

Dear Ms. Haiyan QIAN:

At the request of the Internet Society (ISOC), and on behalf of the Internet Architecture Board (IAB) and the Internet Engineering Task Force (IETF), I am pleased to provide updated information on the role of the IETF in Internet development, deployment, and governance. This information is furnished in response to your February 2010 request in your capacity as Director of Division for Public Administration and Development Management, UNDESA.

As both a committee of the IETF and an advisory body to ISOC, the IAB is responsible for architectural oversight of IETF activities, Internet Standards Process oversight and appeal, appointment of the RFC Editor, and management of IETF protocol parameter registries. The IAB also acts as an authority on Internet architecture and technical strategy, and as the primary representative of the IETF in liaison relationships with outside organizations. It is in the context of this liaison role that the IAB is responding to your request.

This document updates the information that was submitted to UNDESA in March 2008 on steps taken toward "enhanced cooperation" on public policy issues pertaining to the Internet. Changes include new statistics on the international participation in the work of the IETF, a reference to the ISOC Fellowship to the IETF, information about IETF meetings planned for 2010, and various updates to working group and liaison information.

#### **Role of the IETF:**

The primary function of the IETF is the development, standardization, evolution, and maintenance of the Internet Protocol (IP) and the suite of technologies and applications closely related to it. As described in [RFC 4677](#), The Tao of the IETF:

The Internet Engineering Task Force is a loosely self-organized group of people who contribute to the engineering and evolution of Internet technologies. It is the principal body engaged in the development of new Internet standard specifications.

The overall mission of the IETF is described further in [RFC 3935](#):

The goal of the IETF is to make the Internet work better.

The mission of the IETF is to produce high quality, relevant technical and engineering documents that influence the way people design, use, and manage the Internet in such a way as to make the Internet work better. These documents include protocol standards, best current practices, and informational documents of various kinds.

Official documents of the IETF are published as Request For Comments (RFCs), an archival series (ISSN 2070-1721) comprising the principal contribution of the IETF community to the development of the Internet. Notable protocols specified in RFCs include the Internet Protocol versions 4 (IPv4) and 6 (IPv6), Transmission Control Protocol (TCP), Domain Name System (DNS), Simple Mail Transport Protocol (SMTP), Hypertext Transfer Protocol (HTTP), Multiprotocol Label Switching (MPLS), Border Gateway Protocol (BGP), and Session Initiation Protocol (SIP).

The IETF conducts its mission with a clear focus on technology. Given this focus, IETF participants tend to be engineers, protocol designers, academics, and network operators. To the extent possible protocols are designed to be policy independent, which in turn allows for their broadest application. In the uncommon case where the widespread use of an IETF protocol causes it to become overly

encumbered with policy considerations, the IETF may provide guidance as to the intended and appropriate use of its technology in the context of the global Internet. For the most part, however, the IETF strives to remain clear of policy-making, instead leaving such work to organizations with particular expertise in that area.

### The IETF is an Open, Global Organization:

The IETF has a core commitment to open processes, and considers wide participation a critical component of its success and the success of the Internet. This philosophy is evident throughout IETF activities, and is captured in the IETF mission statement as a 'cardinal principle':

Open process - any interested person can participate in the work, know what is being decided, and make his or her voice heard on the issue. Part of this principle is our commitment to making our documents, our WG mailing lists, our attendance lists, and our meeting minutes publicly available on the Internet.

There is no formal IETF membership; anyone with an interest in the technology is welcome to participate. There is also a notable absence of formal voting. Decisions are made based on technical merit and rough consensus. Participants are encouraged to contribute as individuals rather than as representatives of a particular organization, and significant effort is made to ensure that access is independent of nationality, organizational affiliation, or geographic location. For instance, much of the day-to-day work of the IETF takes place on working group mailing lists, which are open to participation by anyone with an email account.

Although early work on IP was rooted in the United States, the IETF today is an international organization. At present there are RFC authors from 48 different countries, with a visible trend toward increased global participation (see Figure 1).

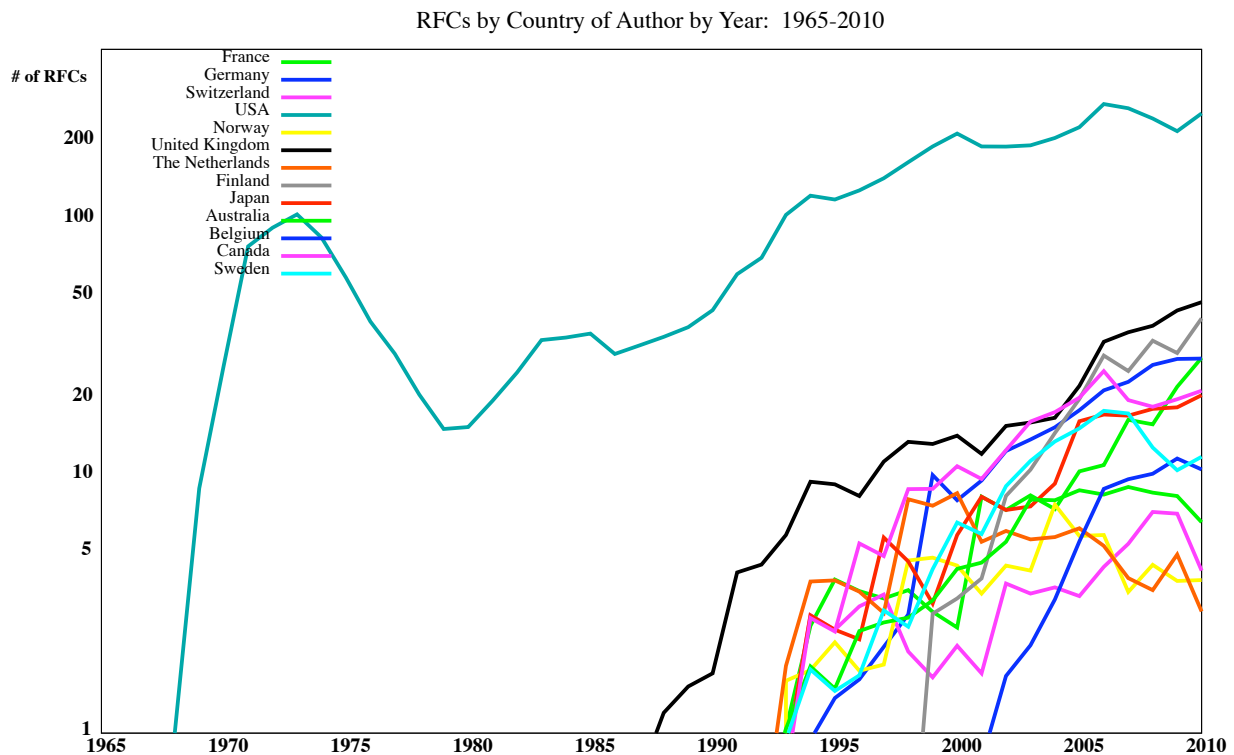


Figure 1 - RFC Authors by Country. Additional data at <http://www.arkko.com/tools/docstats.html>

While much of the IETF's work takes place over mailing lists, face-to-face meetings are also important. The meetings, held three times a year, are week-long gatherings of IETF contributors whose primary goal is to reinvigorate the WGs to get their tasks done, and whose secondary goal is to promote a fair amount of mixing between the WGs and the areas. Also, the in-person experience promotes a stronger understanding of the standardization process, encourages active involvement in IETF work, and facilitates personal networking with others that have similar technical interests.

To enable broad attendance, the IETF selects meeting venues with consideration for a distribution of locations that reflects the locations of active participants. The IETF has three meetings scheduled for 2010:

<b>Spring 2010 - 77th IETF</b>	<b>Summer 2010 - 78th IETF</b>	<b>Fall 2010 - 79th IETF</b>
March 21-26, 2010	July 25-30, 2010	November 7-12, 2010
Anaheim, CA, USA	Maastricht, Netherlands	Beijing, China

The following chart shows participation by nationality for the immediately-previous meeting in Hiroshima, JP (November 2009):

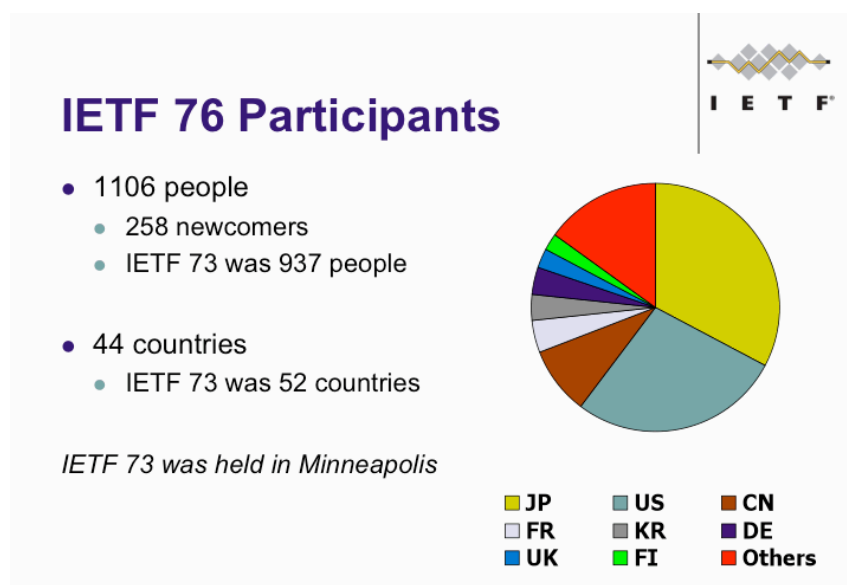


Figure 2: Attendance by Nationality, IETF 76, Hiroshima, JP

Since 2006 the IETF Fellowship Program, supported by ISOC, has promoted and facilitated participation in IETF meetings by technologists from developing countries. Information on the Fellowship Program can be found on the ISOC website (see references list). Each IETF meeting also includes newcomer training, mentoring, and meet-and-greet events to help first time attendees quickly acclimate to IETF processes and culture.

Although physical attendance at meetings is encouraged, remote participation is also possible via voice conference, video stream, and text-based chat. Furthermore, consensus calls are conducted via working group mailing lists so as to ensure that input is not limited to those available during the meeting time. All meeting proceedings are made freely available via the IETF website, as are working group mailing list discussions.

## Internal Organization of the IETF:

The IETF has several sub-components and affiliated bodies that collectively carry out the IETF mission. These are described in [RFC 2028](#), and include the IETF Working Groups, the IETF Secretariat, the RFC Editor, the Internet Society (ISOC), the Internet Engineering Steering Group (IESG), the Internet Architecture Board (IAB), the Internet Assigned Numbers Authority (IANA), and the Internet Research Task Force (IRTF). Notable in the area of governance is the special relationship the IETF has with IANA, who carries out the day-to-day administration of the Internet protocol parameter registries on the IETF's behalf, through an agreement ([RFC 2860](#)) with the Internet Corporation for Assigned Numbers and Names (ICANN). Proper operation of IETF protocols in the global Internet relies on the consistent, coordinated use of these parameter values.

As in protocol development, the IETF also makes use of open, documented processes for selecting candidates for leadership roles. [RFC 3777](#) describes the process for selecting members of the IESG and IAB, [RFC 4333](#) describes IAOC selection, and [RFC 3677](#) describes appointment procedures for members of the ISOC Board of Trustees who are selected by the IETF community. New IETF working groups (WGs) are established according to the steps in [RFC 2418](#). There are currently over 120 WGs covering a wide range of protocols in the following areas: Applications, Internet, Operations and Management, Real-time Applications and Infrastructure, Routing, Security, and Transport. A full list can be found here: <http://www.ietf.org/dyn/wg/charter.html>

## Relations with Outside Organizations:

The IETF maintains formal liaison relationships with several other organizations involved in the development of Internet related technologies. Liaison management is the responsibility of the IAB, and is described in [RFC 4052](#):

The IETF, as an organization, has the need to engage in direct communication or joint endeavors with various other formal organizations. For example, the IETF is one of several Standards Development Organizations, or SDOs, and all SDOs including the IETF find it increasingly necessary to communicate and coordinate their activities involving Internet-related technologies. This is useful in order to avoid overlap in work efforts and to manage interactions between their groups.

Communication between organizations is often informal, and principally involves coordination on technical areas of mutual interest. Liaison relationships are especially helpful in determining which organization should act as the home for new work. The IETF's mission statement, [RFC 3935](#), provides guidance here as related to the cardinal principles of 'technical competence' and 'protocol ownership':

Technical competence - the issues on which the IETF produces its documents are issues where the IETF has the competence needed to speak to them, and that the IETF is willing to listen to technically competent input from any source. Technical competence also means that we expect IETF output to be designed to sound network engineering principles - this is also often referred to as "engineering quality".

Protocol ownership - when the IETF takes ownership of a protocol or function, it accepts the responsibility for all aspects of the protocol, even though some aspects may rarely or never be seen on the Internet. Conversely, when the IETF is not responsible for a

protocol or function, it does not attempt to exert control over it, even though it may at times touch or affect the Internet.

At present there are 25 active liaisons between the IETF and external organizations, as well as several internal liaisons between the IAB and the IESG, ISOC, RFC Editor, and IRTF. A current list of liaisons, as well as recent liaison statements, can be found on the IETF website.

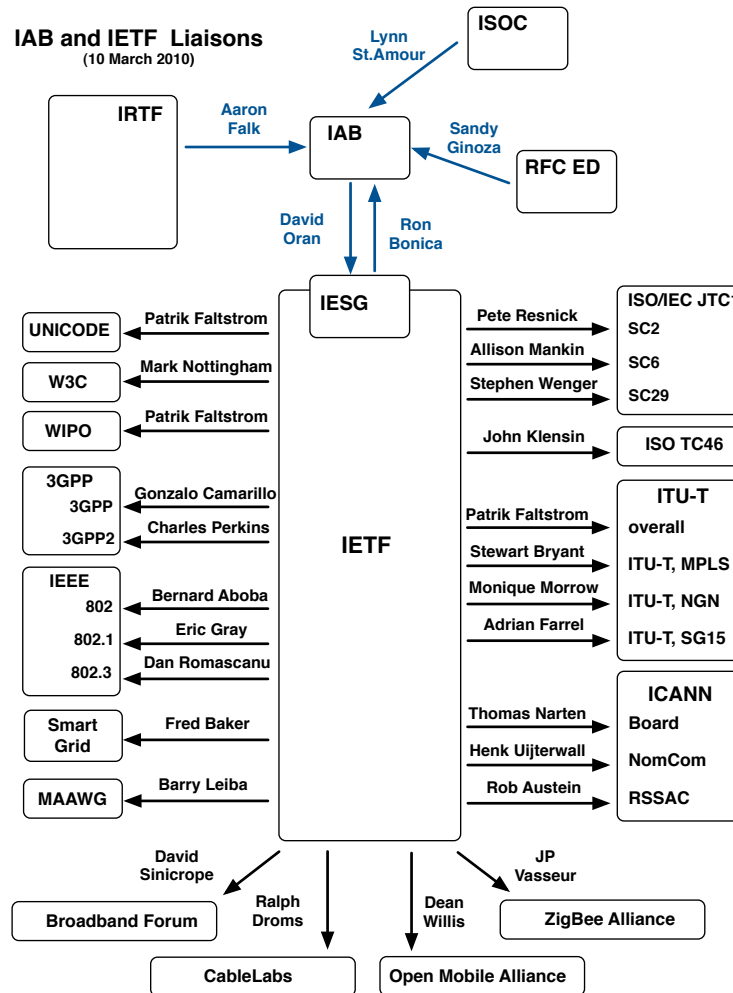


Figure 3 - Example IAB and IETF Liaisons (as of March 2010)

On rare occasions a liaison relation may be leveraged to coordinate on issues of organizational policy. However, issues of public policy and governance as they relate to IETF protocols are principally handled for the IETF by ISOC, occasionally with technical input from the IAB.

In summary, the IETF is strongly committed to the open development and evolution of IP and related technologies, and to the ISOC vision of an Internet that benefits all people throughout the world. A reference list follows with links to additional information.

Sincerely,

Olaf Kolkman  
Chair, Internet Architecture Board

## **IETF References**

IETF main website:

<http://www.ietf.org>

IAB main website:

<http://www.iab.org>

RFC Editor:

<http://www.rfc-editor.org/>

The IETF Process: an Informal Guide:

<http://www.ietf.org/about/process-docs.html>

Active IETF Working Groups:

<http://www.ietf.org/dyn/wg/charter.html>

IETF Meeting Proceedings:

<http://www.ietf.org/meeting/proceedings.html>

Liaison Information:

<http://www.ietf.org/liaison/>

ISOC Fellowship to the IETF

<http://www.isoc.org/educpillar/fellowship/index.php>

RFC 2026 - The Internet Standards Process -- Revision 3

<http://tools.ietf.org/html/rfc2026>

RFC 2028 - The Organizations Involved in the IETF Standards Process

<http://tools.ietf.org/html/rfc2028>

RFC 2418 - IETF Working Group Guidelines and Procedures

<http://tools.ietf.org/html/rfc2418>

RFC 3677 - IETF ISOC Board of Trustee Appointment Procedures

<http://tools.ietf.org/html/rfc3677>

RFC 3777 - IAB and IESG Selection, Confirmation, and Recall Process: Operation of the Nominating and Recall Committees

<http://tools.ietf.org/html/rfc3777>

RFC 3935 - A Mission Statement for the IETF

<http://tools.ietf.org/html/rfc3935>

RFC 4052 - IAB Processes for Management of IETF Liaison Relationships

<http://tools.ietf.org/html/rfc4052>

RFC 4333 - The IETF Administrative Oversight Committee (IAOC) Member Selection Guidelines and Process

<http://tools.ietf.org/html/rfc4333>

RFC 4677 - The TAO of the IETF

<http://tools.ietf.org/html/rfc4677>

IETF Document Statistics:

<http://www.arkko.com/tools/docstats.html>