

Internet Draft

J. Morris  
A. Davidson  
Center for Democracy & Technology

draft-morris-policy-considerations-00.txt  
Expires: December 2003

June 2003

Public Policy Considerations  
for Internet Design Decisions

Status of this Memo

This document is an Internet-Draft and is in full conformance with all provisions of Section 10 of [RFC2026]. Internet-Drafts are working documents of the Internet Engineering Task Force (IETF), its areas, and its working groups. Note that other groups may also distribute working documents as Internet-Drafts.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

The list of current Internet-Drafts can be accessed at  
<http://www.ietf.org/ietf/lid-abstracts.txt>

The list of Internet-Draft Shadow Directories can be accessed at  
<http://www.ietf.org/shadow.html>.

Abstract

This document suggests public policy questions that the IETF should consider and possibly address when developing new standards and protocols, and modifying or enhancing old standards and protocols. This document contains questions to be considered, as opposed to guidelines or rules that should in all cases be followed. This first draft provides a framework for identifying and discussing questions of public policy concern, and invites members of the IETF community to contribute to the questions and discussions raised here.

## Conventions used in this document

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

## Table of Contents

1. Introduction and Rationale for this Document.....	2
2. Scope of this Document.....	4
3. A Few Basic Definitions.....	5
4. Questions about Technical Characteristics or Functionality.....	6
5. Discussion of Potential Public Policy Concerns.....	10
5.1 General Comments.....	10
5.2 Content Censorship and Control.....	11
5.2.1 Government Censorship .....	11
5.2.2 Private Control of Content .....	11
5.3 Discrimination Among Users and Content.....	12
5.4 Competition and Choice.....	13
5.5 User Consent.....	13
5.6 Internationalization.....	14
5.7 Accessibility.....	14
5.8 Personal Privacy.....	15
5.8.1 Consumer Privacy and Data Protection .....	16
5.8.2 Privacy vis-a-vis the Government .....	17
6. Conclusion.....	17
Security Considerations.....	17
References.....	18
Acknowledgments.....	20
Authors' Addresses.....	20

## 1. Introduction and Rationale for this Document

This document suggests public policy questions that the authors believe should be considered and possibly addressed within the IETF when it is working on new or revised standards or protocols. This document offers questions to be considered, rather than guidelines to be followed. These questions are somewhat similar to the "Security Considerations" currently required in IETF documents. [RFC2316].

This document is inspired by and directly modeled on [RFC 3426], entitled "General Architectural and Policy Considerations" and published by the Internet Architecture Board in November 2002. In RFC 3426, the IAB suggests architectural questions that should be considered in design decisions, without asserting that there are clear guidelines that should be followed in all cases. This document attempts to follow in the spirit of RFC 3426 by raising questions to

be considered without asserting that any particular answers must be followed.

This document is motivated by the recognition that technical design decisions made within the IETF and other standards bodies can have significant impacts on public policy concerns. One well known example of this possible impact can be found in the implementation of IPv6 on Ethernet networks. [RFC 2464], published in December 1998, specified that the IPv6 address for a computer on an Ethernet network would incorporate the unique MAC address associated with the Ethernet adapter. After the publication of RFC 2464, a significant policy concern arose because the use of the unique and unchangeable MAC address would significantly reduce a user's ability to conduct private and/or anonymous communications using IPv6. The IETF responded to those concerns by publishing in January 2001 [RFC 3041], entitled "Privacy Extensions for Stateless Address Autoconfiguration in IPv6".

The goal of this document is that potential public policy impacts of technical design decisions will be identified and considered during the initial design process. This type of policy consideration already happens in many cases within the IETF, but not in any systematic way or with any assurance that public policy concerns will be identified in most cases.

A common assertion within the IETF is that "we don't do public policy." The goal of this document is NOT to suggest that the IETF should "do" policy in the sense of intentionally conducting extensive debates on public policy issues. But, as much as the IETF appropriately tries not to "do" policy, many of its actions and decisions squarely and significantly impact on public policy concerns. This document seeks to encourage the IETF to acknowledge those times when a design decision might affect a policy concern, so that the community can make a reasoned decision on whether and how to address the concern in the particular situation.

The authors see a range of important reasons why the IETF should seek to be aware of the potential public policy impacts of its design decisions, but will only suggest one here: The chance that IETF standards will be widely deployed and then widely accepted in the market is higher if those standards minimize harmful social impacts.

To be clear, it is not the view of the authors that impact on public policy concerns must be avoided at all costs (if that were even possible), or that if a particular proposed standard adversely affects a public concern (say, privacy) that the standard should as a matter of course be rejected. Some beneficial technologies might unavoidably have secondary harmful impacts, and the benefits may outweigh the harms. More generally, some technologies (such as those

that facilitate government surveillance) might intentionally compromise a public concern such as privacy. Similarly, the inherent goal of some technologies (such as those that discriminate among traffic to provide assured levels of quality of service) might simultaneously be viewed by some as beneficial and by others as harmful.

In all of these cases, there may well be good reasons to develop the technology notwithstanding the asserted harms to a policy concern. The central goal of this paper is simply to suggest that impacts on a public concern should not happen without clear recognition of the impacts, and without appropriate consideration of whether it is possible to minimize harmful impacts while still meeting the design requirements.

## 2. Scope of this Document

The purported scope of this document is admittedly ambitious. This document cannot possibly predict and identify all possible societal impacts of future IETF design decisions. It does try, however, to identify a broad range of possible public policy impacts that experience suggests are most likely to arise. This document is a first draft, and will require at least a few iterations before it covers a reasonably full range of potential issues. The authors invite comments, and specifically seek suggestions of specific historic examples within the IETF where a public policy concern was raised by a technology proposal. The more concrete examples this document can contain, the more useful it will be to the IETF community.

There are two broad categories of public policy impacts that this document does NOT seek to cover with any thoroughness. First, this document does not articulate the full range of concerns raised by traditional security problems in the network. The IETF is already appropriately focused on security issues, and those in the Security Area are well able to identify and articulate the types of technical design decisions that can lead to security problems. Many of the privacy concerns highlighted in this document raise related security concerns.

Second, this document does not attempt to identify the enormous range of POSITIVE societal impacts that flow from network technology. The vast majority of the work of the IETF -- from the introduction of an entirely new method of Internet use to the fine tuning of an existing routing protocol -- yields concrete and important social benefits. This document does not discuss these positive benefits, but takes as a given that technology proposals will not advance within the IETF

unless at least some portion of the community views the proposals as beneficial.

This document is by no means an exhaustive list of public policy concerns that relate to the Internet. This draft has instead focused on policy issues that the authors believe are most likely to arise in the IETF context. In addition, the authors articulate a perspective that is in part a function of their country and culture. It is the authors' hope that over time this document can be expanded to include the concerns of a broader set of communities.

### 3. A Few Basic Definitions

This document will use a limited number of defined terms, which admittedly will not be precisely applicable in all situations:

TECHNOLOGY shall refer to a technical standard or innovation being considered within the IETF, whether it is a "new" technology or standard or a modification to an "old" technology or standard.

END USER shall refer to the user at one or the other end of a network communication, or an automated or intelligent proxy for a user located at the end of the communication. Thus, a concern over, for example, the privacy of the End User would be applicable in cases where a client-side application communicated on behalf of an End User. In some contexts, a corporation or other organized collection of human users might stand in the role of an End User. In some but not all contexts, a communication might be from one End User to another End User; in other context, a communication might be between a Service Provider (defined below) and an End User.

ACCESS PROVIDER shall refer to the entity that most directly provides network access to an End User or Service Provider. In the case of End Users on the public Internet, a Access Provider will often be an Internet Service Provider that provides dedicated or dial-up network access. In other cases a Access Provider might be a company providing access to its employees, or a university providing access to its students and faculty.

SERVICE PROVIDER shall refer to an entity (human, corporate or institutional) that provides or offers services or content to End Users over the network (regardless of whether charges are sought for such services or content). Thus, for example, a web site would be viewed as a Service Provider.

A given entity (such as a company offering content on the web) might be viewed as an Access Provider (vis-a-vis its employees), as an End

User (vis-a-vis the ISP from which it obtains network access), and as a Service Provider (vis-a-vis End Users elsewhere on the Internet).

TRANSIT PROVIDERS shall refer to one or more entities that transport communications between the Access Providers at either end of a communication. Transit Providers are often thought to transport packets of communications without regard to their content (other than, of course, their destination), but increasingly some Transit Providers may handle traffic differently depending on the type of traffic.

THIRD PARTY shall refer to any individual or entity other than End Users, Access Providers, Service Providers, and Transit Providers. For a given communication, Third Parties could include, for example, governments seeking to execute lawful interceptions, hackers seeking to interfere with or intercept communications, or in some situations entities that provide, under contract, content or functionality to a Service Provider (such as, for example, an entity that serves advertisements for insertion in a web page).

In some cases the distinction between a Transit Provider and a Third Party may blur, if the Transit Provider manipulates or discriminates among traffic based on characteristics such as its content, sender, or receiver. Similarly, the line between a Service Provider and a Third Party may blur as more service functions are contracted out.

#### 4. Questions about Technical Characteristics or Functionality

In this section we list questions to ask in designing protocols. The issues raised by the questions are discussed in more depth in Section 5 below. We are not suggesting that each of these questions requires an explicit answer -- some questions will be more relevant to one design decision than to another.

There is not a one-to-one correspondence between the questions listed in this section and the discussions in Section 5. Instead, for each group of questions listed below, there are one or more references to later substantive discussions.

Some of the questions will be easy to answer for a given technology. Others will require creative thinking to assess whether a proposed technology might be misused to achieve a result not intended by the technology proponents.

This first draft addresses the most common and well-known areas of public policy concern, focusing on areas most likely to arise in the IETF context. Subsequent drafts may include a broader range of policy concerns.

**Bottlenecks, Choke-Points and Access Control:**

\* Would the Technology facilitate any bottlenecks or choke-points in the network through which significant amounts of particular types of traffic must flow?

\* Would the Technology permit a Third Party (including a government) to exert control over End Users' use of the Internet as a whole?

\* Would the Technology permit a Transit Provider or Third Party (including a government) to exert control over the use of particular content, functionality, or resources?

\* Would the Technology permit an Access Provider or Service Provider to exert control over particular content, functionality, or resources, other than that known by the End User to be controlled by the Access Provider or Service Provider?

\* Would the Technology permit Third Party (including a government) to require that particular content or functionality be confined (or "zoned") into, or excluded from, any particular subpart of the Internet (such as a particular Global Top Level Domain)?

See discussions of "Content Censorship and Control," "Personal Privacy," "Discrimination Among Users and Content," "Competition and Choice," and "User Consent."

**Alteration or Replacement of Content:**

\* Would the Technology permit a Third Party to alter any of the content of a communication without (a) the express instruction or consent of the Service Provider and the End User, or (b) the knowledge of the Service Provider or the End User?

See discussions of "Content Censorship and Control" and "User Consent."

**Monitoring or Tracking of Usage:**

\* Would the Technology permit the monitoring or tracking by a Third Party of the use of particular content, functionality, or resources?

See discussion of "Personal Privacy."

Retention, Collection, or Exposure of Data:

\* Would the Technology require or permit the retention of any information about individual packets or communications, or individual End Users, either (a) beyond the conclusion of the immediate network or communications event, or (b) for longer than a reasonably brief period of time in which a communications "session" can be concluded?

\* Would the Technology permit the reading or writing of any file on an End User's computer without the explicit knowledge of the End User?

\* Would the Technology permit or require that information other than location and routing information (such as, for example, personal information or search terms) be made a part of a URL or URI used for a communication?

\* Would the Technology permit or require that personal or confidential information be made available to any Third Party, Transit Provider, or Access Provider?

See discussion of "Personal Privacy."

Persistent Identifiers and Anonymity:

\* Would the Technology require or permit the association of a persistent identifier with a particular End User, or a computer used by one or more End Users?

\* Would the Technology reduce the ability of a content provider to provide content anonymously?

\* Would the Technology reduce the ability of an End User to access content or utilize functionality anonymously?

See discussion of "Personal Privacy."

Access by Third Parties:

\* Would the Technology permit any Third Party to have access to packets to and from End Users without the explicit consent of the End Users?

\* Would the Technology permit or require any Third Party to store any information about an End User, or an End User's communications (even with the knowledge and consent of the End User)?

See discussions of "Personal Privacy" and "User Consent."



Discrimination among Users, or among Types of Traffic:

\* Would the Technology require or permit an Access Provider or Transit Provider to provide differing levels of service or functionality based on (a) the identity or characteristic of the End User, or (b) the type of traffic being handled?

\* Would the Technology likely lead to a significant increase in cost for basic or widely-used categories of communications?

\* Would likely implementations of a new mode of communication require such a financial or resource investment so that the mode would effectively not be available to individuals, or small or non-profit entities?

See discussion of "Discrimination Among Users and Content."

Internationalization and Accessibility

\* Would the Technology function with the same level of quality, ease of use, etc., across a broad range of languages and character sets?

\* Would the likely implementations of the Technology be as useful to mainstream End Users as to non-mainstream End Users (such as, for example, End Users with disabilities)?

\* Would the Technology likely reduce the ability of non-mainstream End Users (such as, for example, End Users with disabilities) to utilize any common application or network functions?

See discussions of "Internationalization" and "Accessibility."

Innovation, Competition, and End User Choice and Control

\* Would the Technology reduce the ability of future designers to create new and innovative uses of the Internet, or new methods to accomplish common network functions?

\* Would the Technology likely reduce the number of viable competitive providers of any common application or network functions?

\* Would the Technology likely reduce the ability of small or poorly-funded providers to compete in the provision of any common application or network functions?

\* Would the Technology likely reduce the number or variety of methods available to the End User to accomplish common application or network functions?

\* Would the Technology likely reduce the level of control the End User can exercise over common application or network functions?

See discussion of "Competition and Choice."

## 5. Discussion of Potential Public Policy Concerns

Below are brief discussions of common categories of public policy concern that might be raised by technologies developed by the IETF. The discussions are not intended to present comprehensive analyses of the policy concern, but are intended to assist in identifying situations in which the concern is implicated and should be considered.

### 5.1 General Comments

The fundamental design principles of the Internet, including openness, interoperability, and the end-to-end principle, have themselves been critical contributors to the value of the Internet from a public policy perspective. Thus, as a first rule of promoting healthy public policy impacts, the IETF should continue to maintain and promote the architectural goals that it has historically pursued.

Because of this congruence between architectural values and public policy values, many of the design considerations in RFC 3426, "General Architectural and Policy Considerations," directly promote an Internet that is supportive of good public policy values. As one of many examples, Section 12.1 discusses the value of user choice, and quotes [CWSB02] to say that "user empowerment is a basic building block, and should be embedded into all mechanism whenever possible." User choice is a fundamental public policy concern, discussed more below.

[CWSB02], titled "Tussle in Cyberspace: Defining Tomorrow's Internet," is itself a valuable exploration of the intersection between technology design and public policy concerns. A key premise of [CWSB02] is that "different stakeholders that are part of the Internet milieu have interests that may be adverse to each other, and these parties each vie to favor their particular interests." Many of the "tussles" that [CWSB02] analyzes are situations in which public policy considerations should be assessed in making design decisions. More broadly, [CWSB02] provides to technology designers a conceptual framework that recognizes the existence of "tussles" and seeks to accommodate them constructively within a design.

## 5.2 Content Censorship and Control

As used here, the concept of censorship can encompass both governmental and private actions.

### 5.2.1 Government Censorship

"Censorship" is most commonly thought of as government-imposed control or blocking of access to content. Many believe that as a matter of public policy, censorship should be minimized or avoided. For example, in May 2003 the Council of Europe stated in its "Declaration on freedom of communication on the Internet" that "Public authorities should not, through general blocking or filtering measures, deny access by the public to information and other communication on the Internet, regardless of frontiers." [COE03]. But not all censorship is viewed by all as contrary to public policy. In November 2002 in [COE02], the same Council of Europe specifically endorsed government regulation of "hate speech" on the Internet.

Some technology is intended to control access to content. The Platform for Internet Content Selection of the World Wide Web Consortium, [PICS], for example, was in part designed to facilitate the limitation of access by some users (children, for example) to certain types of content.

Harder to identify are technologies not intended for content control but which can be used to censor or restrict access to content. Any technology that creates or permits bottlenecks or choke-points in the network, through which significant traffic must pass, increases the risk of censorship. Governments seeking to censor content or restrict access to the Internet will exploit network bottlenecks (albeit often bottlenecks created by network topology not technology standards). [ZE02] documents Saudi Arabia's routing of all Internet traffic through central proxy servers, and [KB01] discusses the response of China and Cuba to the Internet, to achieve such ends.

Governments also seek to control access to content through means other than direct censorship. In the United States, for example, [CIPA] requires that libraries that receive certain government funding must use content filtering technology on Internet access they offer to patrons, and [DOTKIDS] requires the creation of a subdomain of the .US domain to be used only for children-suitable content.

### 5.2.2 Private Control of Content

Governments are not the only entities that attempt to restrict the content to which Internet users have access. In some cases Access Providers (commonly Internet Service Providers) seek to control the content available to their customers. Some do so with full knowledge

and consent of the customers (to provide, for example, a "family friendly" online experience). Others, however, favor certain content (for example, that of contractual business partners) over competing content, and do so without the clear understanding of their customers.

Whether such private content control is contrary to public policy will turn on a host of specific considerations (including notice and alternative choice), but undeniably such content control raises policy concerns. [CMCS02] illustrates, for example, the current debate over "network neutrality" in the United States. These policy concerns are commonly phrased in terms of discrimination among content, and are discussed more fully in the next section.

### 5.3 Discrimination Among Users and Content

In a simplistic conception of the early Internet, all traffic of any kind was broken into packets and all packets were treated equally within the network. This idea has promoted a broad and strong perception of equality within the Internet -- one class of traffic will not take priority over other classes, and a lone individual's packets will be treated the same as a large corporation's packets.

Any technology that moves away from this notion of equality -- even technologies that are clearly beneficial -- raise significant public policy questions, including "who controls the preferential treatment," "who qualifies for it," "will it require additional expenditure to obtain it," and "how great a disparity will it create."

Thus, for example, quality of service and content distribution networks both raise questions about what and who will be favored, whether the rough equality of the Internet will be lost, and whether the financially strong will come to dominate the Internet and make it less useful for the less well off. [BM00], for example, explores the policy concerns raised by content distribution networks.

The concern over discrimination addresses both discrimination based on identity of user, and on type of traffic. Content distribution networks enable, for example, individual web sites able to afford the CDN services to be delivered more quickly than competing web sites that are not able to afford such services. In contrast, a core focus of quality of service efforts is on the need to provide enhanced levels of service to some types of traffic (e.g., Internet telephony).

Concern about discrimination does not suggest that technologies that handle certain categories of traffic more efficiently should never be pursued. The concern, however, may in some cases suggest that an

efficiency enhancement be structured so as to be available to the broadest classes of traffic or users.

#### 5.4 Competition and Choice

Critical elements of the Internet's development and success have been the ability to create new and innovative uses of the network, the relative ease in creating and offering competitive services, products, and methods, and the ability of Internet users to choose from a range of providers and methods. Anything that reduces innovation, competition, or user choice raises significant public policy concerns.

Indeed, the need for competition and user choice is perhaps greater now than in earlier days of the Internet. There is a greater divergence today in the interests and agendas of users and service providers than in the past, and that divergence makes it more important that users be able to choose among service providers (in part to seek providers that they trust the most).

[CWSB02] extensively addresses the important need for competition and user choice, and provides detailed suggestions and guidelines for Internet designer to consider.

#### 5.5 User Consent

A familiar public policy concern over user consent focuses on the use of personal data (as discussed more fully below under "Privacy"). The usage here, however, has a broader meaning: the consent (or lack of consent) of a user regarding an action or function executed by or within the network.

Many actions performed using IETF protocols require the specific initiation by a user, and the user's consent can fairly be assumed. Thus, if a user transmits a request using SIP, the Session Initiation Protocol, it is safe to assume that the user consents to the normal handling and execution of the SIP request.

Other actions performed using IETF protocols are not initiated by a user, but are so inherently a part of normal network operations that consent can be assumed. For example, if in the middle of the network certain packets are slowed by congestion, it is safe to assume sufficient consent for congestion control mechanisms and rerouting of the packets.

Uncertainty about consent arises, however, in areas where IETF protocols can be viewed as deviating from some conception of "normal." A simple example relates to the evolution of caching, where as caching of various types of data became the norm, there

emerged a need to be able to set flags to prevent caching, which in a sense can be thought of as a form of negative consent.

Middle boxes and other functions that deviate from the historic "norm" -- the end-to-end principle -- also can raise issues of consent. For example, section 3 of [RFC3238], titled "IAB Architectural and Policy Considerations for Open Pluggable Edge Services," explores a range of consent and data integrity issues raised by the OPES protocol proposals. As that analysis makes clear, the consent issue is not necessarily confined to the consent of the client in a client/server transaction, but may also involve the consent of the server to an action undertaken on the request of the client.

## 5.6 Internationalization

[RFC3426] calls on protocol designers to ask the key question about "Internationalization":

"Where protocols require elements in text format, have the possibly conflicting requirements of global comprehensibility and the ability to represent local text content been properly weighed against each other?"

[RFC3426] explores the significant challenges raised by the need to balance these conflicting goals, and raises the possibility that the historic preference for the use of case-independent ASCII characters in protocols may need to change to accommodate a broader set of international languages.

## 5.7 Accessibility

The concept of "accessibility" addresses the ability of persons with disabilities to use the Internet in general and the full range of applications and network functions that are commonly available to persons without disabilities.

Although focused on the World Wide Web, [W3C WAI-TA] illustrates the concern and explains that a focus on accessibility is needed "to ensure that the full range of core technologies of the Web are accessible . . . . Barriers exist when these technologies lack features needed by users with visual, hearing, physical, cognitive or neurological disabilities, or when the accessibility potential in the technology is not carried through into the Web application or Web content. For instance, in order for a multimedia presentation to be accessible to someone who is blind, the markup language for the presentation must support text equivalents for images and video; the multimedia player used must support access to the text equivalents; and the content author must make appropriate text equivalents

available. These text equivalents can then be rendered as speech or braille output, enabling access to the content regardless of disability or device constraints."

Many policy concerns about accessibility relate specifically to the user interfaces used by applications, and as such these concerns generally fall outside of the province of the IETF. But in the Applications Area and to a lesser extent elsewhere within the IETF, some design decisions could ultimately constrain the accessibility of applications based on IETF protocols.

The World Wide Web Consortium's Web Accessibility Initiative [W3C WAI] reflects a very well developed and comprehensive analysis of the technical and design issues raised by accessibility concerns.

## 5.8 Personal Privacy

Individual privacy concerns are often divided into two components: First, "consumer privacy" (also termed "data protection") commonly addresses the right of individuals to control information about themselves generated or collected in the course of commercial interactions. Second, "privacy rights vis-a-vis the government" addresses individuals' protection against unreasonable government intrusions on privacy, including the interceptions of communications.

In the IETF context, a third category of privacy concern -- privacy against private interception of or attacks on data or communications -- is largely covered by the IETF's focus on security considerations. Although security considerations are crucial to privacy considerations, "consumer privacy" and "privacy vis-a-vis the government" raise significantly different issues than traditional security considerations. With security considerations, a key focus is on maintaining the privacy of information against unauthorized attack. Other forms of privacy, however, focus not on unauthorized access to information, but on the "secondary use" of information for which access was (at least temporarily) authorized. The question often is not "how can I keep you from seeing my information" but "how can I give you my information for one purpose and keep you from using it for another."

The questions raised in Section 4 above do not differentiate between the different categories of privacy, because for most purposes within the IETF, technologies that create risk for one type of privacy likely also create risk for other types of privacy. Once a potential privacy concern is identified, however, the different types of privacy concern may present different public policy considerations. Indeed, the policy considerations may well be in tension -- a technology that permits a lawful governmental interception of a

communication may also increase the risk of unlawful private interception.

Privacy considerations are too numerous and multifaceted to be adequately addressed in this document. The discussion below only briefly covers the key privacy issues. A forthcoming Internet-Draft on "Privacy Considerations for Internet Protocols" will address privacy issues more thoroughly.

#### 5.8.1 Consumer Privacy and Data Protection

Consumer privacy protection in many parts of the world is based on "fair information practices," which were authoritatively detailed in [OECD] by the Organization for Economic Co-operation and Development. Fair information practices include the following principles:

- \* Notice and Consent - before the collection of data, the data subject should be provided: notice of what information is being collected and for what purpose and an opportunity to choose whether to accept the data collection and use. In Europe, data collection cannot proceed unless data subject has unambiguously given his consent (with exceptions).

- \* Collection Limitation - data should be collected for specified, explicit and legitimate purposes. The data collected should be adequate, relevant and not excessive in relation to the purposes for which they are collected.

- \* Use/Disclosure Limitation - data should be used only for the purpose for which it was collected and should not be used or disclosed in any way incompatible with those purposes.

- \* Retention Limitation - data should be kept in a form that permits identification of the data subject no longer than is necessary for the purposes for which the data were collected.

- \* Accuracy - the party collecting and storing data is obligated to ensure its accuracy and, where necessary, keep it up to date; every reasonable step must be taken to ensure that data which are inaccurate or incomplete are corrected or deleted.

- \* Access - a data subject should have access to data about himself, in order to verify its accuracy and to determine how it is being used.

- \* Security - those holding data about others must take steps to protect its confidentiality.



Many of these fair information practices are relevant to IETF protocols. Even seemingly benign data and server logs can reveal important information about individuals users. It is not sufficient to address the risk of a technical attack on a body of data, because privacy considerations must address the risk of non-technical attacks on data (through legal process, rogue employees, etc.).

#### 5.8.2 Privacy vis-a-vis the Government

Although privacy is internationally recognized as a human right, most governments claim the authority to invade privacy through the following means, among others:

- \* interception of communications in real-time;
- \* interception of traffic data (routing information) in real-time;
- \* access to data stored by service providers, including traffic data being stored for billing purposes; and
- \* access to data stored by users.

These means of access to communications and stored data should be narrowly defined and subject to independent controls under strict standards. Real-time interception of communications should take place only with prior approval by the judicial system, issued under standards at least as strict as those for police searches of private homes.

In 1999, in the "Raven" discussions, the IETF considered whether it should take action to build wiretapping capability into the Internet. Ultimately, as detailed in [RFC2804], the community decided that an effort to build wiretapping capability into the Internet would create significant and unacceptable security risks.

## 6. Conclusion

This document has sought to identify a range of public policy concerns that may arise in the work of the IETF. The authors invite comments and suggestions about ways to make this document more useful and complete.

## Security Considerations

This document does not propose any new protocols or changes to old protocols, and therefore does not involve any security considerations in that sense. Many of the privacy issues discussed here also raise security issues, but this document is not intended to be a comprehensive look at security issues.

## References

- [BM00] Berman, J. & Morris, J., "The Broadband Internet: The End of the Equal Voice?", Computers, Freedom & Privacy Conference, April 2000. URL  
"<http://www.cdt.org/publications/broadbandinternet.pdf>".
- [CIPA] United States Congress, "Children's Internet Protection Act", December 2000. URL  
"<http://www.cdt.org/legislation/106th/speech/001218cipa.pdf>".
- [COE02] Council of Europe, "Additional Protocol to the Convention on Cybercrime concerning the criminalisation of acts of a racist and xenophobic nature committed through computer systems," November 7, 2002. URL  
"[http://www.coe.int/T/E/Legal\\_affairs/Legal\\_cooperation/Combating\\_economic\\_crime/Cybercrime/Racism\\_on\\_internet/PC-RX\(2002\)24E-1.pdf](http://www.coe.int/T/E/Legal_affairs/Legal_cooperation/Combating_economic_crime/Cybercrime/Racism_on_internet/PC-RX(2002)24E-1.pdf)".
- [COE03] Council of Europe, "Declaration on freedom of communication on the Internet," May 28, 2003. URL  
"[http://cm.coe.int/stat/E/Public/2003/adopted\\_texts/declarations/dec-28052003.htm](http://cm.coe.int/stat/E/Public/2003/adopted_texts/declarations/dec-28052003.htm)".
- [CMCS02] Cooper, M., Murray, C., Chester, J., & Schwartzman, A., Letter to High-Tech Broadband Coalition, August 16, 2002. URL  
"<http://www.mediaaccess.org/programs/broadband/chesterltr090302.pdf>".
- [CWSB02] Clark, D., Wroslawski, J., Sollins, K., and Braden, R., "Tussle in Cyberspace: Defining Tomorrow's Internet", SIGCOMM 2002. URL  
"<http://www.acm.org/sigcomm/sigcomm2002/papers/tussle.html>".
- [DOTKIDS] United States Congress, "Dot Kids Implementation and Efficiency Act of 2002", November 2002. URL  
"[http://www.kids.us/content\\_policy/kids\\_efficiency\\_act.pdf](http://www.kids.us/content_policy/kids_efficiency_act.pdf)".
- [KB01] Kalathil, S. & Boas, T., "The Internet and State Control in Authoritarian Regimes: China, Cuba, and the Counterrevolution", July 2001. URL  
"<http://www.ceip.org/files/pdf/21KalathilBoas.pdf>".

- [OECD] Organization for Economic Co-operation and Development, "OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data," 1980. URL "<http://www.oecd.org/EN/document/0,,EN-document-0-nodirectorate-no-24-10255-0,00.html>".
- [PICS] World Wide Web Consortium, "Platform for Internet Content Selection." URL "<http://www.w3.org/PICS/>".
- [RFC2026] Bradner, S., "The Internet Standards Process -- Revision 3", BCP 9, RFC 2026, October 1996.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997
- [RFC2316] Bellovin, S., "Report of the IAB Security Architecture Workshop", RFC 2316, April 1998.
- [RFC2464] Crawford, M., "Transmission of IPv6 Packets Over Ethernet Networks", RFC 2464, December 1998.
- [RFC2804] IAB & IESG, "IETF Policy on Wiretapping", RFC 2804, May 2000.
- [RFC3041] Narten, T. & Draves, R., "Privacy Extensions for Stateless Address Autoconfiguration in IPv6", RFC 3041, January 2001.
- [RFC3238] Floyd, S. & Daigle, L., "IAB Architectural and Policy Considerations for Open Pluggable Edge Services", RFC 3238, January 2002.
- [RFC3426] Floyd, S., ed., "General Architectural and Policy Considerations," RFC 3426, November 2002.
- [W3C WAI] World Wide Web Consortium, "Web Accessibility Initiative". URL "<http://www.w3.org/WAI/>".
- [W3C WAI-TA] World Wide Web Consortium, "WAI Technical Activity". URL "<http://www.w3.org/WAI/Technical/Activity.html>".
- [ZE02] Zittrain, J. & Edelman, B., "Documentation of Internet Filtering in Saudi Arabia," September 2002. URL "<http://cyber.law.harvard.edu/filtering/saudi-arabia/>".

Acknowledgments

The authors would like to thank Sally Floyd and the Internet Architecture Board for devising the approach to policy considerations used in [RFC 3426], which this document tries to follow.

Authors' Addresses

John B. Morris, Jr.  
Center for Democracy & Technology  
1634 I Street, NW, Suite 1100  
Washington, D.C. 20006  
USA  
Email: [jmorris@cdt.org](mailto:jmorris@cdt.org)

Alan B. Davidson  
Center for Democracy & Technology  
1634 I Street, NW, Suite 1100  
Washington, D.C. 20006  
USA  
Email: [abd@cdt.org](mailto:abd@cdt.org)

PLEASE SEND COMMENTS AND SUGGESTIONS TO [jmorris@cdt.org](mailto:jmorris@cdt.org)