Computer Networking

Student Name

Professor’s Name

Course Title

Date

Question a)

Recently, the internet community has witnessed increased use of the IPV6 internet protocol. Its predecessor IPV4 protocol has been in use ever since RFC 791 was published in the early 1980s. The organization responsible for defining internet protocols is known as the Internet Engineering Task Force (IETF). When IPv4 was created, emerging internet security issues and global internet expansion were not anticipated. Internet threats became prolific after the internet explosion of the 1990s. The IETF identified the need for a new IP version in the early 1990s, and new protocol requirements were drafted. First, the IP Next Generation (IPng) was developed, later it became IPv6 (RFC 1883) (Gupta, 2017).

The new IPv6 standard protocol offered the internet community several compelling functions that are truly revolutionary. IPv6 brought with it increased address size, extensible headers, improved communication integrity and confidentiality, and streamlined header format. In late 1998, the new IPv6 (RFC 2460) internet protocol was fully standardized. The main advantages of IPv6 over its predecessor included stateless autoconfiguration, multicast, mobility, anycast, network layer security, jumbo grams and quality of service capabilities (Deering & Hinden, 2017).

Question b)

Literally, there are dozens of amazing computer networking technologies that have shaped and paved way the field. Without these five important networking developments, global adoption of the internet would not have been possible. Firstly, the Transmission Control Protocol and Internet protocol (TCP/IP). These two technologies are the data communication protocols implemented on the internet. The protocols made file transfer, email, web pages among other things possible. In other words, it is like a common language that allows computers to communicate. The world wide web and HTML are the next technologies that allowed documents to linked between different nodes. The linked system of web pages later became known as the world wide web and made it easier to access internet resources.

According to the article, without the browser, the world wide web would have been useless. Web browsers allow users to access internet resources (Hacker Noon, 2018). As the use of the internet increased, to access the internet information and content it was necessary to have a search engine software. This led to the development of other search engines like Lycos, Yahoo before the Google takeover in the late 1990s. The final technology that makes use of the internet possible is the emergence of internet service providers. The earlier days of the internet the dial-up modem was being used. The need for internet service providers emerged because the telephone lines could not sufficiently meet the content demands. They offered faster DSL and ADSL services.

References

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