How the technical community frames the Internet and economic, social and cultural rights

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[1]For more information, see: www.apc.org/en/projects/connecting-your-rights-economic-cultural-and-socia

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1. Introduction

The purpose of this paper is to discuss the issues surrounding strategies for cooperation with the technical community in the effort to advance economic, social and cultural rights (ESCRs) on the Internet.[2] The paper begins by describing the framework for the analysis of the functional environment of the technical community. The latter part of the paper outlines some opportunities for making progress.

2. Framework of the analysis

The analysis begins from the basic assumption that Internet rights are key to achieving human rights, and that all human rights find expression on and are often affected by the Internet. The initial human rights focus in Internet discussion has often been on civil and political rights such as freedom of expression and privacy. In June 2012, the United Nations Human Rights Council (HRC) affirmed that the same rights that apply offline also apply online.[3]

These include the rights defined in the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights (ICESCR). A July 2014 resolution by the HRC further affirmed that "the same rights that people have offline must also be protected online" and added that "quality education plays a decisive role in development, and therefore calls upon all States to promote digital literacy and to facilitate access to information on the Internet, which can be an important tool in facilitating the promotion of the right to education."[4] Moreover, the resolution called on states to "promote and facilitate access to the Internet, as well as for international cooperation aimed at the development of media and information and communication facilities and technologies in all countries" and further called on states to "consider formulating, through transparent and inclusive processes with all stakeholders, and adopting national Internet-related public policies that have the objective of universal access and furthering human rights at their core."[5]

This resolution, and the details contained within the ICESCR, serve to illustrate the degree to which economic, social and cultural rights are a consideration in the activities and policies of Internet technical community organisations. However, direct mentions of ESCRs or UN resolutions in the charters or work of Internet organisations are rare. For the most part, the organisations examined in this paper are engineering or technical policy organisations, and until recently the language of human rights was unknown and unheard in their proceedings. While this has begun to change in the area of civil and political rights due to the effort to make pervasive monitoring[6] more difficult, it has not yet changed in

[2]While it is the policy of the Association for Progressive Communications (APC) not to capitalise "internet" as a step towards demystifying the term, the author argues that it is a proper name and needs to be capitalised. This paper thus follows the author's preference.

[3]United Nations General Assembly, Human Rights Council. (2012). *The promotion, protection and enjoyment of human rights on the Internet.* (A/HRC/20/L.13). www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session20/A.HRC.20.L.13_en.doc. Also see: ap.ohchr.org/documents/alldocs.aspx?doc_id=20280

[4]United Nations General Assembly, Human Rights Council. (2014). *Resolution adopted by the Human Rights Council 26/13: The promotion, protection and enjoyment of human rights on the Internet.* (A/HRC/RES/26/13). daccess-dds-ny.un.org/doc/UNDOC/GEN/G14/082/83/PDF/G1408283.pdf?OpenElement . Also see: https://www.apc.org/en/system/files/G1408283.pdf

[5]Ibid.

[6]Pervasive monitoring (PM) is widespread (and often covert) surveillance through intrusive gathering of protocol artefacts, including application content, or protocol meta-data such as headers. Active or passive wiretaps and traffic analysis such as correlation, timing or measuring packet sizes, or subverting the cryptographic keys used to secure protocols can also be used as part of pervasive monitoring. PM is distinguished by being indiscriminate and very

the area of ESCRs. However, this does not mean that there are no linkages to ESCRs in either the foundational documents of these organisations or in their work.

The paper will also review various mechanisms by which the two complementary objectives can be fostered: to introduce human right concepts into the policy considerations for those who participate in the governance and maintenance of the Internet, and to develop proposals on how the enjoyment of rights can be improved through progressive realisation, including removing barriers and the judicious use of the Internet.

2.1. Juxtaposition of civil and political rights and ESCRs

While both sets of rights have their origin in the Universal Declaration of Human Rights, they are generally approached in a different manner. It is far more common for people to consider rights defined in the International Covenant on Civil and Political Rights as mandatory and those defined in the Covenant on Economic, Social and Cultural Rights as aspirational.[7] This difference has contributed to the fact that while there is discussion in the mainstream of ways to respect civil and political rights, ESCRs remain controversial and are generally not discussed by those involved in the creation and maintenance of the Internet.

In fact, many ESCR issues could possibly come under the heading of content, something for which regulation is considered anathema by many of those who advocate for freedom of expression and free flow of information in an open Internet. By and large, while civil and political rights are susceptible to national law and enforcement, ESCRs often require private investment in order to be implemented, though in some cases government investment is possible and sometimes even sufficient. This makes ESCRs subject to the pressures of budgets, financial institutions, cost-benefit analysis, and competitive models of development. Additionally, more states have accepted the Covenant on Civil and Political Rights than have accepted the Covenant on Economic, Social and Cultural Rights.

large-scale, rather than by introducing new types of technical compromise. For an overview, see: Arkko, J., & Farrell, S. (2014). *Pervasive Monitoring.* https://www.internetsociety.org/sites/default/files/IETF%20Update-Pervasive%20Monitoring.pdf For more on the confidentiality threat model, see: Barns, R., Schneier, B., Jennings, C., Hardie, T., Trammell, B., Huitema, C., & Borkmann, D. (2015). *Confidentiality in the Face of Pervasive Surveillance: A Threat Model and Problem Statement.* www.rfc-editor.org/rfc/pdfrfc/rfc7624.txt.pdf

[7]The Universal Declaration of Human Rights was adopted in 1948, the International Covenant on Civil and Political Rights (ICCPR) was adopted in 1966 and the International Covenant on Economic, Social and Cultural Rights (ICESCR) is in force since 1976. For the text of the ICCPR, see: www.un.org/Docs/asp/ws.asp?m=A/RES/2200%20(XXI) For the status of signatories and ratification, see: www.ohchr.org/Documents/Issues/HRIndicators/Ratification/Status_ICCPR.pdf For the text of the ICESCR, see: www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx For the status of signatories and ratification, see: treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=IV-3&chapter=4&lang=en

3. Definitions and concepts

Many of the terms[8] used in discussion of rights and the Internet have varied conceptual bases. Some of the terms used in this study are well known for their creative ambiguity[9] and for how they have been interpreted in different ways by different groups. This section discusses some terms and how they will be used in this analysis.

3.1. Progressive realisation

Article 2(1) of the International Covenant on Economic, Social and Cultural Rights states:

> Each State Party to the present Covenant undertakes to take steps, […] especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means […].[10]

This is referred to as "progressive realisation" or "progressive achievement."[11] As with all human rights obligations, this article is primarily directed at government action and is meaningful when used in advocacy with the state. It notes that governments must take steps within the bounds of their capacity to progressively achieve ESCRs in areas of citizen life where there is an absence of the realisation. The governments are duty bearers, and should take action where appropriate through the adoption of legislative measures.

There is no equivalent to this obligation when it comes to civil and political rights. Those are regarded as imperatives that can be avoided by the state only when based on law and only when any such limitations are necessary and proportionate. Access is a derivative right that can only be achieved through progressive realisation. Even though it may be difficult to legislate in order to provide access to the Internet as a human right, the concept of progressive realisation demands that governments take continuous and clear steps towards realising the goal of universal access.

In developing strategies for advocacy, it is important to differentiate between the obligations of governments and the normative responsibilities of the private sector. As with civil and political rights, there are no ESCR obligations on the private sector unless required by national or local law, though there are often human rights responsibilities that the private sector is expected to embrace by the state or public opinion even in the absence of legal compulsion. One of the realities, however, is that often it is the private sector that has the capacity to aid in progressive realisation, not the government. This means that the private sector needs to be involved. The tactics and campaigns with the greatest odds of success vary depending on whether they are targeting governments or the private sector. The tendencies and

[8]A glossary is appended with the translation of some acronyms used in this report. That table of definitions also includes the addresses of websites where more information about the items can be found.

[9]Creative ambiguity is a literary term often used in reference to diplomatic language in a treaty or other official document where the wording is shaped in order to allow full consensus. Each side is then able to read the language and to find the nuance they require to meet political objectives.

[10]United Nations General Assembly. (1966). International Covenant on Economic, Social and Cultural Rights. escr.apc.org/images/1/1c/Covenan_on_Economic%2C_Social_and_Cultural_Rights.pdf

[11]Blyberg, A., & Hofbauer, H. (2014). *Article 2 and Governments' Budgets* internationalbudget.org/wp-content/uploads/Progressive-Realization-booklet.pdf

susceptibilities of each must be understood when planning campaigns. "One style fits all" is not an advisable approach when it comes to advocacy.

3.2. Access

Universal access is a pivotal advocacy issue in the spread of ESCRs. It is thus important to continue the access debate to achieve ESCRs. It is also necessary to take the discussion of access beyond the provision of bandwidth, since accessible content is also required. A stepwise approach is often preferred. For example, in education, the supply of computers, bandwidth and software that supports the language of the student is important. Rather than engaging general demands about access to education, it is important to focus on a means by which access to education can be achieved, such as computers, bandwidth and software in the language of the student.[12] Similarly, the availability of Internet content in local languages and scripts is essential for access to the cultural life of the nation. The process of progressive realisation points to the necessity of obtaining the means, which in turn obligates the state, and perhaps even the private sector, to make the means to access possible.

3.3. Duty bearers, roles and responsibilities

When discussing ESCRs, it is important to keep in mind the distinction between government obligations and the normative responsibilities of others. While only governments function as "duty bearers", the private sector should also take responsibility. In some cases, this can be mandated by state regulation, but, for the most part, the private sector must first come to a voluntary acceptance of its responsibility. NGO advocacy can and must assist in achieving this in order to make progress in respect to ESCRs. This too can be understood in the context of progressive realisation – in order to achieve ESCRs we need progressive realisation; in order to achieve progressive realisation we need for the private sector to contribute; in order for the private sector to contribute it must accept its responsibility to do so.

3.4. Governments as duty bearers

The formal obligations of the state, based on its approval of various treaties, covenants and resolutions to secure human rights, indicate that governments remain a central stakeholder. However, when engaging states it is worthwhile to bear in mind what they can and cannot enforce. For example, state regulators can impose sanctions for violations where there is legislation. Without legislation, governments need to rely on the voluntary participation of the private sector, NGOs and citizens. Strategies need to be specific to the legislative environment and to the proclivities of a particular state to creating legislation on ESCRs. In cases where the tolerance of the state for legislation on ESCRs is low, strategies must rely on persuasion of the private sector. While the state can help with this, it cannot force action without legislation. Reasonable and useful legislation is often hard to find and extremely difficult to develop.

3.5. Responsibility of the private sector for ESCR

While not formally bound by the various treaties, covenants and resolutions, the private sector is commonly expected to accept some responsibility for economic, social and cultural rights. Organisations like Google and Facebook are often criticised for not appearing to have taken ESCRs into account in their decisions, indicating a general expectation that they should. In order to assist businesses in

[12]Sometimes radio broadcasts or old fashioned printed textbooks may be necessary first steps. But in a discussion of Internet and ESCRs, bandwidth, hardware and software are usually essential.

understanding the responsibilities which are appropriate for their roles in governance, the UN has published Guiding Principles on Business and Human Rights[13] that identify a framework it calls "Protect, Respect, Remedy".

> These Guiding Principles are grounded in recognition of:
>
> (a) States' existing obligations to respect, protect and fulfil human rights and fundamental freedoms;
>
> (b) The role of business enterprises as specialized organs of society performing specialized functions, required to comply with all applicable laws and to respect human rights;
>
> (c) The need for rights and obligations to be matched to appropriate and effective remedies when breached.[14]

Though often put under the heading of corporate social responsibility (CSR) or housed within an ethics office, some organisations, both for-profit and not-for-profit, have started to recognise such obligations. Some have started by merely appointing a member of senior management to this task, while others have created departments reporting at the highest levels of the company. Some corporations formed and joined the Global Network Initiative (GNI)[15] dedicated to understanding and implementing corporate social responsibility by Internet service providers in their policies and operations. However, until such time as all corporations accept their responsibilities for human rights, this remains an urgent area for advocacy. Once they do accept such responsibilities it will be easier to convince corporations to contribute to creating solutions for specific ESCR needs.

There is also some discomfort among some civil society advocates in the linkage of human rights to CSR. However, for better or for worse, CSR is a private sector construct that is most susceptible to discussion of ethical issues and of human rights. In the long run it will be necessary to understand the difference between CSR and the fulfilment of the responsibility for human rights-based behaviours. In the short run, this is an available entry point, and an advantage to early exploitation of the CSR concept is the ability to shape it into a useful engine for developing and deploying solutions to the ESCRs.

3.6. Internet governance

Internet governance is sometimes challenging to define. Defining it was important to governments during the World Summit on the Information Society (WSIS) and a United Nations Working Group on Internet Governance (WGIG) was created to discover or develop a definition. While the group failed to come up with a formal definition, it did produce a working definition that was included in the final report of the

[13]Office of the High Commissioner for Human Rights. (2011). *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework.* (HR/PUB/11/04). www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf

[14]Ibid.

[15]To date, the GNI has mostly focused on civil and political rights. For more information, see: www.globalnetworkinitiative.org

WSIS, the *Tunis Agenda for the Information Society*. As this definition has become standard in the field, this paper includes the working definition for Internet governance for reference:

> A working definition of 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.[16]

For over a decade there has been a discussion on the working definition and its connection to what happens in Internet governance. Another definition, perhaps less ambiguous and more useful for advocacy, can also be used: Internet governance is the collection of practices, both explicit and implicit, that various stakeholders use when making policy or policy-related decisions concerning the development and use of information and communications technologies (ICTs) on the Internet.[17]

Making ICTs accessible and empowering is one of the goals of Internet governance. In discussions on economic, social and cultural rights and Internet governance it is important to make a distinction between the ICTs that provide access to the Internet, and the governance issues of the Internet and the availability of ICTs. All work done in ICTs is not directly relevant to economic, social and cultural rights, but much of it may have an impact. Internet governance issues include policy considerations that touch on ESCRs online. As such, they are within the scope of discussion for national, regional and international Internet governance fora.

The multistakeholder nature of Internet governance provides a modality for establishing the normative responsibilities of all stakeholders. While laws are sometimes established to achieve ESCRs, in the absence of prescriptive laws multistakeholder agreements and recommendations can serve as strong motivators for Internet companies and technical organisations. The Internet Governance Forum (IGF) provides a global platform for such multistakeholder work and many sessions on the ESCRs have been held at the IGF. Other organisations, such as the multistakeholder technical community organisations discussed in this report, have not yet explored their responsibilities for ESCRs. Some have begun to discuss civil and political rights, but none have accepted responsibility for ESCRs. One, the Internet Society (ISOC), has accepted a responsibility for education in its foundational documents.

3.7. Stakeholders and the multistakeholder model

When speaking of Internet governance, two models are often juxtaposed: the multilateral intergovernmental model dominated by nation states assisted by their private sector allies, and the various multistakeholder models.

The stakeholder definition was first borrowed from project management:

> Loosely defined, a stakeholder is a person or group of people who can affect or be affected by a given project. Stakeholders can be individuals working on a project, groups of people or organizations, or even segments of a population. A stakeholder may be actively involved in a

[16]See paragraph 34 in: World Summit on the Information Society. (2015). *Tunis Agenda for the Information Society.* (WSIS-05/TUNIS/DOC/6(Rev. 1)-E). https://www.itu.int/net/wsis/docs2/tunis/off/6rev1.html

[17]Banks, K., Doria, A., & Morris, J. (2005). The Working Group on Internet Governance: A feminist conversation. In O. Drossou & H. Jensen (Eds.), *Visions in Process II: The World Summit on the Information Society Geneva 2003 – Tunis 2005.* Berlin: Heinrich Böll Foundation. www.worldsummit2003.de/download_en/Visions-in-ProcessII(1).pdf

project's work, affected by the project's outcome, or in a position to affect the project's success.[18]

At its best, a multistakeholder model provides a structure that is intended to allow a form of participatory democracy, which enables all those who have a stake to participate on equal footing in the deliberation of issues and the recommendation of solutions. While sometimes this is truer in theory than in practice, it is the goal.

When looking at a human being, it is usually possible to identify her or him as belonging to several stakeholder groups, yet in most multistakeholder models, each person is defined as belonging and acting within only a single stakeholder group. This is not the case in some parts of the technical community, where some organisations are organised along individual lines, while others are organised along stakeholder groups isolated from each other in silos. When juxtaposing the various stakeholder groups, there are always discussions about the differences in roles and responsibilities and the degree of relevance, importance or power each group has. Deciding which group has which roles and responsibilities, or which group has greater power in any particular situation, is not always simple. Any advocacy effort needs to take the variety of viewpoints into account in order to create effective tactics.

3.8. Technical community

The technical community is made up of individuals and organisations that dedicate their efforts to the creation of architecture, protocols, implementation, deployment, maintenance and policies that enable the Internet to exist and to perform its functions. These organisations are generally not interested in content. In fact, many eschew all discussion of content but focus instead on the technical ability to create, store and transfer that content opaquely, without needing to know what the content is. While much of the work done by the technical community is motivated by business interests, a large number of the individual participants contribute as volunteers and are motivated by engineering and design principles. It is not altruism that motivates most engineers, though some may indeed be altruistic, but a drive to build an Internet that works and works well.

Recently, there has been a slight shift in the view of the leadership of the technical community on the relationship between the Internet and human rights. For example, a cyber security statement put out by the Internet Society on behalf of a number of technical community signatories acknowledged "the importance of human rights, and that protection of human rights and security online are complementary concepts." It also recognised that the Internet is "a platform for connecting people, and thus for education, innovation, creativity and economic opportunity. In an information society, to support human development and protect human rights, all people need to have affordable access to an open and neutral network, and to the services that it provides."[19] This sort of statement establishes the basis for opening discussions on ESCRs with the technical community.

[18]Piscopo, M. (2015) What is a Stakeholder? How to Identify, Analyze and Manage Project Stakeholders. *Project Management Docs.* www.projectmanagementdocs.com/blog/what-is-a-stakeholder.html

[19]Internet Society. (2015, 17 April). Statement From Members Of The Internet Technical Community After The Global Conference on CyberSpace 2015 (GCCS2015). www.internetsociety.org/news/statement-members-internet-technical-community-after-global-conference-cyberspace-2015-gccs2015

3.9. Decision making and consensus

Almost all organisations involved in the Internet make their decisions based on consensus processes. However, consensus has a number of meanings. There is the UN definition, often referred to as "full consensus", which requires that no other government raise an objection. The technical community tends to work along the line of a "partial" or "rough consensus" that is often defined in by-laws and in policy development processes. In rough consensus models, the general attribute is that most agree, that those who do not have had a substantial opportunity to explain their opposition, and that their opposition has been generally understood. Dissenters are often afforded the opportunity to attach minority statements to the final output.

In most technical organisations, no action is taken until there is consensus, as defined by their rules. In dealing with any organisation, it is important to understand its process for arriving at consensus. Even within a single organisation, multiple methods might be defined by its subgroups.

4. Discussion of ESCRs

Often called the International Bill of Human Rights, the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights establish the baseline enumeration of economic, social and cultural rights.[20] As with all of the human rights established in the two documents, these rights are indivisible and pertain to all human beings at all times everywhere. A United Nations Human Rights Council resolution confirmed the fact that they applied online to the same degree as they applied offline.[21]

As the work being done now by the International Telecommunication Union (ITU) and others to map ICTs to the Sustainable Development Goals (SDGs)[22] shows, ICTs have an effect on economic, social and cultural rights. ICTs can be shown to have an impact, either positive or negative, on the rights enumerated in the International Covenant on Economic, Social and Cultural Rights. These rights include the following conditions for ESCRs:

- Self-determination
- Equal treatment under the law
- Gender equality.

As well as the specific enumerated rights:

- Right to work, including technical and vocational guidance and training
- Right to favourable conditions of work, including fair wages and adequate rest time
- Right to organise unions
- Right to social security and social insurance
- Right to assistance and protection of the family, including special protection for mothers after childbirth

[20]See footnote 7.

[21]See footnotes 3 and 4.

[22]The Sustainable Development Goals (SDGs) are an intergovernmentally agreed set of targets relating to international development. They will follow on from the Millennium Development Goals. For more on the SDGs, see: www.un.org/sustainabledevelopment/development-agenda For the WSIS view on the SDGs, see: World Summit on the Information Society. (2014). *Advancing Sustainable Development Through Information and Communication Technologies: WSIS Action Lines Enabling SDGs.* www.itu.int/net4/wsis/sdg

- Right to adequate standard of living including adequate nutrition
- Right to physical and mental health, including a safe environment and medical care
- Right to education
- Right to religious education
- Right to cultural knowledge. This includes the right of protection of inventors and authors and of access to knowledge.

The case studies in this project focus on three basic rights that feed into the enumerated ESCRs of the covenant:

- Right to education
- Right to participation in cultural life
- Right to benefit from science and technology.

These rights point to a derivative right to access, as access is a necessary precondition for online expression and realisation of rights in modern society.

5. Technical community organisational environment

The technical community[23] is the loose aggregation of the consensus-based Internet technical organisations responsible for the Internet infrastructure, its architecture, protocols, processes and policies. Many of the participants contribute to multiple organisations within this group. This kind of informal linkage is enhanced by the practice of the leadership of the various technical community groups meeting to coordinate their activities whenever necessary; such as they did in the Montevideo Statement on the Future of Internet Cooperation[24] in response to the Snowden surveillance revelations.

The mission statements[25] of the organisations show that they are very focused on narrow techno-policy roles, though there are some exceptions, notably the Internet Society. When looking for methods by which to approach these organisations, it is important to link any effort to their missions and the work they consider to be within their scope. There is a strong prejudice in technical organisations against what they call scope-creep, a tendency to broaden the scope of an organisation and its actions beyond its narrow mandate. Often, the first challenge is convincing an organisation that concern for human rights is in its scope.

In approaching technical community organisations for discussion or advocacy, it is not only necessary to understand their missions, but it is also important to understand how they view engineering practice and its neutrality. While some organisations may be willing to consider social considerations as a trade-off in design, they do not take the same view of technology taken by many in civil society advocacy. That is, they do not, by and large, accept that their actions are socially laden. A common belief is that an open and free Internet is an ultimate good and that nothing should interfere with that openness. While there is certainly variety in opinion, there is also a widespread belief that technology can be used for both good and evil, but that the technology itself in not value laden.

[23]The organisations discussed in this section are part of what is often referred to as "I-star" or "I*".

[24]The Internet Corporation for Assigned Names and Numbers. (2013, 7 October). Montevideo Statement on the Future of Internet Cooperation. https://www.icann.org/news/announcement-2013-10-07-en

[25]See Appendix II for excerpts from founding documents.

Social scientists and civil society advocates can sometimes naively believe that everyone understands and believes that all science and technology is directed by the power relations of society, or by other social forces as defined by the speciality of the scholar or advocate, but nothing could be further from the truth. Many, if not most, engineers believe that politics and finances are outside the realm of their concerns – their job is to make the Internet work while avoiding such interference. Whether advocates accept this or not, it is one of the facts that must be taken into account in any strategy to convince the technical community of the relevance and responsibility for human rights, including ESCRs.

None of the technical organisations mention human rights (let alone ESCRs) in their foundational documents but the Internet Society comes closest. In other organisations, achieving an acknowledgement of their roles and responsibilities vis-à-vis human rights is a pending challenge.

Technical community organisations are either regional like the Regional Internet Registries (RIRs) or global like the Internet Corporation for Assigned Names and Numbers (ICANN) and do reach out to all regions, nations and localities. All the organisations discussed in this paper have regional offices throughout the world. Meetings are held in all regions of the world on a rotating basis by the technical community organisations, and by virtue of operating on the Internet, all are available everywhere the Internet can be accessed.

While the primary working language is English, slowly organisations such as ICANN are beginning to use the six UN languages for the release of documents.[26] Regional offices also operate in local languages.

5.1. Internet Corporation for Assigned Names and Numbers (ICANN)

ICANN's mission is to coordinate the global Internet's systems of unique identifiers, and to ensure the stable and secure operation of the Internet's unique identifier systems. In performing its mission, ICANN commits itself to core values that respect "the creativity, innovation, and flow of information made possible by the Internet by limiting ICANN's activities to those matters within ICANN's mission requiring or significantly benefiting from global coordination" and to governance by a bottom-up multistakeholder process.[27]

At the time of writing, a revision of the mission is currently being discussed as part of the ICANN accountability process. One of the controversial issues being discussed – based on comments received in the first public review of the draft plan to improve accountability as part of the Internet Assigned Numbers Authority (IANA) transition process – is the inclusion of human rights among the organisation's core values in its bylaws. The decision on whether or not to incorporate this bylaw change will be made by ICANN's Board of Directors[28] as part of the IANA Stewardship Transition[29] process after the participating members of the Internet community make their final recommendations. It is expected to be released in 2016. If included, this would be the first explicit mention of human rights in a technical community organisation's governance document.

[26]The six official UN languages are Arabic, Chinese, English, French, Russian and Spanish.

[27]Internet Corporation for Assigned Names and Numbers. (Amended 30 July 2014). *Bylaws for Internet Corporation for Assigned Names and Numbers.* https://www.icann.org/resources/pages/governance/bylaws-en

[28]For an up-to-date membership list of ICANN's Board of Directors, see: https://www.icann.org/resources/pages/board-of-directors-2014-03-19-en

[29]For more on the IANA Stewardship Transition where the United States National Telecommunications and Information Administration (NTIA) announced its intent to transition its stewardship of the IANA functions to the global multistakeholder community, see: https://www.icann.org/stewardship-accountability

There is also an effort ongoing in ICANN to create a Cross Community Working Party on Corporate Social Responsibility and Human Rights.[30] This group has already decided to correlate rights with policies and operations such as WHOIS in terms of privacy and new generic top-level domains (gTLD) in terms of opportunities, including development. The group has also handled the submission of comments on the need for impact analyses related to rights issues as part of the policy development process. In the two years since an opportunity to request a rights impact statement as part of the policy development process was created, it has never been tested and never used. The Working Party will look into this requirement and ways to implement it.

At this point in time there are no plans for the group to deal with ESCR issues, but the opportunity to do so will be up to the Working Party participants in the long run. Participation in this group offers one entry point into ICANN policy making for ESCR advocacy.

Internet Assigned Numbers Authority (IANA)

IANA is a function within ICANN. The IANA team is responsible for the operational aspects of coordinating the Internet's unique identifiers and maintaining the trust of the community to provide these services in an unbiased, responsible and effective manner.

The contract for the IANA function is currently administered by the National Telecommunications and Information Administration (NTIA), an agency of the United States Department of Commerce. Any commitment that ICANN might have to human rights at the moment is due to oversight by a government agency and its obligation to human rights covenants to which the United States is a signatory. Currently a process is ongoing to transition this key Internet domain name function to the multistakeholder community.[31] Once the NTIA oversight is removed, ICANN will be like all other corporations and only have the obligations that are defined under national[32] or state law and within its bylaws.

While IANA has a technical administrative function, recent discussions of stewardship of the function that is effectively the root of the Internet has put it under a spotlight. While there are no direct links to ESCRs in this function, the global multistakeholder effort of discussing stewardship has brought up concerns of dealing with content and national legal jurisdictions.

5.2. The Internet Society (ISOC)

The vision of the Internet Society is that "the Internet is for everyone." Its mission is "to promote the open development, evolution, and use of the Internet for the benefit of all people throughout the world."[33]

[30]Normally group efforts are defined as working groups at ICANN. However, working groups are usually expected to offer recommendations for approval. In order to avoid accepting a work item to create recommendations that require further processing, the Working Party was defined to investigate the area and the possibility of further work. For additional information, see: icannwiki.com/Cross_Community_Working_Party_on_ICANN%27s_Corporate_and_Social_Responsibility_to_Respect_Human_Rights

[31]For more on the transition process, see: www.ntia.doc.gov/press-release/2014/ntia-announces-intent-transition-key-internet-domain-name-functions and https://community.icann.org/display/gnsocwgdtstwrdshp/CWG+to+Develop+an+IANA+Stewardship+Transition+Proposal+on+Naming+Related+Functions

[32]Corporations are subject not only to the law of the jurisdiction of incorporation, but also to the laws of jurisdictions where they operate. This applies especially in countries in which they establish offices. The legal liabilities vary based on jurisdiction.

[33]For the Internet Society's mission statement, see: www.internetsociety.org/who-we-are/mission

During the last five years, the Internet Society has begun to focus on human rights issues related to its mission. This began with a paper looking at the original formation of the Internet in relation to human rights[34] and has continued since then with the release of other papers and with work inside other international fora and on its own behalf. At a recent international community session held in July 2015, ISOC stated in a presentation that security must be integrated with fundamental human rights.[35] As a pre-eminent Internet technology and policy organisation it has made human rights and development a clear priority.

While the Internet Engineering Task Force (IETF) and Internet Research Task Force (IRTF) function as independent organisations in that there is no oversight of the technical work done by these bottom-up organisations, they are organisationally situated within the Internet Society and are subject to process accountability by the Internet Society Board of Trustees. The IETF and IRTF view themselves purely as technical organisations.[36]

According to the IETF, "the mission of the IETF is to make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use, and manage the Internet."[37] According to the IRTF, "the IRTF promotes research of importance to the evolution of the Internet by creating focused, long-term research groups working on topics related to Internet protocols, applications, architecture and technology."[38]

There is currently an ongoing IRTF research effort to study human rights protocol considerations, the features and aspects of an architecture or protocol that might have an effect on human rights.[39] The focus of the group is currently on freedom of expression and freedom of association. Its work is still in the early stages, but is based on the successful work done on privacy considerations for Internet protocols.[40] The plan is to consider other rights once the work on the current focus is completed.

[34]For example, see: Liddicoat, J., & Doria, A. (2012). *Human Rights and Internet Protocols: Comparing Processes and Principles.* The Internet Society. www.internetsociety.org/doc/human-rights-and-internet-protocols-comparing-processes-and-principles

[35]Internet Society. (2015, 17 April). Op. cit.

[36]A more detailed description of the IETF can be found in: Doria, A. (2015). *The IETF and the multistakeholder model.* Shared by the author. https://docs.google.com/document/d/1x-WlVPfk3FZ9NKLeDJuQlk5WqG-HSVmm56c028D3xGg/edit#heading=h.qxt5lzxczpws

[37]ietf.org/about/mission.html & ietf.org/rfc/rfc3935.txt

[38]https://irtf.org/

[39]For details, see: ten Oever, N., & Doria, A. (2015). Proposed RG Human Rights Protocol Considerations. Presentation at IETF93 in Prague, Czech Republic, 22 July. https://www.ietf.org/proceedings/93/slides/slides-93-hrpc-3.pdf

[40]www.rfc-editor.org/rfc/rfc6973.txt

5.3. Regional Internet Registries (RIRs) and the Number Resource Organization (NRO)

There are five Regional Internet Registries (RIRs). Each operates independently and works within a loose unincorporated association called the Number Resource Organization (NRO).

The mission of the NRO is to actively contribute to an open, stable and secure Internet, through:

- Providing and promoting a coordinated Internet number registry system
- Being an authoritative voice on the multistakeholder model and bottom-up policy process in Internet governance
- Coordinating and supporting joint activities of the RIRs.[41]

Each Regional Internet Registry is responsible for the allocation of Internet Protocol (IP) addresses and Autonomous System Numbers (ASN).[42] The five RIRs are:

- African Network Information Center (AFRINIC)
- Asia Pacific Network Information Centre (APNIC)
- American Registry for Internet Numbers (ARIN)
- Latin American and Caribbean Network Information Centre (LACNIC)
- Réseaux IP Européens Network Coordination Centre (RIPE NCC).

Each of these organisations is an independent consensus-driven organisation that operates using multistakeholder methodology created using its own bottom-up mechanisms. While there is some voluntary coordination among the five RIRs though the NRO, the work of the RIRs is driven by the local stakeholders, consisting primarily of service providers and users of IP addresses. Some participants may also come from government or from civil society organisations, but they generally participate as individuals and are not segregated into specific stakeholder groups.

6. Discussion on the impact of these organisations on ESCRs

None of the organisations being discussed has economic, social or cultural rights explicitly mentioned in its charter, and rights, especially ESCRs, will not figure into any significant portion of their outputs. Their work is meant to be technical and only in rare instances will they produce outputs that might be defined as political or directly related to rights. To date, the only real exception has concerned privacy and pervasive monitoring (mass surveillance) as a result of Edward Snowden's revelations.

The Internet Society goes the furthest in explicitly including ESCR goals in its mission with specific reference to education and cultural strategies. However, each organisation, if asked, could argue that by improving the Internet and working to ensure that it provides safe, secure and resilient access for all people everywhere, they are working on enabling, through progressive realisation, exactly those same ESCR goals. Not only is concern for rights not explicitly included in their mission statements, but there is also an absence of understanding of how the work that these organisations do directly and indirectly impacts, and is impacted by, economic, social and cultural considerations. This is an opportunity to raise awareness among the technical community.

[41] https://www.nro.net/about-the-nro

[42] The Internet is made up of autonomous networks. Each of these networks within the Internet is given an autonomous system number.

It must be noted that these organisations are just now beginning to accept discourse on civil or political rights as falling within their purview. While most have an outlook that identifies technical progress as good for all, they do not focus on particular rights or on making deliberate decisions to give advantage to one goal or another. They often label this process "picking winners"[43] and their job, as they see it, is not to pick winners but to create the best technical solutions they can imagine to create equal opportunities. In fact, some view a focus on specific rights as counter to the neutral engineering work they have taken on as their mission.

People often think of engineers and policy analysts as the creatures of the companies for which they work. While in some cases that may be true, often those who work in the Internet technical community organisations work for the higher goal of supporting an open and accessible Internet. This may not be the case in ICANN to the same degree as in the other organisations due largely to the fact that many of its participants are businesses looking to make a deal or to obtain commercial advantage.[44] Most of the participants at an ICANN meeting will be there to cut deals while a small percentage will be involved in technical policy making.

6.1. Right to access

All the technical community organisations are dedicated to an open Internet available to everyone everywhere. In the IETF, for example, great care is taken to design protocols that treat users of the network and their content fairly. While there are those who build equipment that allows governments to restrict or limit access by protocols and content, none of the technical organisations intentionally develops technology or policies to enable this.[45] There is the assumption that technical solutions are value-neutral, though this often turns out not to be the case once the technology is applied. Theoretically, much can be done to mitigate harmful effects and to enhance positive effects, but there is still little evidence that shows exactly how.

Discovering the linkages between efforts to mitigate harmful effects and protocol considerations is an important research area which is just becoming active. A key point in engineering is that whatever the theory, something that works must be created before any theory is validated. That is the point behind the IETF adage which declares belief in "running code". It does not matter who was right in protocol discussions if the code does not function as needed. While all of the technical community organisations give true allegiance to the goals of equal access everywhere, the belief is that creating the technology itself is enough to achieve this result. The facts on the ground show that neutral technology is not always

[43]This expression is meant to indicate an intention of neutrality in the work they do. As discussed above, some social scientists and advocacy groups may consider this a naive lack of understanding, but it is a principle that permeates the work that engineers do. They do not see it as an engineering task to make such discriminations and largely work to avoid them. This refers as much to giving advantage to infrastructure over content providers as it does to giving priority to freedom of expression over privacy, or property rights over access to knowledge.

[44]This is not a value judgement. From the author's personal observations, a lot of the ICANN participants attend in order to do business, not to make policy.

[45]While this does not mean that some of the protocol elements may not be used in such a manner, it means that they are not created for that purpose. For example, much of the technology necessary for managing a network may be dual-use technology, useful both for maintaining the health of the network and for disrupting the network. The same technology used to prevent email spam from overloading narrow bandwidth access can also be used for filtering political content. The same tunnelling technology used to speed transmission across the network can be used to treat some traffic differently. In creative hands, most technology is multi-use and impossible to restrict to only benign or beneficial functions.

enough. Enabling policies need to be created that take the impact on, and of, economic, social and cultural rights into account.

Access goes beyond the reach of infrastructure. As most of the world does not use Latin script in its languages, a great amount of concentration has gone into development of the ability of different language communities to use their own languages and scripts on the Internet to produce content that is accessible to diverse populations. The Internationalized Domain Names (IDNs) project, for which the technical work was done in the IETF and the policy developed in ICANN, is a prime example.[46] This technology is now available and is needed for spreading access globally.

Unfortunately there is a technical impediment to its global use. Most users, especially those in developing areas, use old equipment with old displays, old software applications and old browsers. Many applications, even on the most modern mobile devices, do not yet accept internationalised traffic. Finding a way past this barrier is essential. The technology is there but the deployment is not. Groups like ICANN have programmes meant to encourage universal acceptance of modern internationalised content, but progress is slow. NGOs can help in this effort.

6.2. Right to education

A major goal of all the technical community organisations is to improve the ability of the Internet to reach all people with a free flow of information. Unfettered access to the Internet and to its information in a neutral manner contributes to the goal of universal access to knowledge. ICANN is specific in its commitment to provide for neutral policies applied in a neutral manner that do not benefit one application over another. Sometimes it takes concentrated work and investment to allow this to happen.

As mentioned earlier, the Internet Society specifically makes support for education in developing countries a part of its mission.

6.3. Right to participation in cultural life

One of the major drives for internationalised domain names was the goal for communities in developing economies to have Internet access in a manner that made it most adaptable and accessible to their community. This would be most useful for preserving and enhancing local culture with local and other content in local languages and scripts. This work is well under way and becomes available to more and more language groups. The barrier, discussed above, is the availability of new software and hardware.

6.4. Right to benefit from science and technology

In ICANN, the right to benefit from science and technology is one of the primary battlegrounds. The intellectual property (IP) constituencies[47] are so well established and represented that few IP issues escape their influence. This has made it difficult for those working on privacy and freedom of expression. For example, law enforcement and content providers insist on being able to identify users of content, and many policies are geared toward facilitating their efforts. However, the lack of anonymity is frequently an impediment to the free use of the Internet. Care must be taken in bringing up economic, social and

[46]For more resources, and more information on ICANN's role, see: https://www.icann.org/resources/pages/idn-2012-02-25-en

[47]While there is only one Intellectual Property Constituency in ICANN, several other constituencies such as the Business Constituency (BC) and the Not-for-Profit Operational Concerns (NPOC) Constituency have strong intellectual property agendas.

cultural rights, as IP advocates have become wise enough in their arguments to remind us that these rights do protect the owners of intellectual property as stated in the ICESCR when it enumerates the protection of the right of authors and inventors to the fruits of their work. The difference between individuals controlling their property and large corporations controlling great amounts of property is often a nuance that IP advocates do not acknowledge. There has been little support for access to knowledge in ICANN outside of the civil society representation in the Non-Commercial Stakeholders Group (NCSG), one of ICANN's civil society groupings.

On the other hand, the IETF tries to make all of its work use open standards and deals with the IP standards of contributing companies by requesting non-discriminatory access. ICANN and the IETF are both members of OpenStandards.net, a not-for-profit organisation "created to connect people to open standards and the bodies that build and foster their growth, integrating the various resources within the IT industry committed to increasing the synergy of international IT collaboration."[48]

7. Discussion of possible opportunities and possible ways to increase awareness of impact

A first task is convincing participants in technical community organisations that not only are they already implicitly addressing some of the ESCR issues, but that it is important to do so intentionally. To do this, it will be necessary to cast the issues in terms that engineers and technical policy makers can use.

According to Saul Alinsky:

> [C]ommunication occurs concretely, by means of one's specific experience. General theories become meaningful only when one has absorbed and understood the specific constituents and then related them back to a general concept. Unless this is done, the specifics become nothing more than a string of interesting anecdotes.[49]

In all cases, the advocate needs to adapt the methods and modalities to suit the target audience. In the case of the Internet technical community, that audience is concerned with engineering, engineering practice and engineering policy. In order to enable the technical community to take on the challenge of economic, social and cultural rights it is critical to show how the work it does either causes harm or could do more good. This step is necessary to build a case for what needs to be done and why.

However, this cannot be done solely by outsiders applying pressure. In order to motivate changes in the Internet technology community one must participate in that community, even if only in a limited way. As bottom-up multistakeholder organisations, the most effective way to affect them is by participating in their activities.

One immediate opportunity at ICANN is participation in the work of the Cross Community Working Party on Corporate Social Responsibility and Human Rights.[50] This new effort has much potential, but also a very long way to go before it achieves anything concrete.

[48] www.openstandards.net/viewOSnet3C.jsp?showModuleName=about

[49] See chapter 5, in Alinsky, S. D. (1971). *Rules for Radicals.* Project Gutenberg. self.gutenberg.org/articles/Rules_for_Radicals

[50] See footnote 30.

Developing and presenting case studies on cause and effect of both good and bad impacts from various technologies and their related policies are essential at both ICANN and the IETF. The first questions engineers and policy makers ask are: "What is the problem you are trying to solve, what is broken and what needs to be fixed or created?" Abstract discussions on normative rights are not as convincing as case studies and metrics that show actual harm from one approach and actual benefits from another. Examples are needed to give concrete examples that engineers can deal with in terms of requirements and solutions.

Engineering is a good entry point because potential solutions do not need to be the ultimate truth. A solution just needs to be real and needs to work to make the Internet better. A simple, elegant solution that is easily deployed will often find favour. This, too, is one of the methods of progressive realisation: first one fixes a concrete problem with a real-world engineered solution and then one can move on to larger goals.

8. Next steps

Not only are the linkages between ESCRs and the activities of the major technical community organisations still very preliminary, the analysis of how the process can be improved is still in its infancy. It is hoped that this project can produce some recommendations for action, advocacy and engagement that can be taken immediately. It is also necessary to develop recommendations on further work that can be done on the issue.

8.1. Possible short-term steps

Participation: Start to participate, especially in organisations like the Internet Society and ICANN which focus more on the policy than the technology.

Analysis: Perform a lexical analysis of primary missions, values and objective documents of the various Internet community organisations compared to the ICESCR and other pertinent treaties and resolutions. Producing visual evidence of similar wording and key phrase usage may be a good entry point for discussion.

Theory: Build on the theory of progressive realisation, and use some of the potential of free/libre and open source software (FLOSS) to enable wider acceptance of internationalisation and IDNs. One thing that APC and much of civil society have in common with much of the technical community is the use of open source. That is something to build on.

Local deployment: While the goal is economic, social and cultural rights, one possible first step is the deployment of equipment and software that supports local languages and scripts. In most cases this can be a matter of pride for governments and fit well into their educational mandates. Can Internet governance and advocacy techniques be used to further this goal?

8.2. Possible long-term steps

Research: Initiate research into the effect of various architectures and protocols on enabling or restricting ESCRs. A study similar to the one being done in the IRTF on the human rights protocol considerations for civil and political rights such as freedom of expression and freedom of association would be of great

use.[51] Such an analysis has already been done for privacy but as of this date there are no known projects doing an architecture and protocol analysis for ESCRs. As seen with privacy consideration work in protocol design, such efforts can translate the normative human rights concerns into engineering constructs that are usable by design engineers and system architects.

9. Conclusion

Although it is one of the major stakeholders in Internet governance discussion, the technical community is itself composed of multistakeholder organisations. These organisations care about doing the right thing for the Internet because they believe that doing so is a good thing for humanity. To bring them into the effort of advancing economic, social and cultural rights, their basic goals need to be understood, encouraged and developed. There is sometimes scepticism in civil society circles regarding the motives of the technical community, but such suspicion does not help in achieving ESCR goals, which can be achieved only by open-minded cooperation with the technical community and external research to document case examples of how technology is affecting economic, social and cultural rights.

Appendix I: Acronyms

Acronym	Literal	Org in a few words	Reference <url>
AFRINIC	African Network Information Center	Regional Internet Registry (RIR) for Africa, responsible for the distribution and management of Internet number resources such as IP addresses and ASN (Autonomous System Numbers) for the African region. One of five RIRs that exist worldwide.	www.afrinic.net/
APNIC	Asia Pacific Network Information Centre	Regional Internet Registry (RIR) for the Asia Pacific. Open, membership-based, not-for-profit organisation providing Internet addressing services. One of five RIRs that exist worldwide.	https://www.apnic.net/
ARIN	American Registry for Internet Numbers	Regional Internet Registry (RIR) for North America. Provides services related to the technical coordination and management of Internet number resources. One of five RIRs that exist worldwide.	https://www.arin.net/
ESCR	Economic, social and cultural rights	Economic, social and cultural rights are socio-economic human rights, such as the right to education, right to housing, right to adequate standard of living, right to health and right to science and culture.	www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx
HRPC	Human Rights Protocol Considerations Research Group	Chartered to research whether standards and protocols can enable, strengthen or threaten human rights, as defined in the Universal Declaration of Human Rights (UDHR) and the International Covenant on Civil and	https://datatracker.ietf.org/rg/hrpc/charter/

[51] datatracker.ietf.org/rg/hrpc/charter

Acronym	Literal	Org in a few words	Reference <url>
		Political Rights (ICCPR), specifically, but not limited to, the right to freedom of expression and the right to freedom of assembly.	
IAB	Internet Architecture Board	Chartered both as a committee of the Internet Engineering Task Force (IETF) and as an advisory body of the Internet Society (ISOC).	https://www.iab.org/about/
IANA	Internet Assigned Numbers Authority	Responsible for the global coordination of the DNS Root, IP addressing, and other Internet protocol resources.	www.iana.org/
ICANN	Internet Corporation for Assigned Names and Numbers	Creates global public policy for governance of names and numbers used in the Internet.	https://www.icann.org/resources/pages/welcome-2012-02-25-en
IETF	Internet Engineering Task Force	Large, open, international community of network designers, operators, vendors and researchers concerned with the evolution of Internet architecture and smooth operation of the Internet.	ietf.org/
IRTF	Internet Research Task Force	Promotes research of importance to the evolution of the Internet by creating focused, long-term research groups working on topics related to Internet protocols, applications, architecture and technology.	https://irtf.org/
ISOC	Internet Society	Global cause-driven organisation that is dedicated to ensuring that the Internet stays open, transparent and defined by its users.	www.internetsociety.org/who-we-are
ICT	Information and communications technology		
ITU	International Telecommunication Union	The United Nations specialised agency for information and communications technologies.	www.itu.int/
LACNIC	Latin American and Caribbean Network Information Centre	Regional Internet Registry (RIR) for Latin America and the Caribbean. Established in Uruguay in 2002, it is responsible for assigning and administrating Internet numbering resources (IPv4, IPv6), autonomous system numbers, reverse resolution and other resources for the region of Latin America and the Caribbean. One of five RIRs that exist worldwide.	www.lacnic.net/web/lacnic/ipv6
RIPE NCC	Réseaux IP Européens Network Coordination Centre	Regional Internet Registry (RIR) for Europe, Central Asia and the Middle East. Membership organisation supporting the Internet through technical coordination. One of five RIRs that exist worldwide.	https://www.ripe.net/

Appendix II: Excerpts from I-star charter and foundation documents

These are provided for reference. As discussed in the paper, the best way to appeal to the Internet technical community is to use their own terms with their own mission statements. These are quoted directly from each organisation with the original format, spelling and punctuation.

Internet Corporation for Assigned Names and Numbers (ICANN)[52]

Mission

The mission of The Internet Corporation for Assigned Names and Numbers (ICANN) is to coordinate, at the overall level, the global Internet's systems of unique identifiers, and in particular to ensure the stable and secure operation of the Internet's unique identifier systems.

In particular, ICANN:

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

Core values

In performing its mission, the following core values should guide the decisions and actions of ICANN:

1. Preserving and enhancing the operational stability, reliability, security, and global interoperability of the Internet.
2. Respecting the creativity, innovation, and flow of information made possible by the Internet by limiting ICANN's activities to those matters within ICANN's mission requiring or significantly benefiting from global coordination.
3. To the extent feasible and appropriate, delegating coordination functions to or recognising the policy role of other responsible entities that reflect the interests of affected parties.
4. Seeking and supporting broad, informed participation reflecting the functional, geographic, and cultural diversity of the Internet at all levels of policy development and decision-making.
5. Where feasible and appropriate, depending on market mechanisms to promote and sustain a competitive environment.
6. Introducing and promoting competition in the registration of domain names where practicable and beneficial in the public interest.
7. Employing open and transparent policy development mechanisms that (I) promote well-informed decisions based on expert advice, and (ii) ensure that those entities most affected can assist in the policy development process.

[52] https://www.icann.org/resources/pages/governance/bylaws-en/#I

8. Making decisions by applying documented policies neutrally and objectively, with integrity and fairness.
9. Acting with a speed that is responsive to the needs of the Internet while, as part of the decision-making process, obtaining informed input from those entities most affected.
10. Remaining accountable to the Internet community through mechanisms that enhance ICANN's effectiveness.
11. While remaining rooted in the private sector, recognising that governments and public authorities are responsible for public policy and duly taking into account governments' or public authorities' recommendations.

Internet Assigned Number Authority (IANA)[53]

The Internet Assigned Numbers Authority (IANA) is a department of ICANN responsible for coordinating some of the key elements that keep the Internet running smoothly. Whilst the Internet is renowned for being a worldwide network free from central coordination, there is a technical need for some key parts of the Internet to be globally coordinated, and this coordination role is undertaken by IANA.

Mission Statement

The IANA team is responsible for the operational aspects of coordinating the Internet's unique identifiers and maintaining the trust of the community to provide these services in an unbiased, responsible and effective manner.

Internet Society (ISOC)[54]

By connecting the world, working with others, and advocating for equal access to the Internet, the Internet Society strives to make the world a better place. At the foundation of our work are a vision and a mission.

Vision

The Internet is for everyone.

Mission

To promote the open development, evolution, and use of the Internet for the benefit of all people throughout the world.

To help achieve our mission, the Internet Society:

- Facilitates open development of standards, protocols, administration, and the technical infrastructure of the Internet.
- Supports education in developing countries specifically, and wherever the need exists.
- Promotes professional development and builds community to foster participation and leadership in areas important to the evolution of the Internet.
- Provides reliable information about the Internet.
- Provides forums for discussion of issues that affect Internet evolution, development and use in technical, commercial, societal, and other contexts.

[53] https://www.iana.org/about

[54] www.internetsociety.org/who-we-are/mission

- Fosters an environment for international cooperation, community, and a culture that enables self-governance to work.
- Serves as a focal point for cooperative efforts to promote the Internet as a positive tool to benefit all people throughout the world.
- Provides management and coordination for on-strategy initiatives and outreach efforts in humanitarian, educational, societal, and other contexts.

Internet Engineering Task Force[55] (IETF)[56]

Mission

The mission of the IETF is to make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use, and manage the Internet.

The IETF will pursue this mission in adherence to the following cardinal principles:

- **Open process** – Any interested person can participate in the work, know what is being decided, and make his or her voice heard on the issue. Part of this principle is our commitment to making our documents, our WG mailing lists, our attendance lists, and our meeting minutes publicly available on the Internet.
- **Technical competence** – The issues on which the IETF produces its documents are issues where the IETF has the competence needed to speak to them, and that the IETF is willing to listen to technically competent input from any source. Technical competence also means that we expect IETF output to be designed to sound network engineering principles – this is also often referred to as ”engineering quality.”
- **Volunteer Core** – Our participants and our leadership are people who come to the IETF because they want to do work that furthers the IETF's mission of "making the Internet work better."
- **Rough consensus and running code** – We make standards based on the combined engineering judgement of our participants and our real-world experience in implementing and deploying our specifications.
- **Protocol ownership** – When the IETF takes ownership of a protocol or function, it accepts the responsibility for all aspects of the protocol, even though some aspects may rarely or never be seen on the Internet. Conversely, when the IETF is not responsible for a protocol or function, it does not attempt to exert control over it, even though it may at times touch or affect the Internet.

The Internet Research Task Force (IRTF)[57]

Mission

The Internet Research Task Force (IRTF) promotes research of importance to the evolution of the Internet by creating focused, long-term Research Groups working on topics related to Internet protocols, applications, architecture and technology.

[55]While the IETF and IRTF are independent organisations, they are organisationally situated within the Internet Society and are subject to process accountability by the Internet Society Board of Trustees. There is no oversight for the content of their work.

[56]https://www.ietf.org/about/mission.html

[57]https://irtf.org

Number Resource Organization[58] (NRO)[59]

Mission

To actively contribute to an open, stable and secure Internet, through:

- Providing and promoting a coordinated Internet number registry systemBeing an authoritative voice on the multi-stakeholder model and bottom-up policy process in Internet governance
- Coordinating and supporting joint activities of the RIR.

African Network Information Center (AFRINIC)[60]

Mission

AFRINIC's mission is to provide professional and efficient distribution of Internet number resources to the African Internet community, to support Internet technology usage and development across the continent and to strengthen Internet self-governance in Africa by encouraging a participatory policy development.

Asia Pacific Network Information Centre (APNIC)[61]

Mission

The objects of APNIC are:

a) To provide the service of allocating and registering Internet resources for the purpose of enabling communications via open system network protocols and to assist in the development and growth of the Internet in the Asia and Pacific Rim region.

b) To assist the Asia and Pacific Rim Internet community in the development of procedures, mechanisms, and standards to efficiently allocate Internet resources as a service to the community as a whole.

c) To provide educational opportunities to further Members' technical and policy understanding of the industry.

d) To develop public policies and public positions in the best interest of the Members and to seek legislative and regulatory consideration of issues of general benefit to the Members, where and when appropriate.

e) To serve as the administrative, managerial and operations arm of APNIC Pty Ltd, and to transact all activities, functions and affairs on behalf, and in the name, of the corporation.

American Registry for Internet Numbers (ARIN)[62]

Purpose, Missions, and Methodology

Section 1. Purpose. ARIN shall be operated exclusively for nonprofit educational, charitable, and scientific purposes, including, without limitation, the purposes stated in ARIN's Articles of Incorporation. Policies and processes followed by ARIN for the allotment of Internet numbering resources and for appeals of allotment decisions will be made publicly available and readily accessible on ARIN's website.

[58]There are five Regional Internet Registries (RIRs). Each operates independently and works within a loose and voluntary affiliation called the Number Resource Organization (NRO).

[59]https://www.nro.net/about-the-nro

[60]www.afrinic.net/en/about-us

[61]https://www.apnic.net/publications/media-library/documents/corporate/by-laws

[62]https://www.arin.net/about_us/corp_docs/bylaws.html

Section 2. Mission and Methodology. ARIN supports the operation of the Internet through the management of Internet number resources throughout its service region; coordinates the development of policies by the community for the management of Internet Protocol number resources; and advances the Internet through informational outreach. ARIN will continue to utilize an open, transparent multi-stakeholder process for registry policy development.

Latin American and Caribbean Network Information Centre (LACNIC)

Mission

The constant search for excellence in the management of Internet numbering resources for Latin America and the Caribbean, based on a culture of continuous innovation and adding value for our community by:

- Continued strengthening of a secure, stable, open, and continuously growing Internet.
- Promoting and enriching a multistakeholder, participatory and bottom up Internet governance model.
- Developing, promoting and adopting new technologies and standards.
- Building relationships and cooperating with other organisations.
- Developing regional capabilities by means of forums, training activities and cooperation projects.
- Maintaining reliable information that will constitute a regional source of reference on Internet-related issues.
- Timely responding to the expectations of our community within a changing environment.
- Participating in international forums, contributing a regional perspective.[63]

Réseaux IP Européens Network Coordination Centre (RIPE NCC)[64]

Association Objective

The objective of the Association is to perform activities for the benefit of the Members, primarily activities that the Members need to organise as a group. This object can be sub-divided into the following activities:

- Registration Activities related to the role of the Association as Regional Internet Registry.
- Co-ordination Activities, including the support of the stable operation of the Internet.
- Administration Activities, including all regular reports and administrative support as well as all other general administrative tasks which cannot be attributed to a specific activity.
- New Activities, including all activities which are necessary to react to the rapidly changing world of the Internet; and to do all that is connected therewith or may be conducive thereto, all this in the widest sense of the word. Making profit is not an object of the Association.

[63] www.lacnic.net/en/web/lacnic/acerca-lacnic

[64] https://www.ripe.net/publications/docs/ripe-602