Play a role in the Internet of the future
Participate in the IETF

Internet Society

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What makes the Internet Work?

The Internet works because everyone from software developers to hardware manufacturers and content providers adhere to Internet standards that let their products and services work with each other (interoperate).

Because of Internet standards, you and I can send emails, talk live on video or audio, share photos on social media, or browse websites irrespective of the hardware, operating system and software that we use. Without these Internet standards, we would probably need to use different devices to access different parts of the Internet.

Who comes up with the Internet Standards?

The Internet Engineering Task Force (IETF) is the premier standards setting body for Internet standards. These standards are described in documents called RFCs, which stands for "Request for Comments". For more information about and links to RFCs created by the IETF, see: https://www.ietf.org/rfc.html

What is the IETF?

The Internet Engineering Task Force (IETF) is a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. It is open to any interested individual. The IETF develops the Internet standards that provide the backbone of the Internet infrastructure which then allow us to communicate, learn, and socialize on the Internet.

What are IETF standards and why are they important?

For the billions of devices and many thousands of networks that make up the Internet to connect with each other, they must agree upon a variety of standards. For example, when you send an email with an attachment the servers used to transmit and receive the message each have an Internet protocol (IP) address. Your email address and the receiving email address each have a domain name (everything after the "@" symbol). And, a specific protocol parameter value indicates the kind of file attached so your email reader will know which program to use to open it. All of these are defined by IETF standards.

Equally important, IETF standards are developed via open processes in which any interested party can participate, and the standards themselves are freely available.

What are some areas of activity for IETF standards today?

Some of the areas of activity the IETF community is working on, include:

The Internet of Things

The Internet used to be solely for computers and network equipment but now, we are seeing more and more connected devices like televisions, weather sensors, homes, personal health monitors, watches, cars and many others. The "Internet of things" has arrived. The IETF's standards are at the heart of the Internet of Things. For example, the IETF's publications are providing guidelines and specifications that will allow billions upon billions of new devices to be uniquely identified on the Internet via the Internet Protocol version 6 (IPv6).

Security and Privacy

Trust by its users is a critical component of the Internet's success. For example, you need to be sure that a bank transaction you perform online will be completed securely. The IETF works to improve the technical foundations needed to ensure the security and privacy of Internet users and organizations.

Real-time communications

The Web Real-Time Communication (WebRTC) is a specification published by the IETF in collaboration with the W3C (World Wide Web Consortium) that allows us to communicate via live video or live chat using any web browser in real time without the need for any additional software. With a compatible browser, you can now talk to your family, friends or hold a business meeting over the Internet without each of you needing to have identical software installed on your tablets, laptops or smart phones.

How is work in the IETF organized?

IETF standards are produced in Working Groups, which consist of individuals, with designated Chairs, working together to improve an existing IETF specification or create a whole new standard for use on the Internet. Working Groups are typically created to address a specific problem or to produce one or more specific deliverables, such as a standards specification. Working Group charter documents state the scope of work for that Working Group, and lay out goals and milestones that show how this work will be completed. Working Groups are generally expected to be short-lived in nature; upon completion of its goals and achievement of its objectives, the Working Group is either terminated or rechartered to undertake further work. Working Groups are grouped under different IETF Areas.

What is an IETF Area?

The IETF divides its work into a number of areas, each comprised of working groups that relate to that area's focus. For example, the IETF Security Area consists of working groups dealing with Internet security. Similarly, the IETF Operations and Management Area focuses on network management. IETF Areas are led by Area Directors (ADs) who coordinate the work in the working groups that are part of their Area. Collectively, the ADs make up the Internet Engineering Steering Group (IESG), which provides cross-area review and final approval for publication of RFCs.

You can find more info about the IETF Areas here: https://www.ietf.org/iesg/area.html

Why should you be interested in participating in the IETF?

As a researcher or student, YOU can have your say on what the Internet of the future will look like so that it works better for YOU and YOUR community by working through the IETF to develop an Internet standard.

How can I participate in the IETF?

Participation in the IETF is open and anyone can participate. Most of the work is done over email, and anyone can contribute. You can sign up today to any working group mailing list that interests you and follow the work that is going on. A list of working groups with links to their mailing lists here:

http://datatracker.ietf.org/wg/

Before commenting on ongoing work, read and understand the history of the work going on in that Working Group. Mailing list archives are the best place to start.

For general IETF information and discussions, you may also want to join the IETF-Announce and IETF-Discuss mailing lists. More information about these can be found at:

https://www.ietf.org/list/announcement.html

https://www.ietf.org/list/discussion.html

While all of the work of the IETF is conducted online, there are also in-person meetings where IETF participants get together. These meetings have remote participation options so all you need is an Internet connection to join.

What other ways can I follow the work of the IETF?

All IETF meetings are streamed on the Internet and you can watch remotely, and even participate. Details are posted on the meeting page. A list of upcoming meetings is available at:

https://www.ietf.org/meeting/upcoming.html

All you will need is a headset and connected device like a PC or phone, and of course an Internet connection.

If you are a developer and are able to write code, you can also follow an IETF Hackathon. IETF Hackathons encourage developers to collaborate and develop utilities, ideas, sample code and solutions that show practical implementations of IETF standards. More information about IETF Hackathons is available at:

https://www.ietf.org/hackathon/

IETF CodeStand is another way to gain experience working with IETF standards. CodeStand brings together students, researchers, professors, open source development communities, vendors with proprietary implementations, and consumers of code bases. It links existing implementations to standards, and showcases opportunities to develop running code for IETF protocols. For more information, see:

https://codestand.ietf.org/

Do you want to connect with others, learn more about the IETF, and participate in coordinating activities around the IETF in Africa?

Join the IETF Africa mailing list:

https://elists.isoc.org/mailman/listinfo/ietf_africa