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CPE 464 – Section 01

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Default Gateways: Homework Questions

1. A) What are RFC’s? What are they used for?

RFC’s, or Request for Comments, are documents from the Internet Engineering Task Force (IETF), Internet Research Task Force (IRTF), and the Internet Architecture Board (IAB) that define the methods, behaviors, research, or innovations of the internet or technical systems.

B) Who can submit an RFC and what is the process?

Anyone can submit an RFC, but they must submit an initial Internet-Draft to submit for peer-review and possible eventual publication as an RFC. A published RFC can either be a standard, informational, experimental, best current practice, historic, or unknown. From there, all published documents are checked for their validity and relevance, deemed obsolete if outdated by reviewers.

C) Give a brief summary of RFC 1541 (date, purpose, and author).

RFC 1541 was published in October 1993 by R. Droms and describes Dynamic Host Configuration Protocol (DHCP) and how it integrated into already established networking protocol.

D) Give a brief summary of RFC 6101 (date, purpose, and author).

RFC 6101 was published in August 2011 by A. Freir, P. Karlton, and P. Kocher and specifies the 3.0 version of the Secure Sockets Layer, which is an internet security protocol. This document gives tangible examples to its proof-of-concept and relevant applications.

E) Give a brief summary of RFC 6204 (date, purpose, and author).

RFC 6204 was published in April 2011 by H. Singh, W. Beebee, C. Conley, B. Stark, and O. Troan with credit given to AT&T, CableLabs, and Cisco. This RFC is used as an informational guideline for IPv6 Customer Edge routing requirements as a consensus of ideals for IPv6 Edge Routing.

1. A) What is the IETF? What is its mission?

The IETF is the Internet Engineering Task Force and its mission is to “make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use, and manage the Internet.”

B) How do you become a member of the IETF?

There are no formal members of the IETF, but you can participate by accepting the IETF’s rules (including Intellectual Propert agreement) and sign up for their email listings to become part of a Working Group that is delegated into an Area, which conducts the work of the IETF.

C) What is the IAB and what is its purpose?

The IAB is the Internet Architecture Board and its purpose is to provide a general direction for which the Internet should grow in terms of innovations in security, networking, and accessibility.

D) Regarding the eman Workgroup (goto Working Groups):

i. What is its full name and what IETF area is it in?

The Energy Management (*eman*)workgroup is in the Operations and Management Area (ops) of IETF.

ii. What is its purpose (see charter of this group)?

The purpose of this Working Group is to become an additional requirement for network management systems that have indirect effects in areas such as energy production and consumption and the ecological impact of operating network devices.

1. A) Does IANA an acronym for?

IANA expands to Internet Assigned Numbers Authority.

B) What role does the IANA perform?

The IANA allocates and maintains unique codes and numbering systems that are used in the protocols that drive the internet, like Domain Names, Number Resources (IP addresses), and protocol assignments.

D) i. Describe the purpose of the Port Numbers entry, what are port numbers (decimal) 22, 23, 53 and 80?

The Port Numbers entry describes the service names and port numbers that run over the transport layer, separated between System Ports (0-1023), User Ports (1024-49151), and Private Ports (49152-65535). Port 22 is used for SSH; Port 23 is used for Telnet; Port 53 is used for domain services; Port 80 is used for www and http services.

ii. Describe the purpose of the Protocol Numbers entry, what are protocol numbers 4, 6, and 17?

The Protocol Numbers entry identifies protocol field in internet packets. Protocol 4 is IPv4; Protocol 6 is TCP; Protocol 17 is UDP.