CCNA Quick Notes - NetworkManagement

1.What is the Cisco Discovery Protocol (CDP)? CDP is a Cisco proprietary protocol that runs on all Cisco IOS-enabled devices. It is used to gather information about directly connected neighboring devices. CDP operates at Layer 2 of the OSI model and is media-independent. With CDP, you can tell the hardware type, device identifier, address list, software version, and active interfaces on neighboring Cisco devices. CDP is enabled by default on all Cisco equipment. It uses a nonroutable SNAP frame to communicate between devices. Note: Because CDP is media-independent it can operate over most media types. The only media types CDP cannot operate over are X.25, because it doesn't support SNAP encapsulation, and Frame Relay point-to-multipoint interfaces. 2.What are three reasons to disable CDP? Three reasons to disable CDP are as follows: . To save network bandwidth by not exchanging CDP frames. . If you are connecting to non-Cisco devices. . Security. CDP broadcasts information about the device every 60 seconds. Sniffers and other devices can view these broadcasts to discover information about your network. 3.How do you disable CDP on Cisco routers? Two commands disable CDP on a Cisco router. To disable CDP on the entire device, use the no cdp run global command: RouterB(config)#no cdp run To disable CDP on an interface only, use the no cdp enable interface command: RouterB(config)#int e0 RouterB(config-if)#no cdp enable This disables CDP on Ethernet interface 0. 4.What does the show CDP command display? The show CDP command displays global CDP information about the device. It tells you when the device will send CDP packets and the CDP holdtime: RouterB#show cdp Global CDP information: Sending CDP packets every 60 seconds Sending a holdtime value of 180 seconds Note: For the CCNA test, remember that the default time a device will send out CDP information is 60 seconds and the default holdtime is 180 seconds. 5.On a Cisco router, what does the show cdp neighbors command display? The show cdp neighbors command displays the following: · Device ID (name of the device) · The local interface (local outgoing port) · The holdtime displayed in seconds · The device's capability code (this tells you if the device is a router, switch, or repeater) · Hardware platform of the neighboring device (what type of Cisco device it is and the model) · Port ID of the neighboring device (remote port) RouterB#show cdp neighbors Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge S - Switch, H - Host, I - IGMP, r - Repeater Device ID Local Intrfce Holdtme Capability Platform Port ID RouterA Ser 0 146 R 2505 Ser 0 6.What does the show cdp neighbors detail command display? The show cdp neighbors detail and show cdp entry * commands show the same output. They both display the following: · Device ID (host name) of the remote neighbor · Layer 3 address of the remote device (if the device has more than one Layer 3 address on its interface, only the primary address is shown) · Device platform and capabilities· Local interface and outgoing port ID · Remote device holdtime in seconds · IOS type and version RouterB#show cdp neighbors detail ---------- Device ID: RouterA Entry address(es): IP address: 192.168.2.1 Platform: cisco 2505, Capabilities: Router Interface: Serial1, Port ID (outgoing port): Serial1 Holdtime : 164 sec Version :Cisco Internetwork Operating System Software IOS (tm) 2500 Software (C2500-D-L), Version 12.0(13), RELEASE SOFTWARE (fc1)Copyright (c) 1986-2000 by cisco Systems, Inc.Compiled Wed 06-Sep-00 01:08 by Linda 7.What does the show cdp traffic command display? The show cdp traffic command displays information about interface traffic. This includes the number of CDP packets sent and received and CDP errors: RouterB#show cdp traffic CDP counters : Packets output: 105, Input: 103 Hdr syntax: 0, Chksum error: 0, Encaps failed: No memory: 0, Invalid packet: 0, Fragmented: 0 8.What does the show cdp interface command display? The show cdp interface command displays the status of CDP on all interfaces on your device: RouterB#show cdp interface Ethernet0 is up, line protocol is down Encapsulation ARPA Sending CDP packets every 60 seconds Holdtime is 180 seconds Serial0 is up, line protocol is up Encapsulation HDLC Sending CDP packets every 60 seconds Holdtime is 180 seconds Serial1 is up, line protocol is up Encapsulation HDLC Sending CDP packets every 60 seconds Holdtime is 180 seconds 9.What Cisco IOS router command can you use to see a neighbor router's IP address? To see a neighbor router's IP address, you must use the show cdp neighbor detail or show cdp entry * user mode or EXEC command. (This one will probably be on the exam) 10.What IOS command do you use to view the active outbound telnet sessions for the current user on a Cisco router? The show sessions command displays the active outbound telnet sessions from that particular user on your router. RouterA#show sessions Conn Host Address Byte Idle Conn Name *1 192.168.1.2 192.168.1.2 0 0 192.168.1.2 11.What key sequence do you use to suspend a Telnet session on a remote system and return to your local router? To suspend a Telnet session, press Ctrl-Shift-6, and then press X. 12.How do you end a remote Telnet session on a Cisco router? To end a Telnet session, use the exit or logout command while you're on the remote device: RouterB>exit [Connection to 192.168.1.2 closed by foreign host] RouterA# Upon using the ping EXEC command, you receive one of the following responses: · ! · ? · C · U · I 13.What does each of these responses mean? . = Each period indicates that the network server timed out while waiting for a reply. ! =Each exclamation point indicates the receipt of a reply. ? =Unknown packet type. C =A congestion experienced packet was received. U =A destination unreachable error PDU was

received. I = The user interrupted the test. 14.What is the trace EXEC command used for? RouterA#trace 192.168.2.2 Type escape sequence to abort. Tracing the route to 192.168.2.2 1 192.168.2.2 16 msec 16 msec * Note: If trace responds with a * it means the probe timed out. If it responds with a ? it means it received an unknown packet type. 15.What are the two ways in which a Cisco router resolves host names to IP addresses? A Cisco router resolves host names using either a host table on each router or a DNS server. 16.What is the main purpose of RAM on a Cisco router? On most Cisco routers, the IOS is loaded into RAM, as well as the running configuration. It is also used to hold routing tables and packet buffers. 17.What is the function of ROM on a Cisco router? On a Cisco router, ROM is used to start and maintain the router. 18.What is Flash memory used for on a Cisco router? Flash memory is used to store the Cisco IOS software image and, if there is room, multiple configuration files or multiple IOS files. On some routers (the 2500 series), it is also used to run the IOS. 19.What is the function of NVRAM on a Cisco router? Nonvolatile Random-Access Memory (NVRAM) is used to hold the saved router configuration. This configuration is not lost when the router is turned off or reloaded. 20.What is the main purpose of the configuration register on a Cisco router? The configuration register's main purpose is to control how the router boots up. It is a 16-bit software register that by default is set to load the Cisco IOS from Flash memory and to look for and load the startup-config file from NVRAM. 21.What Cisco IOS command would you use to view the current configuration register value? The show version command is used to display the router's current configuration register: RouterA#show version Cisco Internetwork Operating System SoftwareIOS (tm) 2500 Software (C2500-D-L), Version 12.0(13), RELEASE SOFTWARE (fc1)Copyright (c) 1986-2000 by cisco Systems, Inc.Compiled Wed 06-Sep-00 01:08 by lindaImage text-base: 0x030388F8, data-base: 0x00001000 Configuration register is 0x2102 22.How do you change the configuration register on a Cisco router? To change the configuration register on a Cisco router, use the config-register global command. 23.What Cisco IOS command displays the contents of Flash memory? The show flash command displays the contents of Flash memory. This includes the images stored in Flash memory, the images' names, bytes used in Flash memory, bytes available, and the total amount of Flash memory on your router: RouterA#show flash System flash directory:File Length Name/status 1 6897716 c2500-d-l.120-13.bin[6897780 bytes used, 1490828 available, 8388608 total]8192K bytes of processor board System flash (Read ONLY) 24.What IOS command would you use to copy the running configuration on a router to a TFTP server? To copy the running configuration to a TFTP server, use the copy running-config tftp privileged EXEC command: RouterB#copy run tftp Address or name of remote host []? 192.168.0.2 Destination filename [routerb-confg]? !! 780 bytes copied in 6.900 secs (130 bytes/sec) This gives you a backup of your running config on a TFTP server. 25.How do you erase the router's configuration and bring it back to the factory default? The erase startup-config privileged EXEC command erases your router's configuration, thus bringing it back to its factory defaults: RouterB#erase startup-config Erasing the nvram filesystem will remove all files! Continue? [confirm] [OK]Erase of nvram: complete Note: In order to complete the process, you need to reload the router. An older IOS command that you can use to accomplish the same results is write erase. 26.How do you restore a configuration file from a TFTP server into your Cisco router's RAM? The copy tftp running-config privileged EXEC command merges the saved and running configuration into your router's RAM, so any commands not explicitly change or removed will remain in the running configuration. RouterB#copy tftp running-config Address or name of remote host []? 192.168.0.2 Source filename []? routerb-confg Destination filename [running-config]? Accessing tftp://192.168.0.2/routerb-confg... Loading routerb-confg from 192.168.0.2 (via Ethernet0): ! [OK - 780/1024 bytes] 780 bytes copied in 4.12 secs (195 bytes/sec) RouterB# 01:40:46: %SYS-5-CONFIG: Configured from tftp://192.168.0.2/routerb-confg 27.How do you back up a Cisco router IOS? To back up the current IOS image on your router, use the copy flash tftp privileged EXEC mode command: RouterB#copy flash tftp Source filename [routerb-flash]? flash:c2500-d-l.120-13.bin Address or name of remote host []? 192.168.0.2 Destination filename [c2500-d-l.120-13.bin]? !!6897716 bytes copied in 90.856 secs (76641 bytes/sec) 28.How do you upgrade or restore the Cisco router IOS? To upgrade or restore the Cisco router IOS, use the copy tftp flash privileged EXEC mode command. How you make a Cisco router a TFTP server? To configure a Cisco router as a TFTP server, use the tftp-server global configuration command. 29.What is the boot sequence of a Cisco router? The boot sequence of a router is as follows: hardware /power on load run bootstrapfind the IOS software load the softwarefind the config (default NVRAM) load the configuration (startup-config) into RAM Run the IOS 30.What can you configure on a router in setup mode? ip addresses routed protocols enable password Important Config Register Notes: 2100 manual boot rommon> 2101 boot from ROM 2102 normal/password recovery 2105 boot system command - config-register NVRAM 2142 bypass NVRAM ctrl-break = ROM monitor mode router(config)#boot system flash ios filename router(config)#boot system tftp filename ip address router(config)#boot system ROM Note the router prompt for boot commands. Copy commands = router#

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