection is likely to influence major developments on the Internet, including future economic models (advertising) and cloud computing.
Local and multilingual content		
Local infrastructure for emerging economies		

Table 14. Main policy instruments in IG sociocultural issue areas (Kurbalija, 2013)

	Human Rights	Content Policy	Privacy and Data Protection
Conventions and Treaties	Council of Europe Conventions on Cybercrime and Data-Protection	UNESCO Convention on Cultural Diversity	WIPO Copyright Treaty WTO TRIPS
Standards		W3C Standards	
Policies	UN Council on Human Rights (expert panel initiated process on online freedom of expression)	UNCITRAL Model Law on International Commercial Arbitration (1985) Uniform Domain Name Dispute Resolution Policy	Creative Commons Initiative

Other international treaties with relevance to IG issues are:

- *Anti-Counterfeit Trade Agreement (ACTA)*
- *Convention on the Rights of Persons with Disabilities*
- *International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)*
- *International Covenant on Civil and Political Rights (ICCPR)*
- *International Covenant on Economic, Social and Cultural Rights (ICESCR)*
- *International Telecommunication Regulations (ITRs)*

Other soft law declarations:

- *Tunis Agenda for the Information Society (Tunis Agenda)*
- *Universal Declaration of Human Rights (UDHR)*

A list of some additional IG issues under discussion can be found in Appendix 1.

This introduction to the principal IG issues serves only to illustrate the need to understand the underlying issues before entering into the complex world of IG. It clearly demonstrates the need to acquire sufficient training, information, and updating of knowledge of this important area of global resources and communications. In Chapter 5 we will discuss the main actors and processes that deal with these issues.

Chapter 5: Internet governance actors and processes

5.1 Introduction

The Internet has had a profound effect on the way politics are run, on the recent evolution of public politics, and on what now constitutes politics and public diplomacy. The Arab Spring exemplified the enabling role of the Internet, in particular in facilitating communications. In 2012, two major policy initiatives (SOPA in the US Congress, and ACTA[32] on a global level) were interrupted by mainly citizen-user-initiated Internet-supported campaigns (*Forbes Magazine* called it an 'earthquake of public backlash' (Black, 2012)). These examples demonstrated that the Internet and its services had empowered the public to better exercise its rights and to increase its visible participation in democratic and political processes. These changes have both cause (access to information, social media, and improved communication) and effect (effective political action) in the IG arena. Internet and IG processes have affected and have been affected as much as national and global politics, with the institutionalisation of the concept of multistakeholderism as one of IG's main achievements.

A systematic study of IG must take into account the multidisciplinary nature of the surrounding issues in order to understand not only the issues themselves, but how these issues work together, and how they affect different stakeholders. IG has been discussed under the

[32] The Office of the US Trade representative called ACTA: '... the highest-standard plurilateral agreement ever achieved concerning the enforcement of intellectual property rights (http://www.ustr.gov/acta), while The Electronic Frontier Foundation (EFF) said 'The final ACTA text includes intellectual property enforcement provisions that have the potential to open the floodgates for negative national legislation, while simultaneously creating strong incentives for online service providers to privately enforce the law in ways that can seriously undermine Internet users' privacy and freedom of expression. As it reads, its language could also be interpreted to legitimise website filtering and blocking and Internet disconnection' (Rossini *et al*, no date).

auspices of the United Nations since before the term ‘Internet governance’ was even coined. Since the Internet began, it has grown up in a unique multistakeholder way, in a complex overlap between academic and military environments. However, not until December 2003 was this approach formalised in item 49 of the WSIS Declaration of Principles (ITU – WSIS, 2003) as part of the UN WSIS.

5.2 Actors in the global Internet governance debate

Multistakeholderism has been adopted in principle, but there is still considerable discussion and manoeuvering, especially between non-state and civil society actors and government (state) actors about the particular role of each stakeholder. The WGIG Report specifically mentions governments, the private sector, and civil society, and lists their respective roles and responsibilities. It also specifically notes the value of the academic and technical communities, and of intergovernmental and international organisations.

The following main stakeholder groups are generally accepted as actors in the global IG policy process:

- States: the policy authorities for regulation of Internet-related public policy issues.
- The private sector: representatives of the technical and business interests in the innovation and exploitation of the Internet.
- Civil society: the voice of the user, principal advocates of Internet rights issues, especially at the community level.
- The technical community: Infrastructure professionals from academia, ICANN, IETF, and other critical Internet infrastructure interests.
- Intergovernmental and international organisations: coordinators of Internet-related public policy issues in intergovernmental bodies (such as UNESCO’s role in the WSIS process, OECD, ISOC).

5.3 The multistakeholder process

Multistakeholder processes (MSPs) engage interested stakeholders in a process of communication, information gathering, discussion, decision-shaping, and decision-making (Earth Summit 2002, no date). MSPs have been used in business for many years to ensure that wide consumer input is considered when marketing decisions are made. The more information business has available before a product or idea is launched, the better reception of that item is likely to be, since the strategy and end product will have been designed with the end consumer/user in mind.

Currently, in spite of strong efforts to include different stakeholders, most Internet-related negotiations take place in policy silos; in other words, negotiations and discussions about Internet-related topics take place in isolation. This is not sustainable for many reasons, but in large part, because IG issues are cross-cutting. The latest and most vivid example of the need for a multidisciplinary approach is the intellectual property rights developments in 2012. ACTA, which includes copyright, trade, human rights, and technological aspects, faced unprecedented policy opposition at a grassroots level. If policy shapers had held wide consultations, they might have been better prepared for popular response, and could have prepared a more appropriate policy and presentation. With the Internet impacting all segments of modern life, we can expect increased pressure to address IG in a multidisciplinary and multistakeholder way.

Kofi Annan, secretary general of the UN from 1 January 1997 to 31 December 2006, addressed this topic six years before the start of the WSIS process, in his 1999 address to the World Economic Forum Annual Meeting, saying:

> *The United Nations once dealt only with governments. By now we know that peace and prosperity cannot be achieved without partnerships involving governments, international organisations, the business community, and civil society* (IDRC, 2000, ch. 5).

However, the multistakeholder models in current practice are not perfect and are in constant evolution. It has critics who argue that it does not offer a level playing field for all actors. Chenou (2010) proposes that the multistakeholder model has elements of an elite power system that stem from the history of its emergence in the 1990s. Chenou points out the tension between two ideal, but different possibilities for multistakeholderism:

- *' multistakeholderism from above: a power elite cooptate nondominant actors through a dialogue process to ensure some legitimacy and acceptation to its domination over an issue-area;*
- *bottom-up multistakeholderism: the mobilisation among nondominant stakeholders forces the elites to engage into some deliberative process and allows an empowerment of non-elite and counter-elite groups'* (Chenou, 2010).

Chenou states that power asymmetries must be addressed, and that the first option, multistakeholderism from above, must be analysed further.

Although ICANN is a controversial body within IG, it has a long history of inviting Requests for Comments (RFCs) and has a public policy of multistakeholder participation, although the technical community and governments dominate this forum. In contrast, the ITU is government- and business-dominated by virtue of the high cost of entry and the ITU's domicile in the UN, yet it makes far-reaching decisions affecting the entire global population.

The most visible and inclusive space for multidisciplinary discussions on IG, and involving all stakeholders, is the UN-based IGF created by the WSIS process. The IGF has been successful as a global discussion group, but a four-day forum once a year is not enough. More must be done on a year-round basis than planning for an annual meeting (Table 4).

The introduction to *Business ethics of innovation (*Steinman, 2007, p. 7*),* quotes John Ruggie[33] describing a major advantage of the multistakeholder model:

> *The fundamental defect of the global society today is not that the reach of corporations is too big, but that our ability to govern is too small. We face governance gaps and governance failures on a monumental scale. Our core challenge, therefore, is to stimulate social and political processes that will help bridge the gaps and reduce the failures. The dynamic interplay between business, civil society, and the public sector constitutes an essential platform from which to mount the campaign.*

One of the largest, most significant advantages to the multistakeholder process for governments is the inclusion of the academic and technical communities' expertise, and that of civil society and the private sector; their input in areas where governments often do not have sufficient wide-ranging information to make decisions (i.e. for regulations, and laws and treaties) that deal with overlapping IG policy issues, enhance the process.

Multistakeholderism also makes the IG policy process stronger. For IG to be considered a legitimate process, it must be multistakeholder, as must the institutions that deal with major IG issues. Robin Gross, Chair of ICANN's Non-Commercial Stakeholders Group (NCSG), explains this is why the multistakeholder model is important for ICANN: 'Thus ICANN arguably attains its legitimacy to govern in direct proportion to which it facilitates the participation of impacted stakeholders' (Gross, 2011). The Internet has its roots in the technical community and there is a strong historical foundation for inclusion of the technical, economic, and academic communities. Civil society and users have long been involved in the innovation and the continuation of the IG process, and also merit a voice.

Given this recognition of the multistakeholder paradigm for IG, policy processes that do not include the multistakeholder model may suffer in credibility. This legitimacy requires more than lip service; genuine input will be required from all parties as well as inclusion of opinions in

[33] John Ruggie, Harvard Law School, Special representative on the issue of human rights and transnational corporations, at the Carl Bertelsmann Prize International Symposium in 2002

the final statements or recommendations. This means that the selection of representatives from the different stakeholder parties must be a transparent process, and that each of the stakeholder groups be truly represented as well.

The challenges for the new modality of multistakeholder diplomacy, for diplomats, and for other stakeholders, are very complex to channel. The first main challenge is probably that this is a new process in recent diplomatic practice, although diplomacy has employed different stakeholder models throughout history.[34] At the present time, diplomacy and diplomatic processes are defined as negotiation and communications between *states* (Discover Diplomacy, no date).[35] Governments are accustomed to speaking to governments. Koffi Annan acknowledged the changes, in the United Nations *We the Peoples* Report (2004), where he said 'global governance is no longer the sole domain of governments'. And as Steve Crocker (2013), Chairman of the Board of ICANN noted, this new modality, in the multistakeholder model, where governments are heard, but not obeyed, is a very uncomfortable circumstance for them.

Another challenge faced by diplomats involved in the IG process is that of deciding whether the Internet is affected in its organisation and management by its geolocation in the USA. The Internet grew out of an academic project in California, and the technical foundation of the Internet is still managed by ICANN, a not-for-profit organisation based in the state of California, USA. Can the situation where ICANN, which manages the addressing system of Domain Names, is beholden to US law through a memo of understanding with the US Department of Commerce, allow for globally acceptable management (Kruger, 2013)?[36] Is the Internet the same as other systems of international communication, such as telegrams, postal services, telephones, and other means of communication which are organised under

[34] For example, the Council of Vienna included all of society in its parallel social events, and during the period of the Holy Roman Empire, the Catholic Church was a major stakeholder. The Crusades and other 'holy wars' offer ample evidence of non-governmental stakeholders in diplomacy.
[35] Or note the title of Adam Watson's book: *Diplomacy: the dialogue between states* http://books.google.com/books/about/Diplomacy.html?id=24EOAAAAQAAJ
[36] The summary of this document gives an excellent overview of the ICANN controversy http://www.fas.org/sgp/crs/misc/R42351.pdf

international treaties and UN agencies? Or is the Internet intrinsically different from the other processes and so must be governed by different management processes?[37]

In addition, finding areas of compatibility among different cultural systems and approaches to governance is not an easy task. Different systems have varying degrees of freedom, such as freedom of expression, and different ways of carrying out the *exercise* of rights, as indicated under the Universal Charter of Human Rights.

5.4 Internet governance policy processes

IG policy technique can be seen as having two functions:

Decision-shaping begins with a framework to outline the most important issues and define strategies, and is constructed with input from all stakeholders. Each stakeholder group uses its own set of processes, including awareness-raising campaigns, discussion (mailing lists, wikis, websites, meetings), research, advocacy, lobbying, and traditional and social media publicity activities to support its own priorities. Although decision-shaping is not a formally recognised legal process, like public diplomacy it has substantive influence on processes and decisions. Newspaper articles, interviews, academic conferences, think-tank brainstorming, and other similar types of events may be consulted and publicised to underline the current issues and polarise populations around issues of their chosen priority.

In 2012, public activism in decision-shaping arenas was decisive in shaping the regional and global reception of ACTA and SOPA, two important issues in the IG regulation environment. This activism has been used previously in this thesis as an example of civil society and user involvement in decision-shaping.

Decision-making includes the regulation and the adoption of legal and policy instruments (conventions, treaties, standards) through negotiations and official events. More and more, the decision-making process is affected by decision-shaping activities.*Decision-shaping* can be seen

[37] See references to the ITU in the Introduction and Chapter 4.

as the public diplomacy section of the IG policy process. The effects and overlap can be seen like this:

Traditional diplomacy:

- *Decision-making*: negotiating and setting policy
- *Decision-shaping*: agenda setting

IG diplomacy: states and other stakeholders (public) join the discussion

- *Decision-shaping*: public reaction, voter strength
- *Decision-making*: defining guidelines and formal regulation

These activities take place in traditional and non-traditional venues, and include both online and offline spaces for reaching out to civil society and government. Press conferences, newspapers, television, and radio inform, but also offer publicity for demonstrations and street actions, demonstrations and protest. These are further fuelled by online social media such as social networks (Facebook, Google Plus) and instant communication (Twitter, SMS) and blogs.

Policy gaps and controversies, such as those outlined in Chapter 3, are likely to create new dynamics in IG. Tables 15–24 present these issues in the context of the position of the main actors, types of decisions affected, and venue. Again, it is important that focus is on developing cross-sectoral linkages (e.g. cybersecurity and human rights) which make IG more complex for diplomatic management.

Table 15. Decision-making institutions in IG infrastructure issues (Kurbalija, 2013).

Institution	Type of decisions	Location
International Telecommunication Union (ITU)	• International Telecommunication Regulations • Standards • Policy coordination	Geneva
World Trade Organisation (WTO)	• Markets - Liberalisation of telecommunication markets	Strasbourg
World Intellectual Property Organisation (WIPO)	• Intellectual property - Uniform Domain-Name Dispute Resolution Policy (UDRP)	Geneva
International Standardisation Organisation	• Standards (e.g. telecommunications, document management)	Geneva
Institute of Electrical and Electronic Engineering (IEEE)	• Standards (e.g. WiFi: IEEE 802.11b)	New York
ICANN	• Policy-making (Internet names and numbers)	USA & global
Regional Internet Registries (RIRs)	• Policy-making in distribution of IP numbers	5 regions
Internet Engineering Task Force (IETF)	• Standards (Internet protocols)	Virginia (USA)/Geneva
World Wide Web Consortium (W3C)	• Web standards (HTML)	Boston/Kyoto/ France
United Nations Commission on International Trade Law (UNCITRAL)	• Policy-making (model laws)	Vienna

Table 16. Decision-shaping institutions in IG infrastructure issues (Kurbalija, 2013).

Institution	Sphere of Influence	Location
Internet Governance Forum (IGF)	• Platform for multistakeholder policy discussion	Geneva
Broadband Commission for Digital Development (hosted by the ITU and UNESCO)	• Awareness building • Advocacy • Policy research	Geneva
Internet Society (ISOC) and the Internet Advisory Board (IAB)	• Awareness building • Policy initiation • Research • Capacity building	Virginia (USA)/ Geneva
Open Internet Coalition (OIC)	• Advocacy of Internet freedom	New York/Paris
Broadband Commission (ITU)	• Shaping broadband policy	Geneva
Internet Governance Caucus (main civil society body)	• Advocacy • Awareness building	Online
Association for Progressive Communication (APC)	• Advocacy • Policy Research	Online
Internet Governance Project	• Research • Teaching	Syracuse, USA
International Chamber of Commerce – BASIS	• Represents business interests	Paris
Giganet	• Research	Internet
DiploFoundation	• Research • Capacity building	Malta/Geneva

Table 17. Decision-making institutions in IG legal Issues (Kurbalija, 2013)

Organisation	Type of decisions	Primary location
World Trade Organisation	• Trade Related Aspects of Intellectual Property Rights (TRIPS) regulation (IPRs)	Geneva
World Intellectual Property Organisation	• Intellectual Property Rights Conventions	Geneva
UNCITRAL	• Policy-making (model laws)	Vienna
International Labour Organisation	• Labour law on the Internet (resources and controversies over online work relationships)	Geneva
The Hague Conference on Private International Law	• Codification of Private International Law	Hague
International Law Commission	• Codification of International Law	Geneva

Table 18. Decision-shaping institutions in IG legal Issues (Kurbalija, 2013).

Organisation	Sphere of action	Primary location
Internet Governance Forum	• Platform for multistakeholder policy discussion	Geneva
International Chamber of Commerce – BASIS	• Represents business interests	Paris
University of Zurich, Faculty of Law	• Academic research	Zurich

Table 19. Decision-making institutions in IG cybersecurity issues (Kurbalija, 2013).

Institution	Type of decisions	Location
International Telecommunication Union (ITU)	• International Telecommunication Regulations • Standards • Policy coordination	Geneva
Council of Europe (CoE)	• Cybercrime Convention	Strasbourg
UN Office of Drugs and Crime	• Convention on Organised Crime	Vienna
ICANN	• Policy-making	USA & global
OECD	• Policy-making (guidelines)	Paris
Internet Engineering Task Force (IETF)	• Standards	Virginia (USA)/ Geneva
Institute of Electrical and Electronics Engineers (IEEE)	• Standards	New York
International Electrotechnical Commission (IEC)	• Standards	Geneva
UNCITRAL	• Policy-making (model laws)	Vienna
Interpol	• Policy-making and coordination	Lyon

Table 20. Decision-shaping institutions in IG cybersecurity issues (Kurbalija, 2013).

Organisation	Sphere of action	Primary location
International Chamber of Commerce (ICC)	• Coordination of input and concerns of small and medium enterprises in the policy process	Paris
Internet Society (ISOC)	• Awareness building • Policy initiation • Research • Capacity building	Virginia (USA)/ Geneva
Human Rights Watch	• Advocacy of Internet freedom	New York
Freedom House	• Advocacy of Internet freedom	Washington
Reporters Without Borders	• Advocacy of Internet freedom	Paris
DiploFoundation	• Research • Capacity building	Malta/Geneva
United Nations Institute for Disarmament Research (UNIDIR)	• Policy research	Geneva
Geneva Centre for the Democratic Control of Armed Forces (DCAF)	• Awareness building • Policy research • Governance reform	Geneva
Geneva Center for Security Policy	• Course on cybersecurity • Panels and roundtables on cybersecurity	Geneva
Commonwealth Secretariat and Working Group on Cybercrime	• Commonwealth Cybercrime Initiative	Malta (Comnet)
Geneva Security Forum	• Awareness building • Conferences and events on cybersecurity	Geneva

Table 21. Decision-making institutions in IG economic issues (Kurbalija, 2013).

Organisation	Type of decisions	Primary location
World Trade Organisation	• E-commerce programme	Geneva
OECD	• Guidelines on various aspects of e-commerce	Geneva
UNCITRAL	• Model law on e-commerce	Vienna
ITU	• Labour law on the Internet	Geneva

Table 22. Decision-shaping institutions IG economic issues (Kurbalija, 2013).

Organisation	Sphere of action	Primary location
Internet Governance Forum	• Platform for multistakeholder policy discussion	Geneva
International Chamber of Commerce	• Recommendations on e-commerce	Paris
Consumers International	• Advocacy, awareness raising	
Consumers Web Watch	• Advocacy, awareness raising	

Table 23. Decision-making institutions in IG sociocultural and development issues (Kurbalija, 2013).

Sociocultural		
Organisation	**Types of decisions**	**Primary location**
UN Council on Human Rights	• Currently expert panel on freedom of expression	Geneva
UN Human Rights Treaty Bodies	• Online aspects of specific conventions (child protection, disabilities)	Geneva
Council of Europe	• Conventions on human rights • Court decisions (European Human Rights Court)	Strasbourg
W3C Consortium	• Filtering standards (content control) • Web Content Accessibility Guidelines (for people with disabilities)	USA/France/Japan

Organisation	Types of decisions	Primary location
Organisation of Security and Cooperation in Europe	• Recommendations on freedom of expression	Vienna
OECD	• Guidelines on Privacy and Transborder Flow of Personal Data	Paris
ICANN	• Policy on Internationalised Domain Names	USA
IETF	• Standards for Internationalised Domain Names	ISOC (Geneva/USA)
UNESCO	• Promotion of multilingualism, cultural diversity, and online education	Paris
International Telecommunication Union (ITU)	• Child Online Protection Initiative	Geneva
Development		
International Telecommunication Union (ITU)	ITU-D provides wide set of development assistance programmes.	Geneva
UNDP	Support ICT development activities	New York
World Bank	ICT/Internet Development activities	Washington

Table 24. Decision-shaping institutions in IG sociocultural and development issues (Kurbalija, 2013).

Sociocultural		
Organisation	**Sphere of action**	**Primary location**
Internet Governance Forum	• Platform for multistakeholder policy discussion	Geneva
Association for Progressive Communication (APC)	• Advocacy for Internet human rights	Johannesburg
Amnesty International	• Advocacy	London
Freedom House	• Advocacy (focus on freedom of expression)	New York

Organisation	Sphere of action	Primary location
Reporters without Borders	• Advocacy (content control)	
Internet Society (ISOC)	• Advocacy • Capacity building • Policy research	Geneva
Development		
Internet Governance Forum	• Platform for multistakeholder policy discussion	Geneva
Digital Solidarity Fund	• Support for ICT/Internet projects	Geneva
DiploFoundation	• Internet Governance Capacity Building Programme for small and developing countries	Geneva

One of the main questions about the management of IG issues, without a global IG framework, is whether there is a need for an overarching IG organisation which covers all the main IG issues, from the areas of infrastructure and standardisation, legal, cybersecurity, economic, and sociocultural and development. Such an organisation would address cross-cutting issues which are not currently covered in any specific organisation (e.g. interplay between human rights and cybersecurity). Options under discussion include maintaining the *status quo,* creating a new intergovernmental body under the auspices of the UN, formally adding management of the Internet to the ITU's mandate, and renewing and strengthening the IGF process to allow it to wield more power.

A 2011 survey of civil society individuals and organisations showed the wide diversity of fora for discussion of information society issues. While the list, which can be seen in Appendix 2, was compiled based upon only civil society stakeholder input, the list includes intergovernmental

and international organisations, technical bodies, academic institutions, civil society groups, and multistakeholder fora (Bollow, 2012).[38]

The next and final chapter will discuss the previous ideas as they fit into the larger picture of diplomatic priorities, and offer conclusions for consideration.

[38] The source has valuable information on each of these IG fora. Norbert Bollow: *Public Interest Representation in the Information Society.* In: Jeremy Malcolm (ed.): *Consumers in the Information Society: Access, Fairness and Representation*, published by Consumers International, 2012, pp. 181-214. ISBN 978-0-9567403-9-7. http://idgovmap.org/Bollow_2012.pdf.

Chapter 6: Putting it all together

6.1 Ideals into ideas into solutions

The Internet was founded on the need to communicate, for myriad purposes. This is the domain of the diplomat, but not of the diplomat alone. The idea of managing, or governing such a complex phenomenon is daunting. Its differences from traditional diplomatic processes provide a new and interesting challenge for diplomats. Not only do its technical and social components form a detailed and interlocking puzzle, but the diversity of stakeholders requires a working method that allows for clear communication between stakeholder groups who are not practiced in intercommunication. In addition, IG, although officially defined by the WGIG Report of 2005, still does not have clear boundaries of mandate, or a clear host or home for its governance.

An oversimplification of IG might describe it as the global strategy and attempt to ensure that some countries do not end up with the Internet equivalent of BetaMax and VHS tapes while other countries use DVDs, and yet others are already moving on from BluRay to the next movie format. It works towards movies being available on all subjects, in all languages, and being used to preserve the world's cultural heritage. It looks for ways to use this technology to make sure that everyone has access to the knowledge, entertainment, and resources that *they* want, at a price *they* can afford, and that they will be able to use these tools to diminish the digital and other divides – medical, nutrition – even peace and understanding. Goals as idealistic as these require the work of all stakeholders, to support each others' work, outreach and knowledge – a true multistakeholder effort where diplomats are especially necessary.

Is that what the world wants to happen? Yes, of course. Is it likely to happen soon? No, of course not. But IG is making inroads – perhaps through rocky, muddy and toxic paths[39] – in the best hope to use a human invention to improve the human condition. Diplomats have an important role to play on this path, but are they ready to take up the challenge? Vinton Cerf, one of the fathers of the Internet, said of some risky paths: 'Yet in all those cases I finally steeled myself to seize the opportunity, and find a way to muddle through and eventually conclude that I had, in fact, chosen the right path, as risky as it seemed at the time. So, when people ask, "What should I do?", my answer is usually: "Take the risky path, because that will be the more interesting one"' (Gehl, 2000). While a diplomat may appropriately answer that risk is not the purview of the diplomat, some of the strategies behind the Internet itself may show the way to diplomatic solutions to its management.

Some of these strategies may require change, as noted by Jovan Kurbalija, diplomat and IG expert: 'Developments in modern international relations have shown that traditional diplomacy is not capable of sufficiently addressing complex new issues, for example, the environment, health protection, and trade. Governance of the Information Society and the Internet is probably one of the most complex international issues facing diplomacy today. Issues surrounding the Information Society require a *multi-disciplinary* approach (the various concerns include technology, economy, impact on society, regulatory and legal issues, governance and more); a *multi-stakeholder* approach (various actors are involved, including states, international organizations, civil society, private sector, and others) and a *multi-level* approach (decision-making must take place on different levels: local, national, regional and global)' (Kurbalija, 2004).

To sustain and advance the Internet to fulfil the hopes and expectations the world has established for it, IG will require careful strategies, study, and hard work, which are certainly part

[39] Jeanette Hoffmann: 'To observe the development of Internet governance is to follow an endlessly winding and intricate path of negotiation' (2005).

of traditional diplomacy. However, study of new areas, review of new methods, new ways of negotiating and even some risk-taking may also be required.

Some work may need to be done by governments and their diplomats to overcome pre-existing prejudices. For example, Jeanette Hoffman, co-director of the newly founded Alexander von Humboldt Institute for Internet and Society in Berlin and former IGF Multistakeholder Advisory Group member, wrote in 2005: 'In hindsight it appears that the negative attitude toward governmental 'interference' in the 'domestic affairs' of the Internet was one of the few – albeit fundamental – points of agreement in the conflict-filled beginnings of Internet governance. The modus operandi of governments was equated with hierarchy,[40] bureaucratic slowness, and thinking in terms of territorial nation-states, and was portrayed as the antithesis of the unbridled and innovative Internet' (Hoffman, 2005).

Yet not all is negative. Hoffman also states: 'Overall, there are now signs of an expansion of Internet governance's frame of reference and, furthermore, of a reappraisal of the stakeholders in this field. This shift in emphasis concerns the role of governments in particular: state intervention is no longer automatically equated with the suppression of innovation and of freedom to communicate. Rather, one can observe an increasing willingness to reflect on the desirability and conditions of a more comprehensive form of political coordination for the Internet' (Hoffman, 2005).

Governments are not the only stakeholders to suffer the perception of a lack of transparency and trust, as ICANN staff are currently being criticised for eroding trust by making policy decisions instead of following procedures for bottom-up decision-making on issues like the new GTLD programme, rights protection mechanisms, reservations of geographic names and more.

[40] The Internet as an academic innovation, and Internet governance as policy, are both characterized by a flat hierarchy, rather than the traditional top-down ministry structure.

‘Events at ICANN over the last year have resulted in a severe erosion in trust among many ICANN stakeholders. The manner in [which] ICANN Staff has been making policy decisions on issues such as the new GTLD program, Rights Protection Mechanisms, Reservations of Geographic names, the Trademark Clearinghouse, the Registrar Accreditation Agreement and the Registry Agreement is eroding the multistakeholder nature of ICANN. It is unacceptable that ICANN Staff has been making policy decisions as opposed to [following bottom-up decision making [processes] has caused of this erosion of trust.’[41]

By whom, then, and where, should Internet issues be addressed? Several options exist: continuing discussion, treatment of different aspects of IG in different areas (technical issues in ICANN and the ITU, human rights issues in the UN, IPR in WIPO, education and sociocultural issues in UNESCO, policy and principles in the IGF?)

Is it ideal, or only expedient, to address the technical issues in ICANN; controversies about regulation in the ITU; policy discussions in the IGF; vigilance on citizen and user issues from civil society; observation and comment from the academic community; funding and control from business? The technical community, academia, civil society, business, governments, and the diplomatic community each have their specialties, and their roles to play. Each must do some soul-searching to decide what more can be done to further, and to accelerate, the resolution of IG controversies, and the maximum output of the Internet for the good of the world.

The wide range of issues involved – infrastructure and standardisation, legal and jurisdiction, cybersecurity, economic, sociocultural and development – not only require study in each of their specialties, but an understanding of how these issues interact with each other: how might technical protocols be used to surveil, control or liberate traffic and content? At what point does security become control? How can economic opportunities be used to foster development and educations? How do we reconcile freedom of expression and discrimination? These

[41] This citation is taken from a document currently being drafted on one of the main consumer/civil society discussion lists. The URL is not open to the public.

questions, and their answers, are important to diplomats. And diplomats have the important ability to negotiate points of balance and ways forward.

As we have seen in Chapter 4, further complexities arise as cross-cutting issues are seen in a larger context of the juxtaposition of effects on the overall interrelated functioning of the Internet. This occurs, for example, when discussions showcasing different stakeholder viewpoints attempt to reconcile issues which are sometimes seen as contradictory, such as security (which might require control by governments) and privacy and human rights (which might suffer from control by governments), although both are also complementary parts, necessary for the stability of the Internet infrastructure.

6.2 Conclusions

This dissertation provides a basic overview of the antecedents and history of Internet policy processes, a timeline, and a definition of both the Internet and governance. This serves to show the complexities and cross-linkages involved in the growth of the Internet, and the development of IG as a global process area. It also briefly explores how IG is different from other processes where diplomats act, and analyses the UN IGF as an example of a global IG forum. It introduces the idea of multistakeholder policy-shaping for IG. A review of the main issues inherent in IG, classified in the broader areas of infrastructure, legal, cybersecurity, economic, sociocultural, and development issues was made. This is offered as a foundation for understanding the importance of IG, how the issues interact, and how they affect the global policy environment. An overview of the main processes and venues where IG is addressed is discussed, underscoring the multiplicity of venues where issues are addressed, and the need to achieve crossover between policy and issue silos. These conditions all point to the important potential role for diplomats in IG.

Some steps for consideration for moving ahead in this new diplomatic area are:

- Assign the necessary importance to IG as a diplomatic area.

- Provide study and training opportunities for diplomats to carry out these duties, especially building upon previous expertise.
- Support training for other stakeholders and small and developing countries to increase the quality and representation of multistakeholder engagement, and fostering improved diplomatic dialogue.
- Increase government representation in multistakeholder IG discussions.
- Collaborate in ensuring an appropriate venue or venues, to address the issues, both taking advantage of diplomatic expertise, and integrating new models of engagement presented by other stakeholders. Highlight use of new Internet resources such as e- and remote participation to enhance inclusion in these processes.
- Support and improve permanent application of a multistakeholder model to foster trust and cooperation.
- Take advantage of diverse stakeholder expertise.

Diplomats study their areas of expertise in depth, to understand the nuances of the issues which they must master in order to develop, negotiate, and prepare appropriate policies. Whether this be advising their capital or superiors, preparing position papers, or taking part in global discussion fora, a clear understanding of the complex issues must be mastered in order to allow diplomats to go beyond reporting, to adding insight and value to the discussion. The topics have changed, the tools have changed, but the traditional diplomatic expertise must be applied to the area of IG to ensure its proper treatment in global fora.

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Appendix 1: Additional Internet governance issues under discussion

(Note: This is not a complete or exhaustive list)

- *Accessibility*
- *Censorship circumvention*
- *Civil society participation in Internet governance*
- *Content filtering*
- *Copyright reform*
- *DNS root*
- *Do Not Track (DNT)*
- *Domain Name System*
- *Education on the use of the internet and digital literacy skills*
- *Emergency traffic prioritisation*
- *Enhanced cooperation*
- *Freedom of communication*
- *Freedom of expression and information*
- *Funding civil society participation*
- *Illegal copying and distribution*
- *Internet Exchange Points (IXs or IXPs)*
- *Internet of things*
- *Jurisdiction in defamation and other cross-border cases*
- *Legitimacy*
- *Network neutrality*
- *Objectionable content*
- *Observability of communications monitoring*
- *Observability of filtering*
- *Open standards*
- *Orphan works*
- *Prohibition of hate speech*

- *Proliferation of standards*
- *Protection of Internet intermediaries from liability for objectionable content*
- *Protection of personal data*
- *Public interest*
- *Public interest representation*
- *Responsibility of states to cause no transboundary harm*
- *Right to accessibility*
- *Right to anonymous speech*
- *Right to be forgotten*
- *Right to development through the Internet*
- *Right to internet access*
- *Right to liberty and security on the internet*
- *Right to non-discrimination in internet access, use and governance*
- *Right to privacy*
- *Robust Internet infrastructure*
- *Self-regulation*
- *Technical standards for accessibility*
- *Technical standards for privacy*
- *Time-zone database*
- *Trademarks*
- *US copyright law enforced against parties outside the US by means of Domain Name seizure*
- *Website blocking*
- *WiFi mapping*

Appendix 2: Key Internet governance fora (Bollow, 2012)[42]

- *African Commission on Human and Peoples' Rights (ACHPR)*
- *AfriNIC*
- *American Registry for Internet Numbers (ARIN)*
- *Asia-Pacific Economic Cooperation (APEC)*
- *Asia-Pacific Network Information Centre (APNIC)*
- *Association of South East Asian Nations (ASEAN)*
- *Commission on Science and Technology for Development (CSTD)*
- *Corporation for National Research Initiatives (CNRI)*
- *Council of Europe (CoE)*
- *European Patent Office (EPO)*
- *European Union (EU)*
- *Group of Eight (G8)*
- *Group of Twenty (G20)*
- *Institute of Electrical and Electronics Engineers (IEEE)*
- *International Organization for Standardization (ISO)*
- *International Telecommunication Union (ITU)*
- *Internet Address Registry for Latin America and the Caribbean (LACNIC)*
- *Internet Assigned Numbers Authority (IANA)*

[42] The source has valuable information on each of these IG fora. Norbert Bollow: *Public Interest Representation in the Information Society.* In: Jeremy Malcolm (ed.): *Consumers in the Information Society: Access, Fairness and Representation*, published by Consumers International, 2012, pp. 181-214. ISBN 978-0-9567403-9-7. http://idgovmap.org/Bollow_2012.pdf.

- *Internet Corporation for Assigned Names and Numbers (ICANN)*
- *Internet Engineering Task Force (IETF)*
- *Internet Governance Forum (IGF)*
- *Internet Society (ISOC)*
- *National governments*
- *National or regional IPv6 task force*
- *Organisation for Economic Co-operation and Development (OECD)*
- *Organization of American States (OAS)*
- *RIPE Network Coordination Centre (RIPE NCC)*
- *South Asian Association for Regional Cooperation (SAARC)*
- *Southern Common Market (Mercosur)*
- *Transatlantic Economic Council (TEC)*
- *UN Office of the High Commissioner for Human Rights (OHCHR)*
- *United Nations Conference on Trade and Development (UNCTAD)*
- *United Nations Development Programme (UNDP)*
- *United Nations Economic and Social Council (ECOSOC)*
- *United Nations Educational, Scientific and Cultural Organization (UNESCO)*
- *Universities*
- *World Economic Forum (WEF)*
- *World Intellectual Property Organisation (WIPO)*
- *World Trade Organisation (WTO)*
- *World Wide Web Consortium (W3C)*

Other important IG-related fora:

- *ACTA Committee*
- *African Court of Human Rights*
- *African Union (AU)*
- *Asian and Pacific Training Centre for Information and Communication Technology for Development (APCICT)*

- *Caribbean Telecommunications Union (CTU)*
- *Commonwealth of Nations*
- *Corporation for National Research Initiatives (CNRI)*
- *Council of European National Top-Level Domain Registries (CENTR)*
- *Council of the Asia Pacific country code Top Level Domains (APTLD)*
- *Economic Commission for Africa (ECA)*
- *Economic Commission for Latin America and the Caribbean (ECLAC)*
- *Economic Community Of West African States (ECOWAS)*
- *European Broadcasting Union (EBU)*
- *European Court of Human Rights*
- *European Patent Office (EPO)*
- *European Telecommunications Standards Institute (ETSI)*
- *Global eSchool Initiative (GeSCI)*
- *India-Brazil-South Africa Dialogue Forum (IBSA)*
- *Information for Development Program (infoDev)*
- *Inter-American Commission on Human Rights (IACHR)*
- *Inter-American Court of Human Rights (IACHR)*
- *International Criminal Police Organization (INTERPOL)*
- *International Federation for Information Processing (IFIP)*
- *Internet Architecture Board (IAB)*
- *NEPAD*
- *Number Resource Organization (NRO)*
- *Open Government Partnership (OGP)*
- *OpenNet Initiative (ONI)*
- *Organisation Internationale de la Francophonie*
- *Organisation of Islamic Cooperation (OIC)*
- *Regional and national IGFs*
- *Réseau des Consommateurs Africains des Technologies de l'Information et de la Communication (RéCATIC)*
- *Southern African Development Community (SADC)*
- *Southern Common Market (Mercosur)*
- *UN Human Rights Council (HRC)*
- *United Nations Department of Public Information (UNDPI)*
- *United Nations Economic Commission for Africa (UNECA)*
- *United Nations General Assembly (UNGA)*
- *United Nations Office on Drugs and Crime (UNODC)*

- *World Customs Organization (WCO)*
- *WSIS Forum*