

## Lab - Research Networking Standards

### Objectives

- Research Networking Standards Organizations
- Reflect on Internet and Computer Networking Experiences

### Background / Scenario

Using web search engines like Google, research the non-profit organizations that are responsible for establishing international standards for the internet and the development of internet technologies.

### Required Resources

Device with internet access

### Instructions

#### Step 1: Research Networking Standards Organizations

In this step, you will identify some of the major standards organizations and important characteristics, such as the number of years in existence, the size of their membership, the important historical figures, some of the responsibilities and duties, organizational oversight role, and the location of the organization's headquarters.

Use a web browser or websites for various organizations to research information about the following organizations and the people who have been instrumental in maintaining them.

You can find answers to the questions below by searching the following organizational acronyms and terms: ISO, ITU, ICANN, IANA, IEEE, EIA, TIA, ISOC, IAB, IETF, W3C, RFC, and Wi-Fi Alliance.

1. Who is Jonathan B. Postel and what is he known for?

Jonathan B. Postel was an American computer scientist and was the editor of RFC in the form of SMTP, and administering IANA, and was involved in ARPANET and IAB.

2. Which two related organizations are responsible for managing the top-level domain name space and the root Domain Name System (DNS) name servers on the internet?

I assume ICANN and IANA which oversee, administer, and assign domain names and IP Addresses.

3. Vinton Cerf has been called one of main fathers of the internet. What internet organizations did he chair or help found? What internet technologies did he help to develop?

He helped to found ISOC with Bob Khan, ICANN, and chaired ARIN, IDNSbis (IETF), and others. The technology he worked with was primarily developing DNS.

4. What organization is responsible for publishing Request for Comments (RFC)?

This is IETF as I recall from one of my wireless books I've read.

5. What do RFC 349 and RFC 1700 have in common?

The two RFCs are mostly related to assignment numbers and protocols and port numbers.

6. What RFC number is the ARPAWOCKY? What is it?

RFC 527 which is a April Fools day that IETF celebrates quite alot.

7. Who founded the World Wide Web Consortium (W3C)?

Tim Berners-Lee

8. Name 10 World Wide Web (WWW) standards that the W3C develops and maintains?

CGI, XML, XHTML, CSS, DOM, SOAP, XSLT, WebRTC, MathML, WebAssembly

9. Where is the Institute of Electrical and Electronics Engineers (IEEE) headquarters located and what is the significance of its logo?

IEEE Corporate Headquarters (NY)

The design is similar to a galvanometer. It has a blue steel compass needle and a amber disc, the kite was inspired by Franklin's Kite, the two E's were electrical sounding magnesium and magnesium sounding electrical this is where the two arrows in the center come from.

10. What is the IEEE standard for the Wi-Fi Protected Access 2 (WPA2) security protocol?

802.11i

11. Is the Wi-Fi Alliance a non-profit standards organization? What is their goal?

Yes, they do testing for interoperability and the goal is for devices to all work together.

12. Who is Hamadoun Touré?

Secretary General of ITU

13. What is the International Telecommunication Union (ITU) and where is it headquartered?

International Telecommunication Union (ITU)  
Place des Nations  
1211 Geneva 20 Switzerland

ITU is a agent of UN dedicated to information and communication tech.

14. Name the three ITU sectors.

Radio Communications, Standardization, and Development

15. What does the RS in RS-232 stand for and which organization introduced it?

Recommended standard which is introduced by EIA

16. What is SpaceWire?

Communication networking in a EU spacecraft

17. What is the mission of the ISOC and where are its headquarters located?

The mission is to assure the open development, evolution, and use of the internet for the benefit of all people throughout the world

Washington DC/Reston, VA USA Office  
Internet Society  
11710 Plaza America Drive, Suite 400  
Reston, VA 20190  
U.S.A

Geneva Switzerland Office  
Internet Society  
Rue Vallin 2  
CH-1201 Geneva  
Switzerland

Tel: +41-22-807-1444  
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18. What organizations does the IAB oversee?

**IETF & IRTF**

19. What organization oversees the IAB?

**ISOC**

20. When was the ISO founded and where are its headquarters located?

1947

International Organization for Standardization  
ISO Central Secretariat  
Chemin de Blandonnet 8  
CP 401 - 1214 Vernier, Geneva, Switzerland

E-mail: [central@iso.org](mailto:central@iso.org)

### Step 2: Reflect on Internet and Computer Networking Experiences

Take a moment to think about the internet today in relation to the organizations and technologies you have just researched. Then answer the following questions.

1. How do the internet standards allow for greater commerce? What potential problems could we have if we did not have the IEEE?

Each have protocols and procedures to follow to ensure interoperability and standards.

If we did not have IEEE, then no 802.3 Ethernet, 802.11 WLAN, 802.15 WPAN, and other 802 standards. We would not have strong wireless standards, cabling standards, and speed standards.

2. What potential problems could we have if we did not have the W3C?

If we did not have W3C then the internet would be different because the internet uses W3C programming languages.

No website standard means we would go back to when there was very limited web browser capability for viewing websites.

3. What can we learn from the example of the Wi-Fi Alliance with regard to the necessity of networking standards?

Without Wi-Fi Alliance we wouldn't be able to achieve better wifi standards and protocols and interoperability.