On the Politics of Standards
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Abstract

   This document aims to outline different views on the relation between
   protocols and politics and seeks to answer the question whether
   protocols are political.

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1. Introduction

   "we shape our tools and thereafter they shape us"

                        -John Culkin

   The design of the Internet through protocols and standards is a
   technical issue with great poltical and economic impacts [RFC0603].
   The early Internet community already realized that it needed to make
   decisions on political issues such as Intellectual Property,
   Internationzalization [BramanI], diversity, access [RFC0101] privacy
   and security [RFC0049], and the military [RFC0164] [RFC0316],
   governmental [RFC0144] [RFC0286] [RFC0313] [RFC0542] [RFC0549] and
   non-governmental [RFC0196] uses, which has been clearly pointed out
   by Braman [BramanII].

   Recently there has been an increased discussion on the relation
   between Internet protocols and human rights [hrpc] which spurred the
   discussion on the political nature of protocols. The network
   infrastructure is on the one hand designed, described, developed,
   standardized and implemented by the Internet community, but the
   Internet community and Internet users are also shaped by the

affordances of the technology. Companies, citizens, governments,
standards developing bodies, public opinion and public interest
groups all play a part in these discussions. In this document we aim
to outline different views on the relation between protocols and
politics and seek to answer the question whether protocols are
political, and if so, how.

2. Vocabulary Used

Politics (from Greek: Politika: Politika, definition "affairs of the
   commons") is the process of making decisions applying to all
   members of a group. More narrowly, it refers to achieving and
   exercising positions of governance or organized control over a
   community. Furthermore, politics is the study or practice of the
   distribution of power and resources within a given community as
   well as the interrelationship(s) between communities. (adapted
   from)

3. Literature and Positions

While discussion the impact of protocols on human rights different
positions could be differentiated. Without judging them on their
internal of external consistency they are represented here.

3.1. Technology is value neutral

This position starts from the premise that the technical and poltical
are differentiated fields and that technology is 'value free'. This
is also put more explicitly by Carey: "electronics is neither the
arrival of apocalypse nor the dispensation of grace. Technology is
technology; it is a means for communication and transportation over
space, and nothing more." [Carey] In this view technology only
become political when it is actually being used by humans. So the
technology itself is not political, the use of the technology is.
This is view sees technology as instrument; "technologies are 'tools'
standing ready to serve the purposes of their users. Technology is
deemed 'neutral,' without valuative content of its own.'" [Feenberg].
Feenberg continues: "technology is not inherently good or bad, and
can be used to whatever political or social ends desired by the
person or institution in control. Technology is a 'rational entity'
and universally applicable. One may make exceptions on moral
grounds, but one must also understand that the "price for the
achievement of environmental, ethical, or religious goals...is
reduced efficiency." [Feenberg]

3.2. Some protocols are political some times

   This stance is a pragmatic approach to the problem. It states that
   some protocols under certain conditions can themselves have a
   political dimension. This is different from the claim that a
   protocol might sometimes be used in a political way; that view is
   consistent with the idea of the technology being neutral (for the
   human action using the technology is where the politics lies).
   Instead, this position requires that each protocol and use be
   evaluated for its political dimension, in order to understand the
   extent to which it is political.

3.3. The network has its own logic and values

   While humans create techologies, that does not mean that they are
   forever under human control. A technology, once created, has its own
   logic that is independent of the human actors that either create or
   use the technology.

   Consider, for instance, the way that the very existence of the
   automobile imposes physical forms on the world different from those
   that come from the electric tram or the horse-cart. The logic of the
   automobile means speed and the rapid covering of distance, which
   encourages suburban development and a tendency toward conurbation.
   But even if that did not happen, widespread automotobile use requires
   paved roads, and parking lots and structures. These are pressures
   that come from the automotive technology itself, and would not arise
   without that technology.

   Certain kinds of technology shape the world in this sense. As Martin
   Heidegger says, "The hydroelectric plant is not built into the Rhine
   River as was the old wooden bridge that joined bank with bank for
   hundreds of years. Rather the river is dammed up into the power
   plant. What the river is now, namely, a water power supplier,
   derives from out of the essence of the power station." [Heidegger]
   (p 16) The dam in the river changes the world in a way the bridge
   does not, because the dam alters the nature of the river.

   In much same way, then, networking technology once created makes its
   own demands. One of the most important conditions for protocol
   success is that the protocol is incremental deployability [RFC5218].
   This means that the network already deployed constrains what can be
   delployed into it. Moreover, one interpretation of [RFC7258] is that
   pervasive monitoring is an "attack" in the narrow sense precisely
   because of the network's need not to leak traces of online exchanges.
   A different network with a different design might not have been
   subject to this kind of attack.

3.4. Protocols are inherently political

   On the other side of the spectrum there are the onces who insist that
   technology is non-neutral. This is for instance made explicit by
   Postman where he writes: 'the uses made of technology are largely
   determined by the structure of the technology itself' [Postman]. He
   states that the medium itself 'contains an ideological bias'. He
   continues to argue that technology is non-neutral:

   (1) because of the symbolic forms in which information is encoded,
   different media have different intellectual and emotional biases; (2)
   because of the accessibility and speed of their information,
   different media have different political biases; (3) because of their
   physical form, different media have different sensory biases; (4)
   because of the conditions in which we attend to them, different media
   have different social biases; (5) because of their technical and
   economic structure, different media have different content biases.
   [Postman]

   More recent scholars of Internet infrastructure and governance have
   also pointed out that Internet processes and protocols have become
   part and parcel of political processes and public policies: one only
   has to look at the IANA transition or global innovation policy for
   concrete examples [DeNardis]. Similarly one can look at the Raven
   process in which the IETF after a long discussion refused to
   standardize wiretapping (which resulted in [RFC2804]. That was an
   instance where the IETF took a position that was largely political,
   although driven by a technical argument. It was similar to the
   process that led to [RFC6973], in which something that occurred in
   the political space (Snowden disclosures) engendered the IETF to act.
   This is summarized in [Abbate] who says: "protocols are politics by
   other means". This emphasises the interests that are at play in the
   process of designing standards. This position holds further that
   protocols can never be understood without their contextual
   embeddedness: protocols do not exist solely by themselves but always
   are to be understood in a more complex context - the stack, hardware,
   or nation-state interests and their impact on civil rights. Finally,
   this view is that that protocols are political because they affect or
   sometimes effect the socio-technical ordering of reality. The latter
   observation leads Winner to conclude that the reality of
   technological progress has too often been a scenario where the
   innovation has dictated change for society. Those who had the power
   to introduce a new technology also had the power to create a consumer
   class to use the technology, 'with new practices, relationships, and
   identities supplanting the old, --and those who had the wherewithal
   to implement new technologies often molded society to match the needs
   of emerging technologies and organizations.' [Winner]

4. **Examples and approaches**

5. **Competition and collaboration**

   The driving force behind voluntary standards is interoperability
   between different parties. If the development of technical standards
   does not lead to interoperability, there is no practical use in the
   standard, because the standard is not in use. One of the examples in
   which open standards are unlikely to prevail is in the case of
   monopolies. When one player has exclusive control over an activity
   there is no internal incentive for the monopolist to offer
   interoperability with competitors.

   The basis of the Internet can be traced back to the existence of
   open, non-proprietary standards. This does not mean that all
   standards that are being deployed on the Internet are open, or that
   all technologies are standardized. In the development of the
   Internet collaboration and competition have gone hand in hand and
   follow each other up in lockstep. The standards process is
   explicitly aimed at facilitation competition (often dubbed
   permissionless innovation) while building on the common basis of
   interoperability.

   Competition has led to long and intense debates on IETF mailinglists,
   in IETF session, and through patents and propietary standards. These
   processes of contestation are inherently interwoven with power; the
   power or argumentation, of resources, of credibility, of support in
   the community, of occupying the positions that better an individual
   or organization better make their claim.

   The IETF has sought to make the standards process transparent (by
   ensuring everyone can access standards, mailinglists and meetings),
   predictable (by having clear procedures and reviews) and of high
   quality (by having draft documents reviewed by members from its own
   epistemic community). This is all aimed at increasing the
   accountability of the process and the quality of the standard. At
   the same time these processes are driven by individuals who
   inherently have specific interests and worldviews. These can lead to
   different insights and motivations. These motivations can be
   economical, financial, intellectual, ethical, technical, personal and
   sometimes inter-personal. All of these motivations can also be
   translated into tactics that are being employed in the standards
   process. This is what makes the standards process inherently
   political from a process perspective.

6. More legacy, more politics?

   Roman engineers complained about inadequate legacy standards they
   needed to comply with, which hampered them in their engineering
   excellence. In that sense not much has changed in the last 2100
   years. When starting from a tabula rasa, one does not need to take
   other systems, layers or standards into account. The need for
   interoperability, and backward compatability makes engineering work
   harder. And once a standard is designed, it does not automatically
   means it will be broadly adopted at as fast pace, examples of this
   are IPv6, DNSSEC, DKIM, etc. The need for interoperability means
   that a new protocol needs to take into account and much more diverse
   environment than early protocols, and also be amendable to different
   needs: protocols needs to relate and negotiate in a busy agora, as do
   the protocol developers. This means that some might get priority,
   whereas others get dropped.

7. Infrastructure studies

   Ironic loss in political and economical triumph of certain
   applications, because it becomes ossified and easier to attack.

8. Layers of politics

   There is a competition between layers, and even contestation about
   what the borders of different layers are. This leads to competition
   between layers and different solutions for similar problems on
   different layers, which in its turn leads to further ossification,
   which leads to more contestation.

9. How voluntary are open standards?

   Coordinating transnational stakeholders in a process of negotiation
   and agreement through the development of common rules is a form of
   global governance [Nadvi]. Standards are among the mechanisms by
   which this governance is achieved. Conformance to certain standards
   is often a basic condition of participation in international trade
   and communication, so there are strong economic and political
   incentives to conform, even in the absence of legal requirements
   [Russell]. [RogersEden] argue: As unequal participants compete to
   define standards, technological compromises emerge, which add
   complexity to standards. For instance, when working group
   participants propose competing solutions, it may be easier for them
   to agree on a standard that combines all the proposals rather than
   choosing any single proposal. This shifts the responsibility for
   selecting a solution onto those who implement the standard, which can
   lead to complex implementations that may not be interoperable. On
   its face this appears to be a failure of the standardization process,

but this outcome may benefit certain participants-- for example, by
allowing an implementer with large market share to establish a de
facto standard within the scope of the documented standard.

10. The need for a positioning

It is indisputable that the Internet plays an increasing and
increasingly important role in the lives of citizens. Those who
produce interoperability standards for the Internet infrastructure
are to some extent automatically implicated in that development.
That said, the IETF is not the protocol police. It cannot, and
should not, ordain what standards are to be used on the networks.
The RFC producing community should not go outside of its mission to
advocate for a specific use of protocols. At the same time, it may
be useful for those producing Internet standards to take into account
the political aspects or implications of that work. Some structure
for doing so may be helpful both to authors of standards documents
and for the IETF.

The risk of not doing this is threefold: (1) the IETF might make
decisions which have a political impact that was not intended by the
community, (2) other bodies or entities might make the decisions for
the IETF because the IETF does not have an explicit stance, (3) other
bodies that do take these issues into account might increase in
importance on behest of the influence of the IETF.

This does not mean the IETF does not have position on particular
political issues. The policies for open and diverse participation
[RFC7706], the anti-harassment policy [RFC7776], as well as the
Guidelines for Privacy Considerations [RFC6973] are testament of
this. But these are all examples of positions about the IETF's work
processes or product. What is absent is a way for IETF participants
to evaluate their stance with respect to the wider implications of
that IETF work.

11. The way forward

There are instruments that can help the IETF develop an approach to
address the politics of protocls, part of this can be found in draft-
irtf-hrpc-research as well as the United National Guiding Principles
for Business and Human Rights [UNGP]. But there is not a one-size-
fits-all solution. The IETF is a particular organization, with a
particular mandate, and even if a policy is in place, its success
depends on the implementation of the policy by the community.

12. Security Considerations

As this draft concerns a research document, there are no security
considerations.

13. IANA Considerations

This document has no actions for IANA.

14. Acknowledgements

15. Research Group Information

The discussion list for the IRTF Human Rights Protocol Considerations
working group is located at the e-mail address hrpc@ietf.org [1].
Information on the group and information on how to subscribe to the
list is at: https://www.irtf.org/mailman/listinfo/hrpc

Archives of the list can be found at: https://www.irtf.org/mail-archive/web/hrpc/current/index.html

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