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Lab - Research Networking Standards

# Instructions

## 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.

### Questions:

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

Type Jonathan Postel, an American computer scientist, played a crucial role in shaping internet standards, founding the Internet Assigned Numbers Authority (IANA), and fulfilling the role of RFC Editor. His contributions were highly influential in these areas.

* 1. 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?

The International Corporation for Assigned Names and Numbers (ICANN) and the Internet Assigned Numbers Authority (IANA).

* 1. 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?

In 1992, Vinton Cerf, in collaboration with Bob Kahn, was a co-founder of the Internet Society (ISOC), participated in the establishment of ICANN, and held the position of Chair for the Internet Architecture Board (IAB) from 1989 to 1991.

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

Internet Engineering Task Force (IETF).

* 1. What do RFC 349 and RFC 1700 have in common?

Port Numbers.

* 1. What RFC number is the ARPAWOCKY? What is it?

RFC 527. It marked the inception of comical RFCs, subsequently prompting the IETF to introduce April Fool's Day RFCs in 1989.

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

Founded by Tim Berners-Lee at MIT.

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

Some samples: Common Gateway Interface (CGI), Document Object Model (DOM), HyperText Markup Language (HTML), Extensible Markup Language (XML).

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

The Institute of Electrical and Electronics Engineers (IEEE) is based in New York City, New York, USA. The IEEE emblem features a diamond-shaped design that represents the right-hand grip rule, inspired by Benjamin Franklin's kite experiment.

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

WPA2 utilizes the IEEE 802.11i standard and is a prevalent choice for securing Wi-Fi wireless networks.

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

Yes, the Wi-Fi Alliance is a nonprofit organization with the objectives of guaranteeing interoperability and backward compatibility while also offering support for innovation.

* 1. Who is Hamadoun Touré?

Certainly, the Wi-Fi Alliance is a nonprofit organization with the objectives of guaranteeing interoperability and backward compatibility while also offering support for innovation.

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

The ITU is a United Nations agency focused on information and communication technologies, with its headquarters situated in Geneva, Switzerland.

* 1. Name the three ITU sectors.

The three ITU sectors are: Radio communication, Standardization and Development.

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

RS stands for Recommended Standard. RS-232 was introduced by the Radio Section of Electronic Industries Alliance (EIA).

* 1. What is SpaceWire?

SpaceWire is a standard for high-speed links and networks for use onboard spacecraft.

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

The Internet Society (ISOC) has its headquarters in both Reston, Virginia, and Geneva, Switzerland. Its mission is centered on ensuring the open development, progression, and global utilization of the internet for the well-being of all individuals worldwide.

* 1. What organizations does the IAB oversee?

IAB oversees Internet Engineering Task Force (IETF) and Internet Research Task Force (IRTF).

* 1. What organization oversees the IAB?

ISOC oversees IAB.

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

The International Organization for Standardization (ISO) was established in 1947, and its central offices are situated in Geneva, Switzerland.

## 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.

### Questions:

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

Every company would create its own protocols and products, potentially leading to compatibility issues with equipment from other companies.

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

In such a scenario, we would lack standardized language on the internet for presenting information and facilitating communication among users.

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

When equipment manufacturers adhere to the same standards and regulations, it enables interoperability and backward compatibility. This, in turn, fosters competition, provides consumers with more choices, and incentivizes manufacturers to develop superior products.