

ISOC Contribution to World Telecommunications Standards Assembly: the Internet and Standards

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The Internet is built on technical standards, which allow devices, services, and applications to be interoperable across a wide and dispersed network of networks. Internet standards are developed by a group of organizations, some of which operate under the auspices of the Internet Society (ISOC).

ISOC is the organisational home of the Internet Engineering Task Force (IETF), the Internet Architecture Board (IAB), the Internet Engineering Steering Group (IESG), and the Internet Research Task Force (IRTF) — the standards setting and research arms of the Internet community. These are open organisations, relying on transparent, bottom-up processes to build consensus. Thousands of people from around the world participate in the process and the standards they develop are free and accessible to everyone. Participants, who primarily come from the private sector, governments and academia, are technical experts who work together collaboratively as volunteers.

I. The Internet and Standards

The Internet was built on the premise of interoperability based on independent implementations of common specifications: Internet standards. By focusing on interoperability for passing traffic between networks, Internet standards describe the protocols on the wire without prescribing device characteristics, business models, or content.

The value of this building block approach is seen in the range and depth of innovation and development in Internet technologies and services. New components – whether networks, services or software – work seamlessly with existing deployments, as long as

all pieces correctly implement applicable standards on the network. This makes the field of possible innovations virtually limitless.

II. Key characteristics of Internet standards

Apart from the focus on wire protocols for interoperability, successful Internet standards share certain characteristics, described below.

Freely accessible specifications: all relevant written specifications required to implement the standard are available without fee or requirement of other contractual agreement (such as a non-disclosure agreement).

Unencumbered: it is possible to implement and deploy technology based on the standard without undue licensing fees or restrictions.

Open development: in order to have relevancy in the resulting standard, it is critical that all parties working with impacted technologies are able to participate in and learn from the history of the development of an Internet standard.

Always evolving: as the Internet itself continues to evolve, new needs for interoperability are identified, so the standards that support it must evolve to address identified technical requirements.

III. Engaging in the Internet Engineering Task Force

Key Internet standards, such as the Internet Protocol (IP), are developed and maintained by the Internet Engineering Task Force (IETF).

From <http://www.ietf.org/tao.html>:

“[The IETF’s] mission includes the following:

- Identifying, and proposing solutions to, pressing operational and technical problems in the Internet
- Specifying the development or usage of protocols and the near-term architecture to solve such technical problems for the Internet
- Making recommendations to the Internet Engineering Steering Group (IESG) regarding the standardization of protocols and protocol usage in the Internet
- Facilitating technology transfer from the Internet Research Task Force (IRTF) to the wider Internet community
- Providing a forum for the exchange of information within the Internet community between vendors, users, researchers, agency contractors, and network managers”

Participation in the IETF's activities is open to all individuals. As the official business is conducted via e-mail, it is also accessible by all.

The Internet Society has a long tradition of helping build technical capacity in less developed countries, including providing a Fellowship program to enable more technologists from developing regions to attend in person at Internet Engineering Task Force (IETF) meetings. The program is aimed at individuals from developing regions that possess a solid level of technical education and enough knowledge about concrete areas of IETF work to follow and benefit from the meeting's technical discussions. Information on this program is available at <<http://www.isoc.org/educpillar/fellowship/>>.