

Research the Web, Networking, and Internet Standards

Names	Items Answered
Hanan Kiram Ramos	Research Networking Standards Organizations (Items 1 to 8)
Adam Russel Shane Oguis	Research Networking Standards Organizations (Items 9 to 16)
Arvic Jay Yangyang	Research Networking Standards Organizations (Items 17 to 20) Reflect on Internet and Computer Networking Experiences (Items 1 to 3)

Instructions

You will work in groups of three (3). Each member must answer at least seven (7) questions.

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.

Questions:

1. Who is Jonathan B. Postel and what is he known for? (2 points)

Jonathan B. Postel was an American computer scientist who made contributions to the development of Internet standards, played a key role in the creation of the Internet Assigned Numbers Authority (IANA), and was known for his work as the RFC Editor.

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? (2 points)

The two related organizations responsible for managing the top-level domain name space and the root Domain Name System (DNS) name servers on the internet are the International Corporation for Assigned Names and Numbers (ICANN) and the Internet Assigned Numbers Authority (IANA)

3. Vinton Cerf has been called one of the main fathers of the internet. What internet organizations did he chair or help found? What internet technologies did he help to develop? **(4 points)**

Vinton Cerf co-founded the Internet Society (ISOC) with Bob Kahn in 1992 and played a significant role in the development of internet technologies, including the creation of ICANN. Additionally, he served as the chair of the Internet Architecture Board (IAB).

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

The organization that is responsible for publishing Request for Comments (RFC) is the Internet Engineering Task Force (IETF)

5. What do RFC 349 and RFC 1700 have in common? **(1 point)**

RFC 349 and RFC 1700 have in common is the port numbers.

6. What RFC number is the ARPAWOCKY? What is it? **(2 points)**

The RFC number is RFC 527. It is the first humorous RFC which then led to IETF launching April fool's day RFC in 1989.

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

Tim Berners-Lee founded the World Wide Web Consortium (W3C)

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

- 1. Extensible Markup Language (XML)**
- 2. Common Gateway Interface (CGI)**
- 3. Cascading Style Sheets (CSS)**
- 4. Document Object Model (DOM)**
- 5. Resource Description Framework (RDF)**
- 6. Gleaning Resource Descriptions from Dialects of Languages (GRDDL)**
- 7. HyperText Markup Language (HTML)**
- 8. JavaScript Object Notation for Linked Data (JSON-LD)**
- 9. SPARQL Protocol and RDF Query Language (SPARQL)**
- 10. Web Services Description Language (WSDL)**

9. Where is the Institute of Electrical and Electronics Engineers (IEEE) headquarters located and what is the significance of its logo? (2 points)

Institute of Electrical and Electronics Engineers (IEEE) is headquartered in New York City, New York, United States. The IEEE logo is a diamond-shaped design which illustrates the right hand grip rule embedded in Benjamin Franklin's kite.

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

WPA2 is based on IEEE 802.11i standard. It is commonly used on Wi-Fi wireless networks.

11. Is the Wi-Fi Alliance a non-profit standards organization? What is their goal? (2 points)

Yes, Wi-Fi Alliance is a non-profit trade association, and its goals are to ensure interoperability and backward compatibility and provide innovation support.

12. Who is Hamadoun Touré? (2 points)

Hamadoun Touré of Mali is the Secretary General of the International Telecommunication Union (ITU).

13. What is the International Telecommunication Union (ITU) and where is it headquartered? (2 points)

ITU is an agency of the United Nations dedicated to information and communication technologies. ITU's headquarters are located in Geneva, Switzerland.

14. Name the three ITU sectors. (3 points)

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

15. What does the RS in RS-232 stand for and which organization introduced it? (2 points)

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

16. What is SpaceWire? (2 points)

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

17. What is the mission of the ISOC and where are its headquarters located? (2 points)

The mission of ISOC is to ensure the evolution and development of the internet for the benefit of all users and members throughout the world.

18. What organizations does the IAB oversee? (2 points)

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

19. What organization oversees the IAB? (1 point)

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

20. When was the ISO founded and where are its headquarters located? (2 points)

The International Organization for Standardization (ISO) was founded in 1947 and is headquartered in Geneva, Switzerland.

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.

Questions:

1. How do the internet standards allow for greater commerce? What potential problems could we have if we did not have the IEEE? (4 points)

Internet Standards set different companies to follow a protocol and common framework so that different systems and networks interact smoothly. This means that companies can work together to scale their business, improve security, and can rely on each other. Without the internet standards, Each company would develop its own protocols and products which may not work with their network and system from other companies.

2. What potential problems could we have if we did not have the W3C? (4 points)

The W3C has an important role for the development and maintaining the web standards and protocols so that the web continues to function normally. Without the W3C, the web might be insecure, incompatible protocols, and difficult to maintain. We would not have a “common” language on the internet to display information and communicate with each other.

3. What can we learn from the example of the Wi-Fi Alliance with regard to the necessity of networking standards? (5 points)

If manufacturers follow the same standard and protocol for network equipment, it streamlines the user experience of the users. It also allows interoperability and backward compatibility. Security concerns are resolved immediately for most of the devices if ever vulnerabilities are found, gaining trust from consumers. This encourages competition, allows for consumer choices and encourages the manufacturers to create better products.

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