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## The Tao of IETF

### A Guide for New Attendees of the Internet Engineering Task Force

#### Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard. Distribution of this memo is unlimited.

#### Abstract

Over the last two years, the attendance at Internet Engineering Task Force (IETF) Plenary meetings has grown phenomenally. Approximately 38% of the attendees are new to the IETF at each meeting. About 33% of those go on to become regular attendees. When the meetings were smaller, it wasn't very difficult for a newcomer to get to know people and get into the swing of things. Today, however, a newcomer meets many more new people, some previously known only as the authors of Request For Comments (RFC) documents or thought provoking email messages.

The purpose of this For Your Information (FYI) RFC is to explain to the newcomers how the IETF works. This will give them a warm, fuzzy feeling and enable them to make the meeting more productive for everyone. This FYI will also provide the mundane bits of information which everyone who attends an IETF meeting should know.

#### Acknowledgments

The IETF Secretariat is made up of the following people: Steve Coya (Executive Director of the IETF), Cynthia Clark, Megan Davies, Debra Legare, and Greg Vaudreuil. These are the people behind the Registration Table, and the success, of the IETF meetings. I thank them for their hard work, and for their input and review of this document. Thanks also to Vinton Cerf, Phillip Gross, and Craig Partridge for their review and comments. And, as always, special thanks to April Marine and Skippy.

I would also like to thank the management of Xylogics for their strong, continuing support of my IETF activities.

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## What is the IETF?

The IETF is the protocol engineering, development, and standardization arm of the Internet Architecture Board (IAB). Its mission includes:

- o Identifying, and proposing solutions to, pressing operational and technical problems in the Internet;
- o Specifying the development or usage of protocols and the near-term architecture to solve such technical problems for the Internet;
- o Making recommendations to the IAB regarding standardization of protocols and protocol usage in the Internet;

- o Facilitating technology transfer from the Internet Research Task Force (IRTF) to the wider Internet community; and
- o Providing a forum for the exchange of information within the Internet community between vendors, users, researchers, agency contractors, and network managers.

The IETF Plenary meeting is not a conference, although there are technical presentations. The IETF is not a traditional standards organization, although many standards are produced. The IETF is the volunteers who meet three times a year to fulfill the IETF mission.

There is no membership in the IETF. Anyone may register for and attend any meeting. The closest thing there is to being an IETF member is being on the IETF mailing lists (see the IETF Mailing Lists section). This is where the best information about current IETF activities and focus can be found.

### Humble Beginnings

The first IETF meeting was held in January, 1986 at Linkabit in San Diego with 15 attendees. The 4th IETF, held at SRI in Menlo Park in October, 1986, was the first at which non-government vendors attended. The concept of Working Groups (WG) was introduced at the 5th IETF meeting at the NASA Ames Research Center in California in February, 1987. The 7th IETF, held at MITRE in McLean, Virginia in July, 1987, was the first meeting with over 100 attendees.

The 14th IETF meeting was held at Stanford University in July, 1989. It marked a major change in the structure of the IETF universe. The IAB (then, Internet Activities Board), which until that time oversaw many Task Forces, changed its structure to leave only two: the IETF and the IRTF. The IRTF is tasked to consider the long-term research problems in the Internet. The IETF also changed. Those changes are visible in today's hierarchy.

### The Hierarchy

To completely understand the structure of the IETF, it is useful to understand the overall structure in which the IETF resides. The Internet Society (ISOC), formed in January 1992, provides the official parent organization for the IETF. The ISOC Board of Trustees appoints the members of the IAB. The IETF and IRTF Chairs are also IAB members. The IAB provides the final technical review of Internet standards. They also provide leadership in the IETF, by virtue of their skills and years of experience.

The IETF is divided into nine functional Areas. They are: Applications, Internet Services, Network Management, Operational Requirements, OSI Integration, Routing, Security, Transport and Services, and User Services. Each Area has at least one Area Director. There is also an Area Director who oversees Standards Management. The Area Directors, along with the IETF Chair, form the Internet Engineering Steering Group (IESG). Phillip Gross has been the IETF Chair since the IETF's 7th meeting. He founded the IESG and serves as its Chair as well. The IESG provides the first technical review of Internet standards. They are also responsible for the day-to-day "management" of the IETF.

Each Area has several Working Groups. A Working Group is a group of people who work under a charter to achieve a certain goal. That goal may be the creation of an informational document, the creation of a protocol standard, or the resolution of problems in the Internet. Most Working Groups have a finite lifetime. That is, once a Working Group has achieved its goal, it disbands. As in the IETF, there is no official membership for a Working Group. Unofficially, a Working Group member is somebody who's on that Working Group's mailing list. Anyone may attend a Working Group meeting (see the Be Prepared section below).

Areas may also have Birds of a Feather (BOF) groups. They generally have the same goals as Working Groups, except that they have no charter and usually only meet once or twice. BOFs are often held to determine if there is enough interest to form a Working Group.

#### IETF Mailing Lists

Anyone who plans to attend an IETF meeting should join the IETF announcements mailing list. This is where all of the meeting information, new and revised Internet-Draft and RFC announcements, IESG Recommendations, and Last Calls are posted. People who'd like to "get technical" may also join the IETF discussion list, "ietf@cnri.reston.va.us". This was the only list before the announcement list was created and is where discussions of cosmic significance are held (most Working Groups have their own mailing lists for discussions relating to their work). To join the IETF announcement list, send a request to:

ietf-announce-request@cnri.reston.va.us

To join the IETF discussion list, send a request to:

ietf-request@cnri.reston.va.us

To join both of the lists, simply send a single message, to either "-request" address, and indicate that you'd like to join both mailing lists.

Do not, ever, under any circumstances, for any reason, send a request to join a list to the list itself! The thousands of people on the list don't need, or want, to know when a new person joins. Similarly, when changing email addresses or leaving a list, send your request only to the "-request" address, not to the main list. This means you!!

The IETF discussion list is unmoderated. This means that anyone can express their opinions about issues affecting the Internet. However, it is not a place for companies or individuals to solicit or advertise. Only the Secretariat can send a message to the announcement list.

Even though the IETF mailing lists "represent" the IETF membership at large, it is important to note that attending an IETF meeting does not automatically include addition to either mailing list.

## Registration

As previously mentioned, all meeting announcements are sent to the IETF announcement list. Within the IETF meeting announcement is a Registration Form and complete instructions for registering, including, of course, the cost. The Secretariat highly recommends that attendees preregister. Early registration, which ends about one month before the meeting, carries a lower registration fee. As the size of the meetings has grown, so has the length of the lines at the registration desk. Fortunately, there are three lines: the "preregistered and prepaid" line (which moves very quickly); the "preregistered and on-site payment" line (which moves a little more slowly); and the "registration and on-site payment" line (take a guess).

Registration is open all week. However, the Secretariat highly recommends that attendees arrive for early registration, beginning at 6:00 P.M. (meeting local time), on the Sunday before the opening plenary. Not only will there be fewer people, but there will also be a reception at which people can get a byte to eat. If the registration lines are long, one can eat first and try again when the lines are shorter. Newcomers are encouraged to attend the IETF Orientation on Sunday at 4:30 P.M.

Registered attendees (and there isn't any other kind) receive a Registration Packet. It contains a general orientation sheet, the

At-A-Glance sheet, a list of Working Group acronyms, the most recent Agenda, and a name tag. The At-A-Glance is a very important reference and is used throughout the week. It contains Working Group/BOF room assignments and a map of room locations. Attendees who prepaid will also find their receipt in their packet.

#### Dress Code

Since attendees must wear their name tags, they must also wear shirts or blouses. Pants or skirts are also highly recommended. Seriously though, many newcomers are often embarrassed when they show up Monday morning in suits, to discover that everybody else is wearing T-shirts, jeans (shorts, if weather permits) and sandals. There are those in the IETF who refuse to wear anything other than suits. Fortunately, they are well known (for other reasons) so they are forgiven this particular idiosyncrasy.

The general rule is: "dress for the weather."

#### Seeing Spots Before Your Eyes

Some of the people at the IETF will have a little colored dot on their name tags. A few people have more than one. These dots identify people who are silly enough to volunteer to do a lot of extra work. The colors have the following meanings:

- red - IAB member
- yellow - IESG member
- blue - Working Group/BOF chair
- green - Local host

Local hosts are the people who can answer questions about the terminal room, and restaurants and points of interest in the area.

It is important that newcomers to the IETF not be afraid to strike up conversations with people who wear these dots. If the IAB and IESG members, and Working Group and BOF chairs, didn't want to talk to anybody, they wouldn't be wearing the dots in the first place.

To make life simpler for the Secretariat, Registration Packets are also coded with little colored dots. These are only for Secretariat use, so the nobody else needs to worry about them.

## Terminal Room

One of the most important (depending on your point of view) things the local host does is provide Internet access to the meeting attendees. In general, the connectivity is excellent. This is entirely due to the Olympian efforts of the local hosts, and their ability to beg, borrow and steal. The people and companies who donate their equipment, services, and time are to be heartily congratulated and thanked.

While preparation far in advance of the meeting is encouraged, there may be some unavoidable "last minute" things which can be accomplished in the terminal room. It may also be useful to people who need to make trip reports or status reports while things are still fresh in their minds.

## Social Event

Another of the most important things organized and managed by the local hosts is the IETF social event. The social event has become something of a tradition at the IETF meetings. It has been immortalized by Marshal Rose with his reference to "many fine lunches and dinners" [ROSE], and by Claudio and Julia Topolcic with their rendition of "Nerds in Paradise" on a pink T-shirt.

Newcomers to the IETF are encouraged to attend the social event. Everyone is encouraged to wear their name tags. The social event is designed to give people a chance to meet on a social, rather than technical, level.

Sometimes, the social event is a computer or high-tech related event. At the Boston IETF, for example, the social was dinner at the Computer Museum. Other times, the social might be a dinner cruise or a trip to an art gallery.

## Agenda

The Agenda for the IETF meetings is a very fluid thing. It is sent, in various forms, to the IETF announcement list three times prior to the meeting. The final Agenda is included in the Registration Packets. Of course, "final" in the IETF doesn't mean the same thing as it does elsewhere in the world. The final Agenda is simply the version that went to the printers.

The Secretariat will announce Agenda changes during the morning plenary sessions. Changes will also be posted on the bulletin board

near the IETF Registration Table (not the hotel registration desk).

Assignments for breakout rooms (that's where the Working Groups and BOFs meet) and a map showing the room locations make up the At-A-Glance sheet (included in the Registration Packets). Room assignments are as flexible as the Agenda. Some Working Groups meet multiple times during a meeting and every attempt is made to have a Working Group meet in the same room each session. Room assignment changes are not necessarily permanent for the week. Always check the At-A-Glance first, then the bulletin board. When in doubt, check with a member of the Secretariat at the Registration Table.

#### Other General Things

The opening Plenary on Monday morning is the most heavily attended session. It is where important introductory remarks are made, so people are encouraged to attend.

The guy wearing the suit is probably Vint Cerf, the President of the Internet Society and an IAB member. If you see a guy doing a strip tease out of a suit, it's definitely Vint (but don't come just to see him do it again; he's only done it once in the Internet's 20 year history).

The IETF Secretariat, and IETFers in general, are very approachable. Never be afraid to approach someone and introduce yourself. Also, don't be afraid to ask questions, especially when it comes to jargon and acronyms!

Hallway conversations are very important. A lot of very good work gets done by people who talk together between meetings and over lunches and dinners. Every minute of the IETF can be considered work time (much to some people's dismay).

"Bar BOFs" are unofficial get-togethers, usually in the late evening, during which a lot of work gets done over drinks.

It's unwise to get between a hungry IETFer (and there isn't any other kind) and coffee break brownies and cookies, no matter how interesting a hallway conversation is.

IETFers are fiercely independent. It's always safe to question an opinion and offer alternatives, but don't expect an IETFer to follow an order.

The IETF, and the plenary sessions in particular, are not places for vendors to try to sell their wares. People can certainly answer



questions about their company and its products, but bear in mind that the IETF is not a trade show. This does not preclude people from recouping costs for IETF related T-shirts, buttons and pocket protectors.

#### Registration Bullets

Registration is such an important topic, that it's in this RFC twice! This is the "very important registration bullets" section.

- o To attend an IETF meeting: you have to register and you have to pay the registration fee.
- o All you need to do to be registered is to send in a completed Registration Form.
- o You may register by mail, email or fax. Email and fax registration forms will be accepted until 1:00 P.M. ET on the Friday before the meeting.
- o You may preregister and pay, preregister and pay later, preregister and pay on-site, or register and pay on-site.
- o To get the lower registration fee, you must register by the early registration deadline (about one month before the meeting). You can still pay later or on-site.
- o If you don't register by the early registration deadline, a late fee is added.
- o Everyone pays the same fees. There are no education or group discounts. There are no discounts for attending only part of the week.
- o Register only ONE person per registration form. Substitutions are NOT allowed.
- o You may register then pay later, but you may not pay then register later. Payment MUST be accompanied by a completed registration form.
- o Purchase orders are NOT accepted. DD Form 1556 IS accepted.
- o Refunds are subject to a \$20 service charge. Late fees will not be refunded.
- o The registration fee covers a copy of the meeting's Proceedings,

Sunday evening reception (cash bar), a daily continental breakfast, and two daily coffee breaks.

### Mailing Lists and Archives

As previously mentioned, the IETF announcement and discussion mailing lists are the central mailing lists for IETF activities. However, there are many other mailing lists related to IETF work. For example, every Working Group has its own discussion list. In addition, there are some long-term technical debates which have been moved off of the IETF list onto lists created specifically for those topics. It is highly recommended that everybody follow the discussions on the mailing lists of the Working Groups which they wish to attend. The more work that is done on the mailing lists, the less work that will need to be done at the meeting, leaving time for cross pollination (i.e., attending Working Groups outside one's primary area of interest in order to broaden one's perspective).

The mailing lists also provide a forum for those who wish to follow, or contribute to, the Working Groups' efforts, but cannot attend the IETF meetings.

All IETF discussion lists have a "-request" address which handles the administrative details of joining and leaving the list. It is generally frowned upon when such administrivia appears on the discussion mailing list.

Most IETF discussion lists are archived. That is, all of the messages sent to the list are automatically stored on a host for anonymous FTP access. To find out where a particular list is archived, send a message to the list's "-request" address, NOT to the list itself.

### Important Email Addresses

There are some important IETF email addresses with which everyone should be familiar. They are all located at "cnri.reston.va.us" (e.g., "ietf-info@cnri.reston.va.us"). To personalize things, the names of the Secretariat staff who handle the lists are given.

- o ietf-info                general queries about the IETF-  
                             Greg Vaudreuil, Megan Davies and Cynthia Clark
- o ietf-rsvp                queries about meeting locations and fees,  
                             emailed Registration Forms-  
                             Debra Legare

- o proceedings        queries about previous Proceedings availability,  
                      orders for copies of the Proceedings-  
                      Debra Legare
- o ietf-announce-request        requests to join/leave IETF announcement list-  
                                 Cynthia Clark
- o ietf-request        requests to join/leave IETF discussion list-  
                         Cynthia Clark
- o internet-drafts    Internet-Draft submissions-  
                         Cynthia Clark
- o iesg-secretary     Greg Vaudreuil

#### IETF Proceedings

The IETF Proceedings are compiled in the two months following each IETF meeting. The Proceedings usually start with a message from Phill Gross, the Chair of the IETF. Each contains the final (hindsight) Agenda, an IETF overview, a report from the IESG, Area and Working Group reports, network status briefings, slides from the protocol and technical presentations, and the attendees list. The attendees list includes an attendee's name, affiliation, work phone number, work fax number, and email address, as provided on the Registration Form.

A copy of the Proceedings will be sent to everyone who registered for the IETF. The cost is included in the registration fee. The Proceedings are sent to the mailing addresses provided on the Registration Forms.

For those who could not attend a meeting but would like a copy of the Proceedings send a check for \$35 (made payable to CNRI) to:

Corporation for National Research Initiatives  
Attn: Accounting Department - IETF Proceedings  
1895 Preston White Drive, Suite 100  
Reston, VA 22091

Please indicate which meeting Proceedings you would like to receive by specifying the meeting date (e.g., July 1992) or meeting number and location (e.g., 24th meeting in Boston). Availability of previous meeting Proceedings is limited, so check BEFORE sending payment.

## Be Prepared

This topic cannot be stressed enough. As the IETF grows, it becomes more and more important for attendees to arrive prepared for the Working Groups meetings they plan to attend. This doesn't apply only to newcomers; everybody should come prepared.

Being prepared means having read the documents which the Working Group or BOF Chair has distributed. It means having followed the discussions on the Working Group's mailing list or having reviewed the archives. For the Working Group/BOF Chairs, it means getting all of the documents out early enough (i.e., several weeks) to give everybody time to read them. It also means announcing an agenda and sticking with it.

At the Chair's discretion, some time may be devoted to bringing new Working Group attendees up to speed. In fact, long lived Working Groups have occasionally held entire sessions which were introductory in nature. As a rule, however, a Working Group is not the place to go for training. Observers are always welcome, but they must realize that the work effort cannot be delayed for education. Anyone wishing to attend a Working Group for the first time might seek out the Chair prior to the meeting and ask for some introduction.

Another thing, for everybody, to consider is that Working Groups go through phases. In the initial phase (say, the first two meetings), all ideas are welcome. The idea is to gather all the possible solutions together for consideration. In the development phase, a solution is chosen and developed. Trying to reopen issues which were decided more than a couple of meetings back is considered bad form. The final phase (the last two meetings) is where the "spit and polish" are applied to the architected solution. This is not the time to suggest architectural changes or open design issues already resolved. It's a bad idea to wait until the last minute to speak out if a problem is discovered. This is especially true for people whose excuse is that they hadn't read the documents until the day before a comments period ended.

Time at the IETF meetings is a precious thing. Working Groups are encouraged to meet between IETF meetings, either in person or by video or telephone conference. Doing as much work as possible over the mailing lists would also reduce the amount of work which must be done at the meeting.

## RFCs and Internet-Drafts

Originally, RFCs were just what the name implies; they were requests for comments. The early RFCs were messages between the ARPANET

architects about how to resolve certain problems. Over the years, RFCs became more formal. It reached the point that they were being cited as standards, even when they weren't.

Internet Experiment Notes (IEN) were created to become a new informal document series about the early experimental work on TCP and IP. It was thought that having "Notes" as part of the name would prevent them from being cited as standards. As the work matured, the documentation was done as RFCs.

RFCs continue to be the important documents about the Internet; there are now two special sub-series within the RFCs: FYIs and STDs. The For Your Information RFC sub-series was created to document overviews and things which are introductory. Frequently, FYIs are created by the IETF User Services Area. The STD RFC sub-series is new. It was created to identify those RFCs which do specify full Internet Standards. RFCs of every type have an RFC number by which they are indexed and by which they can be retrieved. FYIs and STDs have FYI numbers and STD numbers, respectively, in addition to RFC numbers. This makes it easier for a new Internet user, for example, to find all of the helpful, informational documents, by looking in the FYI index. In addition, FYI and STD numbers never change across a document revision, while the RFC number does.

Internet-Drafts (I-D) are working documents of the IETF. Any group (e.g., Working Group, BOF) or individual may submit a document for distribution as an I-D. An I-D is valid for six months. Recent guidelines require that an expiration date appear on every page of an I-D. An I-D may be updated, replaced or obsoleted at any time. It is not appropriate to use I-Ds as reference material or to cite them, other than as a "working draft" or "work in progress".

For additional information, read the following documents:

- o Request for Comments on Request for Comments [RFC1111]
- o F.Y.I. on F.Y.I: Introduction to the F.Y.I notes [RFC1150]
- o Introduction to the STD Notes [RFC1311]
- o Guidelines to Authors of Internet Drafts [GAID]
- o The Internet Activities Board [RFC1160]
- o The Internet Standards Process [RFC1310]
- o IAB Official Protocol Standards [STD1]

#### Frequently Asked Questions (and Their Answers)

Q: My Working Group moved this morning. Where is it now?

A: Not all room assignment changes are permanent. Check the At-A-Glance sheet and the message board for announcements.

Q: Where is Room A?

A: Check the map on the At-A-Glance sheet. An enlarged version is on the bulletin board.

Q: Where can I get a copy of the Proceedings?

A: The Proceedings are automatically sent to each attendee about two months after the meeting.

Q: When is on-site registration?

A: The IETF registration table is set up Sunday night from 6:00 p.m. - 8:00 p.m. and Monday - Thursday from about 8:30 a.m. - 6:00 p.m. Starting time in the mornings and Friday's hours may vary depending on the meeting schedule.

Q: Where is lunch served?

A: The meeting does not include lunch or dinner. Ask a local host (somebody with a green dotted badge) for a recommendation.

Q: Where are the receipts for the social event?

A: The social is not managed by the IETF Secretariat. Ask a local host.

#### Pointers to Useful Documents and Files

This is a list of documents and files that provide useful information about the IETF meetings, Working Groups, and documentation. These files reside in the "ietf" directory on the Anonymous FTP sites listed below. Files with names beginning with "0" (zero) pertain to IETF meetings. These may refer to a recently held meeting if the first announcement of the next meeting has not yet been sent to the IETF mailing list. Files with names beginning with "1" (one) contain general IETF information. This is only a partial list of the available files.

- o 0mtg-agenda.txt                    Agenda for the meeting
- o 0mtg-at-a-glance.txt            Logistics information for the meeting
- o 0mtg-rsvp.txt                    Meeting registration form
- o 0mtg-sites.txt                   Future meeting sites and dates
- o 0mtg-traveldirections.txt      Directions to the meeting site
  
- o 1directories.txt                   The IETF Shadow directory locations and contents.
- o 1id-guidelines.txt              Guidelines to Authors of Internet-Drafts  
Contains information on writing and submitting I-Ds.
- o 1ietf-description.txt           Short description of the IETF and IESG,  
including a list of Area Directors.

- o lnonwg-discuss.txt           A list of mailing lists created to discuss specific IETF issues.
- o lproceedings-request.txt    A Proceedings order form for the current and previous meetings
- o lwg-summary.txt            List of all Working Groups, by Area, including the name and address of the chairperson, and the mailing list address.

Additionally, the charters and minutes of the Working Groups and BOFs are archived in the "ietf" directory.

All of these documents are available by anonymous FTP from the following sites:

- o DDN NIC                   Address: nic.ddn.mil (192.112.36.5)
- o East Coast (US)       Address: nnsc.nsf.net (128.89.1.178)
- o West Coast (US)       Address: ftp.nisc.sri.com (192.33.33.22)
- o Pacific Rim            Address: munnari.oz.au (128.250.1.21)
- o Europe                 Address: nic.nordu.net (192.36.148.17)

The files are also available via email from various mail servers. To get the agenda and meeting summary from the mail server at SRI International, for example, you would send the following message:

To: mail-server@nisc.sri.com            Message header  
Subject: anything you want

send 0mtg-agenda.txt                    Body of the message  
send 0mtg-at-a-glance.txt

Residing on the same archive sites are the RFCs and Internet-Drafts. They are in the "rfc" and "internet-drafts" directories, respectively. The file "rfc-index.txt" contains the latest information about the RFCs (e.g., which have been obsoleted by which). In general, only the newest version of an Internet-Draft is available.

Mail servers can also be used to retrieve RFCs and I-Ds. To use SRI's mail server to get an RFC, simply include a "send command" in the body of the message for the desired RFC. For example:

send rfc1150

or use a special RFC shorthand:

rfc 1150

For Internet-Drafts, include the name (yes, they are very long) in a "send" command line. For example:

```
send draft-ietf-ripv2-mibext-03.txt
```

RFCs may also be retrieved, using email, from ISI's RFC-Info server at "rfc-info@isi.edu". To get a specific RFC, include the following in the body of the message:

```
Retrieve: RFC
Doc-ID: RFC0951
```

This example would cause a copy of RFC 951 (the leading zero in the Doc-ID is required) to be emailed to the requestor.

To get a list of available RFCs which match certain criteria, include the following in the body of the message:

```
LIST: RFC
Keywords: Gateway
```

This example would email a list of all RFCs with "Gateway" in the title, or as an assigned keyword, to the requestor.

To get a copy of the RFC-Info manual:

```
HELP: Manual
```

To get information on other ways to get RFCs:

```
HELP: ways_to_get_rfcs
```



## Tao

Pronounced "Dow", Tao means "the Way." It is the basic principle behind the teachings of Lao-tse, a Chinese master. Its familiar symbol is the black and white Yin-Yang circle.

## IETF Area Abbreviations

APP	Applications
INT	Internet Services
MGT	Network Management
OPS	Operational Requirements
OSI	OSI Integration
RTG	Routing
SEC	Security
TSV	Transport and Services
USV	User Services

## Acronyms

:-)	Smiley face
ANSI	American National Standards Institute
ARPANET	Advanced Research Projects Agency Network
AS	Autonomous System
ATM	Asynchronous Transfer Mode
BGP	Border Gateway Protocol
BOF	Birds Of a Feather
BSD	Berkeley Software Distribution
BTW	By The Way
CCIRN	Coordinating Committee for Intercontinental Research Networks
CCITT	International Telegraph and Telephone Consultative Committee
CNI	Coalition for Networked Information
CREN	The Corporation for Research and Educational Networking
DARPA	U.S. Defense Advanced Research Projects Agency
DDN	U.S. Defense Data Network
DISA	U.S. Defense Information Systems Agency
EGP	Exterior Gateway Protocol
FAQ	Frequently Asked Question
FARNET	Federation of American Research NETworks
FIX	U.S. Federal Information Exchange
FNC	U.S. Federal Networking Council
FQDN	Fully Qualified Domain Name
FYI	For Your Information (RFC)
GOSIP	U.S. Government OSI Profile
IAB	Internet Architecture Board
IANA	Internet Assigned Numbers Authority
I-D	Internet-Draft

IEN	Internet Experiment Note
IESG	Internet Engineering Steering Group
IETF	Internet Engineering Task Force
IGP	Interior Gateway Protocol
IMHO	In My Humble Opinion
IMR	Internet Monthly Report
IR	Internet Registry
IRSG	Internet Research Steering Group
IRTF	Internet Research Task Force
ISO	International Organization for Standardization
ISOC	Internet Society
ISODE	ISO Development Environment
ITU	International Telecommunication Union
MIB	Management Information Base
MIME	Multipurpose Internet Mail Extensions
NIC	Network Information Center
NIS	Network Information Services
NIST	National Institute of Standards and Technology
NOC	Network Operations Center
NREN	National Research and Education Network
NSF	National Science Foundation
OSI	Open Systems Interconnection
PEM	Privacy Enhanced Mail
PTT	Postal, Telegraph and Telephone
RARE	Reseaux Associes pour la Recherche Europeenne
RFC	Request For Comments
RIPE	Reseaux IP Europeenne
SIG	Special Interest Group
STD	Standard (RFC)
TLA	Three Letter Acronym
TTFN	Ta-Ta For Now
UTC	Universal Time Coordinated
WG	Working Group
WRT	With Respect To
WYSIWYG	What You See is What You Get

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## Security Considerations

Security issues are not discussed in this memo.

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