

## ISOC PILLAR INTERNET STANDARDS

Internet standards are specifications that are stable and well understood; are technically competent; have multiple, independent, and interoperable implementations with substantial operational experience; enjoy significant public support; and are recognisably useful within some or all parts of the Internet.

As the organisational home of the Internet's premier Internet standards-making body—the Internet Engineering Task Force (IETF)—the Internet Society plays a crucial role in ensuring the smooth operations of this ever-expanding technology. In fact, without the technical achievements of the IETF and its participants, the Internet would never have become the success that it is today.

The IETF Standards Process involves several organisations, including ISOC, the Internet Architecture Board (IAB), the Internet Engineering Steering Group (IESG), the Internet Assigned Numbers Authority (IANA), and the IETF itself. ISOC provides insurance coverage for many of the roles in the IETF process and acts as a channel to communicate and promote standards internationally.

As a standardisation body, the IETF focuses on the development of protocols used on Internet protocol (IP)-based networks. Its unique process is based on rough consensus and running code. The IETF is different from most standardisation bodies in that it is a totally open community with no formal membership, and it is an international community of network designers, operators, vendors, and researchers concerned with the evolution of Internet architecture and smooth operation of the Internet. As an open forum, anyone can join the activity of the IETF ([www.ietf.org](http://www.ietf.org)).

The IAB is chartered by the Internet

Society Board of Trustees to provide oversight of the architecture of the Internet and its protocols. The IAB confirms the IETF chair and IESG candidates nominated by the IETF's Nominations Committee. The IESG also administers the Internet standards process according to community-defined rules and procedures.

IESG is responsible for the actions associated with the progression of technical specifications along the standards track, including the initial approval of new working groups and the final approval of specifications as Internet standards. IESG is composed of the IETF area directors and the IETF chair, who also serves as IESG chair.

IANA is responsible for assigning Internet protocol parameters. Many protocol specifications include numbers, keywords, and other parameters that must be uniquely assigned. Examples include version numbers, protocol numbers, port numbers, and management information base numbers. IANA publishes tables of all currently assigned numbers and parameters in RFCs entitled Assigned Numbers. IANA functions as the “top of the pyramid” for DNS and Internet address assignment, establishing policies for these functions.

The Request for Comments (RFC) editor is a key person responsible for the publication of RFCs—a series of formal documents of the Internet community. Those include but are not limited to Internet standards.

## ORGANISATIONAL STRUCTURE

IETF consists of a number of working groups (WGs) classified into several areas. Currently, there are eight areas: Applications, General, Internet, Operations and Management, Routing, Security, Sub-IP, and Transport. Three IETF meetings are held annually. Active WGs may be allocated one or a few session slots for face-to-face meetings. In meetings or mailing list discussions, decisions are made based not on formal voting but on rough consensus.

The Internet Engineering Steering Group considers standards. The specification documents of the Internet protocol suite, as defined by the IETF and the IESG, are published as RFCs. The RFC editor prepares and publishes the RFCs and is responsible for the final editorial review of the standards in their definitive form.

## FUNDING

The Internet Society through its organisation members provides a major source of funding and support for the IETF and its processes. Notably, the Internet Society funds 100 percent of the RFC editor function. Funding for these efforts was provided by ISOC organisation members as well as ISOC's Standards Pillar Platinum Sponsors: APNIC, ARIN, RIPE, and Microsoft.

## OTHER SUPPORT

ISOC's contributions also extend to the legal, insurance, policy, and public relations support we provide for the IETF. ISOC is the IETF's sole source of financial support apart from IETF meeting fees. Support from companies, whose products and services so clearly depend on the standards developed by the IETF, is essential.

## INTERNET ENGINEERING STEERING GROUP (IESG) MEMBERS AS OF DECEMBER 2003

### IETF Chair

Harald Alvestrand, Cisco Systems

### Applications Area (app)

Ted Hardie, Qualcomm  
Scott Hollenbeck, VeriSign

### Internet Area (int)

Thomas Narten, IBM  
Margaret Wasserman, ThingMagic

### Operations & Management Area (ops)

David Kessens, Nokia  
Bert Wijnen, Lucent Technologies

### Routing Area (rtg)

Bill Fenner, AT&T  
Alex Zinin, Alcatel

### Security Area (sec)

Steven Bellovin, AT&T Labs–Research  
Russ Housley, Vigil Security

### Transport Area (tsv)

Allison Mankin, Bell Labs, Lucent  
Jon Peterson, NeuStar

### Temporary Sub-IP Area (sub)

Alex Zinin, Alcatel  
Bert Wijnen, Lucent Technologies

### Liaison and Ex Officio Members

Leslie Daigle, VeriSign (IAB Chair)  
Barbara Fuller, Foretec Seminars  
(IETF Executive Director)  
Michelle Cotton, Internet Assigned  
Numbers Authority (IANA Liaison)  
Joyce Reynolds, USC/ISI (RFC  
Editor Liaison)  
Rob Austein, Internet Systems  
Consortium (IAB Liaison)

## INTERNET ARCHITECTURE BOARD (IAB) MEMBERS

Leslie Daigle, VeriSign (IAB Chair)  
Bernard Aboba, Microsoft  
Harald Alvestrand, Cisco (IETF Chair)  
Rob Austein, Internet Systems  
Consortium  
Patrik Fältström, Cisco  
Sally Floyd, ICSI  
Mark Handley, University College  
London  
Bob Hinden, Nokia  
Geoff Huston, Telstra  
Jun-ichiro Itojun Hagino, IJ  
Eric Rescorla, RTFM  
Pete Resnick, Qualcomm  
Jonathan Rosenberg, Dynamicsoft

### Ex Officio

Vern Paxson, ICSI Center for Internet  
Research (IRTF Chair)

### Liaisons

Joyce Reynolds, ISI (RFC Editor Liaison)  
Lynn St. Amour, ISOC (ISOC Liaison)  
Bert Wijnen, Lucent (IESG Liaison)

### What's hot on the Internet now?

According to Internet Society board chair Fred Baker, hot topics include Internet security and a host of new applications, such as voice, video, gaming, and peer-to-peer file sharing. Service providers are looking at ways of delivering stable service to converged networks carrying a variety of applications that are not now ubiquitous. "Especially in a few years," said Baker, "when all of these applications are running encrypted, there are some interesting problems there."

### NEW STANDARDS FACILITATE EXCITING NEW TECHNOLOGIES: ENUM, VOIP, AND SIP

At its most basic, telephone number mapping—or ENUM—is the convergence of the Public Switched Telephone Network (PSTN) and IP networks; it is the mapping of a telephone number from the PSTN to Internet functionalities. ENUM takes a complete, international telephone number and resolves it to a fully qualified domain name address.

Just as ENUM facilitates convergence, it will also help facilitate many of the functions of SIP—the Session Initiation Protocol. SIP, in turn, enhances convergence by facilitating converged services. Some of the applications and services that SIP may facilitate are the traditional call-forwarding, follow-me, and do-not-disturb functions, but they also include new features that will merge Internet applications with video and voice communications.

Using SIP-enabled applications, a person using a telephone connection with the computer could be prompted on that computer that another call is arriving. The person could make a selection on the computer to either end the dial-up session and answer the phone, or forward the call to another number, or send the caller to voice mail. In another example, a user could transfer a caller to a Web page instead of to another phone. In this case, the call would end, and the user's Web browser would open the new page.

The one-contact business card is merely the start of the advantages that ENUM will bring to customers. If an application exists on the Internet, it can potentially be mapped to a telephone number and reached via ENUM.

