Part 5

QUESTION 401
You are a Cisco Certified Engineer. You are configuring a remote access solution. Which of the following parameters are set using the line command (Choose all that apply)?

A. Speed
B. Encapsulation protocol
C. Compression ratio
D. Authentication method
E. Flow control
F. IP address
G. Speed units

Answer: A, E

Explanation:
According to Cisco: Line configuration commands modify the operation of a terminal line. Line configuration commands always follow a line command, which defines a line number. These commands are used to change terminal parameter settings line-by-line or a range of lines. More information can be found at: QUESTION NO:

QUESTION 402
Which of the following are valid functions that chat scripts perform (Choose all that apply)?

A. modem configuration
B. dialing and remote login
C. failure detection
D. incoming call filtering

Answer: A, B, C

Explanation:
According to Cisco: Chat scripts are strings of text used to send commands for modem dialing, logging onto remote systems, and initializing asynchronous devices connected to an asynchronous line. On a router, chat scripts can be configured on the auxiliary port only. A chat script must be configured to dial out on asynchronous lines. You also can configure chat scripts so that they are executed automatically for other specific events on a line, or so that they are executed manually. Each chat script is defined for a different event.

QUESTION 403
When configuring X.25 to use a PVC, why is it important for you to ensure that no traffic is sent toward your remote terminal server between the time the x25 map

command is issued and the time that x25 pvc command is issued?

A. an switched virtual circuit will be produced instead
B. all X25 traffic will be temporarily buffered in queue in a hold state
C. a PVC will be produced but will be locked up
D. all X25 traffic will be blocked
E. None of the choices.

Answer: A

Explanation:
According to the technical documentation at CCO:
When configuring X.25 to use a PVC, you must ensure that no traffic is sent toward a remote terminal server between the time the x25 map command is issued and the time that x25 pvc command is issued. Otherwise, the local system will create an switched virtual circuit (SVC), and then the PVC command will not be allowed. Map entries with the broadcast attribute are particularly likely to get traffic, due to routing protocol traffic. The simplest way to ensure that no traffic is sent while configuring is to shut down the interface while configuring it for a PVC.

QUESTION 404
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. With ISDN, non-ISDN terminals are referred to as:

A. LE
B. NT1
C. TE1
D. LE2
E. LA
F. TE2

Answer: F

Explanation:
According to Cisco: ISDN components include terminals, terminal adapters (TAs), networktermination devices, line-termination equipment, and exchange-termination equipment. ISDN terminals come in two types. Specialized ISDN terminals are referred to as terminal equipment type 1 (TE1). Non-ISDN terminals, such as DTE, that predate the ISDN standards are referred to as terminal equipment type 2 (TE2). TE1s connect to the ISDN network through a four-wire, twisted-pair digital link. TE2s connect to the ISDN network through a T
A. The ISDN TA can be either a standalone device or a board inside the TE2. If the TE2 is implemented as a standalone device, it connects to the TA via a standard physical-layer interface. Examples include EIA/TIA-232-C (formerly RS-232-C), V.24, and V.35.

QUESTION 405
What command should you use to specify RADIUS as the method of user authentication when no other method list has been defined (fill in the blank):

Answer: aaa authentication ppp default radius

Explanation:
According to the technical documentation at CCO:
Use the aaa authentication ppp command with the radius method keyword to specify RADIUS as the authentication method for use on interfaces running PPP. Before you can use RADIUS as the authentication method, you need to enable communication with the RADIUS security server.

QUESTION 406
By directly connecting to the ISDN NT1 device, the router has more control over ISDN parameters in Europe.

A. True
B. False
C. True only for BRI
D. None of the choices.
E. True only for PRI

Answer: B

Explanation:
According to the technical documentation at CCO:
The native ISDN interface on the Cisco 2503 router allows the router to be directly connected to an ISDN NT1 device. In many countries, the NT1 is provided by the telephone company. In the United States, however, the NT1 is customer-owned equipment. By directly connecting to the ISDN network, the router has more direct control over ISDN parameters and has access to ISDN information.

QUESTION 407
What command should you use to display the current X25 virtual circuit parameters and statistics (fill in the blank):

Answer: show x25 vc

Explanation:
According to the technical documentation at CCO:
The terminal server provides EXEC show commands to provide information on interface operation and virtual circuit operation. Use the EXEC command show interfaces to display interface parameters and statistics. Use the EXEC command show x25 vc to display virtual circuit parameters and statistics.

QUESTION 408
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. With ISDN, specialized ISDN terminals are NOT being referred to as (Choose all that apply):

A. LE
B. NT1
C. TA
D. TE1
E. TE3
F. LA

Answer: A, B, C, E, F

Explanation:
According to Cisco: ISDN components include terminals, terminal adapters (TAs), networktermination devices, line-termination equipment, and exchange-termination equipment. ISDN terminals come in two types. Specialized ISDN terminals are referred to as terminal equipment type 1 (TE1). Non-ISDN terminals, such as DTE, that predate the ISDN standards are referred to as terminal equipment type 2 (TE2). TE1s connect to the ISDN network through a four-wire, twisted-pair digital link. TE2s connect to the ISDN network through a T
A. The ISDN TA can be either a standalone device or a board inside the TE2. If the TE2 is implemented as a standalone device, it connects to the TA via a standard physical-layer interface. Examples include EIA/TIA-232-C (formerly RS-232-C), V.24, and V.35.

QUESTION 409
You are a Cisco Certified Engineer. You are configuring a remote access solution. You plan to use CiscoSecure. Which of the following are the three major components of Cisco Secure (Choose all that apply)?

A. L2TP
B. RDBMS
C. Packet filter firewall
D. Netscape Fast Track Server
E. AAA Server
F. Track Server

Answer: B, D, E

Explanation:
RDBMS synchronization import definitions are a listing of the action codes allowable in an accountActions table. The RDBMS Synchronization feature of CiscoSecure AccessControlServer (ACS) for WindowsServer uses a table named "accountActions" as input for automated or manual updates of the CiscoSecure user database.
According to Cisco: CiscoSecure supports both Cisco network access servers (such as the

Cisco 2509, 2511, 3620, 3640, and AS5200) and the PIX firewall. It is a basic access control server (ACS) for Windows NT Server Version 4.0. CiscoSecure uses the Terminal Access Controller Access Control System (TACACS)+ protocol to provide Authentication, Authorization, and Accounting (AAA) to ensure a secure environment. This enables you to control access to your network from a central location.

QUESTION 410
Under PAT, packets destined for the outside world have their private IP address plus port number translated to the router's external IP address _____ the IP packet is forwarded to the WAN.

A. None of the choices.
B. port number should not be included in the equation
C. port number should not be included in the translation, but should be forwarded
D. before
E. after

Answer: D

Explanation:
According to the technical documentation at CCO: Packets destined for an external address have their private IP address plus port number translated to the router's external IP address before the IP packet is forwarded to the WAN. IP packets returning to the router have their external IP addresses (plus port number) translated back to the private IP addresses, and the packets are forwarded to the LAN.

QUESTION 411
You are a Cisco Certified Engineer. You are configuring a remote access solution.
Which of the following are QoS Traffic shaping tools provided by Cisco (Choose 2)?

A. BECN
B. RSVP
C. FECN
D. GTS
E. FRTS
F. DE

Answer: D, E

Explanation:
According to Cisco: Cisco's QoS software solutions include two traffic shaping tools---generic traffic shaping (GTS) and Frame Relay traffic shaping (FRTS)---to manage traffic and congestion on the network. GTS provides a mechanism to control the traffic flow on a particular interface. It reduces outbound traffic flow to avoid congestion by constraining specified traffic to a particular bit rate (also known as the token bucket approach), while queuing bursts of the specified traffic. FRTS provides parameters that are useful for

managing network traffic congestion. These include committed information rate (CIR), FECN and BECN, and the DE bit. For some time, Cisco has provided support for FECN for DECnet, BECN for SNA traffic using direct LLC2 encapsulation via RFC 1490, and DE bit support. The FRTS feature builds on this Frame Relay support with additional capabilities that improve the scalability and performance of a Frame Relay network, increasing the density of virtual circuits and improving response time. More information can be found at: this site

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QUESTION 412
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. In ISDN, ITU-T I.450 belongs to which layer?

A. Layer 1
B. Layer 4
C. Layer 3
D. Layer 2

Answer: C

Explanation:
According to Cisco: Two Layer 3 specifications are used for ISDN signaling: ITU-T (formerly CCITT) I.450 (also known as ITU-T Q.930) and ITU-T I.451 (also known as ITUT Q.931). Together, these protocols support user-to-user, circuit-switched, and packetswitched connections. A variety of call-establishment, call-termination, information, and miscellaneous messages are specified, including SETUP, CONNECT, RELEASE, USER INFORMATION, CANCEL, STATUS, and DISCONNECT. These messages are functionally similar to those provided by the X.25 protocol.

QUESTION 413
You are a Cisco Certified Engineer. You are configuring a remote access solution. Your company wants to connect its US office via ISDN to its European Headquarters. The US office uses T1. Which of the following types of line should be ordered for the European office?

A. STM-0
B. E1
C. OC-1
D. DS2
E. STM-1
F. T3
G. STM-2

Answer: B

Explanation:
E1 is the European version of T1. It offers 2MB/Sec throughput. According to

webopedia.com: Similar to the North American T-1, E1 is the European format for digital transmission. E1 carries signals at 2 Mbps (32 channels at 64Kbps), versus the T1, which carries signals at 1.544 Mbps (24 channels at 64Kbps). E1 and T1 lines may be interconnected for international use.

QUESTION 414
You are a Cisco Certified Engineer. You are configuring a remote access solution. In New York, which of the following ISDN functional groups is provided by the end user device?

A. NT1
B. NT3
C. TE2
D. TE3
E. LE2
F. TA
G. LE

Answer: A

Explanation:
According to Cisco: Beyond the TE1 and TE2 devices, the next connection point in the ISDN network is the network termination type 1 (NT1) or network termination type 2 (NT2) device. These are network-termination devices that connect the four-wire subscriber wiring to the conventional two-wire local loop. In North America, the NT1 is a customer premises equipment (CPE) device. In most other parts of the world, the NT1 is part of the network provided by the carrier. The NT2 is a more complicated device that typically is found in digital private branch exchanges (PBXs) and that performs Layer 2 and 3 protocol functions and concentration services. An NT1/2 device also exists as a single device that combines the functions of an NT1 and an NT2.

QUESTION 415
X.21bis is a _____ layer protocol.

A. session
B. network
C. physical
D. None of the choices.
E. data link
F. transport

Answer: C

Explanation:
According to the technical documentation at CCO: X.21bis is a physical layer protocol used in X.25 that defines the electrical and mechanical procedures for using the physical medium.

X.21bis handles the activation and deactivation of the physical medium connecting DTE and DCE devices. It supports point-to-point connections, speeds up to 19.2 kbps, and synchronous, full-duplex transmission over four-wire media.

QUESTION 416
Refer to the exhibit:
What type of ATM cable connector is it:

A. SC
B. FSD
C. MIC
D. ST

Answer: D

Explanation:
According to the technical documentation at CCO:
ST - round, bayonet, or twistlock coupling connector.
SC - push/pull coupling connector similar to ST connector except for a more square form.
FSD (also called MIC) - fixed shroud duplex system is specified for FDDI interface. Because TAXI is 100 Mbps derived from the physical media FDDI, it was kept the same for ATM TAXI mode.
BNC - standard connector used to connect IEEE 802.3 10Base2 coaxial cable to a transceiver.
RJ-45 - standard 8-wire connector for IEEE 802.3 StarLAN networks. Used also as a telephone line in some cases.

QUESTION 417
Which of the following ISDN reference points are not relevant only in North America (Choose all that apply)?

A. R
B. U
C. S
D. T

Answer: A, C, D

Explanation:
According to the technical documentation at CCO:
ISDN specifies a number of reference points that define logical interfaces between functional groups, such as TAs and NT1s. ISDN reference points include the following:
R-The reference point between non-ISDN equipment and a TA.
S-The reference point between user terminals and the NT2.
T-The reference point between NT1 and NT2 devices.
U-The reference point between NT1 devices and line-termination equipment in the carrier

network. The U reference point is relevant only in North America, where the NT1 function is not provided by the carrier network.

QUESTION 418
A user dials to the company's network. He found that he is in someone else's session. Why will this happen (Choose all that apply)?

A. The last session was not terminated.
B. The access server did not disconnect the session properly.
C. The server is over utilized
D. The server RAM is corrupted
E. The server CPU is over utilized

Answer: A, B

Explanation:
The last user's session is still open. This is the cause of the problem.

QUESTION 419
You are a Cisco Certified Engineer. You are configuring a remote access solution. You have a Cisco router with a physical BRI and serial interface. Can you back up the serial interface and still use the BRI interface, and how?

A. Yes, you must configure a serial for frame relay.
B. Yes, you must configure a sub interface.
C. Yes, you must configure a dialer interface.
D. No, this cannot be done.

Answer: C

Explanation:
According to Cisco: A backup interface is an interface that stays idle until certain circumstances occur, then it is activated. The backup interface can be a physical interface such as a Basic Rate Interface (BRI), or an assigned backup dialer interface to be used in a dialer pool. While the primary line is up, the backup interface is placed in standby mode. Once in standby, the backup interface is effectively shutdown until enabled. Any route associated with the backup interface will not appear in the routing table. More information can be found at: this site

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QUESTION 420
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. At ISDN layer 3, which of the following messages are NOT included (Choose all that apply)?

A. PAUSE
B. DISCONNECT

C. CONNECT
D. STATUS
E. USER INFORMATION
F. RELEASE
G. SETUP
H. CANCEL

Answer: A

Explanation:
According to Cisco: Two Layer 3 specifications are used for ISDN signaling: ITU-T (formerly CCITT) I.450 (also known as ITU-T Q.930) and ITU-T I.451 (also known as ITUT Q.931). Together, these protocols support user-to-user, circuit-switched, and packetswitched connections. A variety of call-establishment, call-termination, information, and miscellaneous messages are specified, including SETUP, CONNECT, RELEASE, USER INFORMATION, CANCEL, STATUS, and DISCONNECT. These messages are functionally similar to those provided by the X.25 protocol.

QUESTION 421
You are a Cisco Certified Engineer. You are configuring a remote access solution. How do you have PPP be in effect on calls placed by the dialer interfaces that use the physical interfaces?

A. by disabling PPP encapsulation on physical interfaces
B. by enabling PPP encapsulation on virtual interfaces
C. by enabling PPP encapsulation on physical interfaces
D. by disabling PPP encapsulation on virtual interfaces

Answer: C

Explanation:
According to Cisco: PPP, described in RFC 1661, encapsulates network layer protocol information over point-to-point links. You can configure PPP on the following types of physical interfaces:
Asynchronous serial
HSSI
ISDN
Synchronous serial
By enabling PPP encapsulation on physical interfaces, PPP can also be in effect on calls placed by the dialer interfaces that use the physical interfaces.

QUESTION 422
Regarding DHCP, DHCP relay and DHCP server are mutually exclusive.

A. None of the choices.
B. True

C. False only for certain IOS version
D. False
E. False only for IOS version below V10

Answer: B

Explanation:
According to the technical documentation at CCO:
The following are application notes for DHCP server:
DHCP relay and DHCP server are mutually exclusive.
When DHCP server is initialized, default addresses are used if no LAN or internal address exists. The Cisco 700 series router picks up the DHCP client's default gateway, netmask, and starting DHCP addresses by using the LAN IP address, if one exists. If a LAN address does not exist, the router uses the internal IP address. If neither exists, it uses the default settings: 10.0.0.1 as the LAN IP address (default gateway for DHCP clients), 255.0.0.0 as the subnet mask, and 10.0.0.2 as the starting DHCP client addresses.
For the DHCP values to be automatically generated based on the LAN or internal IP address, each DHCP value must be set to 0.0.0.0 or none, for the new values to take effect.

QUESTION 423
A LAPD Address field can be 1 or 2 bytes long.

A. True
B. False
C. True only in the US
D. True only in Asia
E. True only in Europe

Answer: A

Explanation:
According to the technical documentation at CCO:
The LAPD Flag and Control fields are identical to those of HDLC. The LAPD Address field can be either 1 or 2 bytes long. If the extended address bit of the first byte is set, the address is 1 byte; if it is not set, the address is 2 bytes. The first Address-field byte contains the service access point identifier (SAPI), which identifies the portal at which LAPD services are provided to Layer 3. The C/R bit indicates whether the frame contains a command or a response. The Terminal Endpoint Identifier (TEI) field identifies either a single terminal or multiple terminals. A TEI of all ones indicates a broadcast.

QUESTION 424
Which of the following are valid functions of the lock DTE modem attribute?

A. Disable UART.
B. Enable UART.
C. Locks the data speed between the computer motherboard and the RS232 port.

D. Locks the data speed between the modem and the DTE device.

Answer: D

Explanation:
The lock DTE speed command is often related to the way the modem handles error correction. This command varies widely from one modem to another. Locking the modem speed ensures that the modem always communicates with the Cisco access server or router at the speed configured on the Cisco auxiliary port.

QUESTION 425
Which of the following are not the valid types of ATM addresses (Choose all that apply)?

A. DCC
B. GCT
C. BSP
D. ICD
E. NSAP
F. AED

Answer: B, C, F

Explanation:
According to the technical documentation at CCO:
There are 3 types of private ATM addresses:
NSAP encoding format for E.164 addresses - The authority and format identifier (AFI) is 45. These addresses are used in establishing ISDN calls by public networks, and they are normally used in public telephony.
Data Country Code (DCC) AESA - The AFI is 39. These addresses are to be used in public networks. For example, the initial domain identifier (IDI) value 0x84.0f identifies the United States.
International Code Designator (ICD) AESA - The AFI is 47. These addresses are used in private organizations, and the ICD field indicates the code set or organization. Cisco uses by default ICD addresses.

QUESTION 426
Which of the following are NOT the valid types of X.25 PLP packet fields (Choose all that apply)?

A. User Data
B. LCI
C. GFI
D. PTI
E. None of the choices.

Answer: E

Explanation:
According to the technical documentation at CCO:
Four types of PLP packet fields exist:
General Format Identifier (GFI)-Identifies packet parameters, such as whether the packet carries user data or control information, what kind of windowing is being used, and whether delivery confirmation is required.
Logical Channel Identifier (LCI)-Identifies the virtual circuit across the local DTE/DCE interface.
Packet Type Identifier (PTI)-Identifies the packet as one of 17 different PLP packet types.
User Data-Contains encapsulated upper-layer information. This field is present only in data packets. Otherwise, additional fields containing control information are added.

QUESTION 427
You are a Cisco Certified Engineer. You are configuring a DDR remote access solution. What command may be used to show the general diagnostic information for interfaces configured (fill in the blank)

Answer: show dialer

Explanation:
According to Cisco: show dialer [interface type number] - Displays general diagnostic information for interfaces configured for DDR. If the dialer came up properly, the Dialer state is data link layer up message should appear. If physical layer up appears, then the line protocol came up, but the Network Control Protocol (NCP) did not. The source and destination addresses of the packet that initiated the dialing are shown in the Dial reason line. This show command also displays the timer's configuration and the time before the connection times out.

QUESTION 428
Your boss requires you to use the modem for both incoming and outgoing calls. How do you do this?

A. modem inout
B. en modem inout
C. modem inout enable
D. en modem in out

Answer: A

Explanation:
You may configure the line for modem control using the modem inout line configuration command.

QUESTION 429
You are a Cisco Certified Engineer. You are configuring a remote access solution. What type of commands do you use to modify the operation of the ATM interface?

A. None of the choices.
B. Local EXEC commands
C. Line commands
D. Global EXEC commands
E. Interface configuration commands

Answer:

Answer: E

Explanation:
According to Cisco: Interface configuration commands modify the operation of the ATM interface. Interface configuration commands always follow an interface global configuration command, which defines the interface type. Use the interface type_number.subif command to access interface configuration mode. In the following example, ATM interface 1 is about to be configured. The new prompt, ATM(config-if)Q, indicates interface configuration mode.

QUESTION 430
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. In ISDN, ITU-T Q.931 belongs to which layer?

A. Layer 1
B. Layer 4
C. Layer 3
D. Layer 2

Answer: C

Explanation:
According to Cisco: Two Layer 3 specifications are used for ISDN signaling: ITU-T (formerly CCITT) I.450 (also known as ITU-T Q.930) and ITU-T I.451 (also known as ITUT Q.931). Together, these protocols support user-to-user, circuit-switched, and packetswitched connections. A variety of call-establishment, call-termination, information, and miscellaneous messages are specified, including SETUP, CONNECT, RELEASE, USER INFORMATION, CANCEL, STATUS, and DISCONNECT. These messages are functionally similar to those provided by the X.25 protocol.

QUESTION 431
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. In ISDN, LAPD belongs to which layer?

A. Layer 2

B. Layer 3
C. Layer 1
D. Layer 4

Answer: A

Explanation:
According to Cisco: Layer 2 of the ISDN signaling protocol is Link Access Procedure, D channel (LAPD). LAPD is similar to High-Level Data Link Control (HDLC) and Link Access Procedure, Balanced (LAPB). As the expansion of the LAPD acronym indicates, this layer it is used across the D channel to ensure that control and signaling information flows and is received properly.

QUESTION 432
You are a Cisco Certified Engineer. You are configuring a remote access solution with chat scripts. Which of the following are NOT the functions of chat scripts (Choose all that apply)?

A. Logging into a remote system.
B. Sending messages from one telnet session to another.
C. Instructing the modem to dial out.
D. Filtering incoming calls.
E. Initializing the directly-attached modem.

Answer: B, D

Explanation:
According to Cisco: Chat scripts are strings of text used to send commands for modem dialing, logging in to remote systems, and initializing asynchronous devices connected to an asynchronous line. On a router, chat scripts can be configured on the auxiliary port only. A chat script must be configured to dial out on asynchronous lines. You also can configure chat scripts so that they can be executed automatically for other specific events on a line, or so that they are executed manually. More information can be found at: this site

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QUESTION 433
Within a LAPB Information (I) frames, what are used for performing flow control and error recovery (Choose all that apply)?

A. P/F bit
B. Send sequence number
C. Receive sequence number
D. R/C bit
E. D/E bit

Answer: A, B, C

Explanation:
According to the technical documentation at CCO:
Information (I) frames-These frames carry upper-layer information and some control information (necessary for full-duplex operations). Send and receive sequence numbers and the poll final (P/F) bit perform flow control and error recovery. The send sequence number refers to the number of the current frame. The receive sequence number records the number of the frame to be received next. In full-duplex conversation, both the sender and the receiver keep send and receive sequence numbers. The poll bit is used to force a final bit message in response; this is used for error detection and recovery.

QUESTION 434
You may configure PPP on the following types of physical interfaces (Choose all that apply):

A. ISDN
B. Asynchronous serial
C. HSSI
D. Synchronous serial

Answer: A, B, C, D

Explanation:
According to Cisco: PPP, described in RFC 1661, encapsulates network layer protocol information over point-to-point links. You can configure PPP on the following types of physical interfaces:
Asynchronous serial
HSSI
ISDN
Synchronous serial
By enabling PPP encapsulation on physical interfaces, PPP can also be in effect on calls placed by the dialer interfaces that use the physical interfaces.

QUESTION 435
You are a Cisco Certified Engineer. You are configuring a remote access solution. What command allows you to verify that PAP or CHAP authentication was successful between two routers (fill in the blank):

Answer: show dialer

Explanation:
According to Cisco: show dialer [interface type number] - Displays general diagnostic information for interfaces configured for DDR. If the dialer came up properly, the Dialer state is data link layer up message should appear. If physical layer up appears, then the line protocol came up, but the Network Control Protocol (NCP) did not. The source and destination addresses of the packet that initiated the dialing are shown in the Dial reason line.

This show command also displays the timer's configuration and the time before the connection times out.

QUESTION 436
What command should you use so that your access server will attempt to authenticate all incoming calls that start a PPP session with CHAP, and will use PAP only if the remote device does not support CHAP (fill in the blank)

Answer: ppp authentication chap pap

Explanation: If the remote device does not support chap then use pap. So chap must be first mentioned before pap in the command.
Note:
According to the technical documentation at CCO:
If you configure ppp authentication chap on an interface, all incoming calls on that interface that initiate a PPP connection will have to be authenticated using CHAP; likewise, if you configure ppp authentication pap, all incoming calls that start a PPP connection will have to be authenticated via PAP. If you configure ppp authentication chap pap, the access server will attempt to authenticate all incoming calls that start a PPP session with CHAP. If the remote device does not support CHAP, the access server will try to authenticate the call using PAP. If the remote device doesn't support either CHAP or PAP, authentication will fail and the call will be dropped. If you configure ppp authentication pap chap, the access server will attempt to authenticate all incoming calls that start a PPP session with PAP. If the remote device does not support PAP, the access server will try to authenticate the call using CHAP. If the remote device doesn't support either protocols, authentication will fail and the call will be dropped. If you configure the ppp authentication command with the callin keyword, the access server will only authenticate the remote device if the remote device initiated the call.

QUESTION 437
In X.25, LAPB maps to the _____ layer.

A. physical
B. transport
C. data link
D. network
E. None of the choices.
F. session

Answer: C

Explanation:
According to the technical documentation at CCO: X.25 uses the following three protocols, which map to the bottom three layers of the OSI reference model:
PLP, which maps to the network layer
LAPB, which maps to the data link layer
X.21bis, EIA/TIA-232, EIA/TIA-449, EIA-530, and G.703, which map to the physical layer

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QUESTION 438
How many Layer 3 specifications exist for ISDN signaling?

A. three
B. four
C. two
D. five
E. one

Answer: C

Explanation:
According to the technical documentation at CCO:
Two Layer 3 specifications are used for ISDN signaling: ITU-T (formerly CCITT) I.450 (also known as ITU-T Q.930) and ITU-T I.451 (also known as ITU-T Q.931). Together, these protocols support user-to-user, circuit-switched, and packet-switched connections. A variety of call-establishment, call-termination, information, and miscellaneous messages are specified, including SETUP, CONNECT, RELEASE, USER INFORMATION, CANCEL, STATUS, and DISCONNECT.

QUESTION 439
Which of the following is NOT true concerning the valid action to take for choosing Cisco products for use (Choose all that apply)?

A. Use Cisco Product Pick up tool to plan for the hardware requirement.
B. Use Cisco Product Wizard GUI to plan for the hardware requirement.
C. Use Cisco Product Selection tool to plan for the hardware requirement.
D. Use Cisco Intelligent Agent to plan for the hardware requirement.

Answer: A, B, D

QUESTION 440
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. Which of the following technologies allows you to configure multiple ISDN switch type per router?

A. Multilink PPP
B. Multilink Switches
C. Multilink ISDN Channel aggregation
D. Multiple ISDN Switch Types

Answer: D

Explanation:
According to Cisco: The Multiple ISDN Switch Types feature allows you to configure more

than one ISDN switch type per router. You can apply an ISDN switch type on a per interface basis, thus extending the existing global isdn switch-type command to the interface level. This allows Basic Rate Interfaces (BRI) and Primary Rate Interfaces (PRI) to run simultaneously on platforms that support both interface types.

QUESTION 441
Which of the following circuit operation procedures will you use in a X.25 SVC (Choose all that apply)?

A. call setup
B. call clearing
C. call fixing
D. data compression
E. data transfer

Answer: A, B, E

Explanation:
According to the technical documentation at CCO:
Layer 3 X.25 uses three virtual circuit operational procedures: call setup, data transfer, and call clearing. Execution of these procedures depends on the virtual circuit type being used. For a PVC, Layer 3 X.25 is always in data transfer mode because the circuit has been permanently established. If an SVC is used, all three procedures are used.

QUESTION 442
How can you be sure if your router is properly initialized (Choose all that apply)?

A. Check the Red Power Light
B. Check the Enable light
C. Passive LED
D. Active LED

Answer: B, D

Explanation:
You should be familiar with the front panel of the router, and make sure you know the basic way of operating the router.

QUESTION 443
You are a Cisco Certified Engineer. You are configuring a remote access solution. With regards to network layer address assignment, which of the following are NOT the effects of using frame relay sub interfaces on a physical interface (Choose all that apply)?

A. The network layer address of each sub interface must be in the same subnet as the physical interface address.

B. The network layer address of each sub interface must be approved by IANA
C. The network layer address must be removed from the physical interface.
D. The network layer address of each sub interface must be the same as the physical interface address.
E. The sub interfaces should be assigned the network broadcast address of the physical interface.
F. The network layer address of each sub interface must NOT be approved by the network administrator

Answer: A, B, D, E, F

Explanation:
According to Cisco: Frame Relay subinterfaces provide a mechanism for supporting partially meshed Frame Relay networks. Most protocols assume transitivity on a logical network; that is, if station A can talk to station B, and station B can talk to station C, then station A should be able to talk to station C directly. Transitivity is true on LANs, but not on Frame Relay networks unless A is directly connected to C. Additionally, certain protocols such as AppleTalk and transparent bridging cannot be supported on partially meshed networks because they require "split horizon," in which a packet received on an interface cannot be sent from the same interface even if received and transmitted on different VCs. Configuring Frame Relay subinterfaces ensures that a single physical interface is treated as multiple virtual interfaces, which allows you to overcome split horizon rules. Packets received on one virtual interface can be forwarded to another virtual interface, even if they are configured on the same physical interface. Subinterfaces address the limitations of Frame Relay networks by providing a way to subdivide a partially meshed Frame Relay network into a number of smaller, fully meshed (or point-to-point) subnetworks. Each subnetwork is assigned its own network number and appears to the protocols as if it is reachable through a separate interface. (Note that point-to-point subinterfaces can be unnumbered for use with IP, reducing the addressing burden that might otherwise result.)

QUESTION 444
Which of the following routed protocols can be used in dial-up networking?

A. TCP / IP
B. NetBeui
C. OSPF
D. IPX / SPX
E. IGRP

Answer: A, B, D

Explanation:
OSPF and IGRP are routing protocols, not routed protocols

QUESTION 445
You are a Cisco Certified Engineer. You are configuring a remote access solution. You

want to compress the traffics using the router processor. Before you do so, what command do you use to check the CPU load (fill in the blank):

Answer: show process cpu

Explanation:
According to Cisco: Software compression is available in all router platforms. Software compression is performed by the main processor in the router. Compression is performed in software and might significantly affect system performance. We recommend that you disable compression if the router CPU load exceeds 65 percent. To display the CPU load, use the show process cpu EXEC command.

QUESTION 446
What command should you use to enable AAA authentication regardless of the supported login authentication methods to use (fill in the blank):

Answer: aaa authentication login

Explanation:
According to the technical documentation at CCO:
The AAA security services facilitate a variety of login authentication methods. Use the aaa authentication login command to enable AAA authentication no matter which of the supported login authentication methods you decide to use. With the aaa authentication login command, you create one or more lists of authentication methods that are tried at login. These lists are applied using the login authentication line configuration command.

QUESTION 447
You are a Cisco Certified Engineer. You are configuring a remote access solution. What command do you use to exit line configuration mode and return to global configuration mode (fill in the blank):

Answer: exit

Explanation:
According to Cisco: To exit line configuration mode and return to global configuration mode, use the exit command. To exit line configuration mode and return to privileged EXEC mode, enter the end command, or press Ctrl-Z.

QUESTION 448
Which of the following components make up the Frame Relay frame (Choose all that apply)?

A. parity portion
B. header and address area
C. frame check sequence
D. security bit

E. user-data portion

Answer: B, C, E

Explanation:
According to the technical documentation at CCO: Flags indicate the beginning and end of the frame. Three primary components make up the Frame Relay frame: the header and address area, the user-data portion, and the frame check sequence (FCS). The address area, which is 2 bytes in length, is comprised of 10 bits representing the actual circuit identifier and 6 bits of fields related to congestion management. This identifier commonly is referred to as the data-link connection identifier (DLCI).

QUESTION 449
You are a Cisco Certified Engineer. You are configuring a remote access solution.
Which of the following situations are NOT well served by an access server (Choose all that apply)?

A. Corporate staff requiring dial-out access.
B. Corporate staff requiring access instant application access on corporate systems.
C. Corporate staff requiring access to FTP based files.
D. Mobile sales force requiring dial-in access.
E. Corporate staff requiring access to web based accounting applications.

Answer: B, C, E

Explanation:
According to Cisco: The Cisco 2500 access server series represents Cisco`s low cost entry into the access server marketplace. Three new products have recently been added to this family: the dial optimized AS2509-RJ and AS2511-RJ, and the temperature hardened Cisco 2509-ET. The Cisco 2500 access server series gives users the ability to connect asynchronous devices such as dumb terminals, modems, router consoles, slot machines, and ISDN TAs into a routed network. This product family contains new features that make them easier to use then ever, and they run the same Cisco IOS software that runs the backbone of the Internet on a high-performance router engine. They also give users integrated synchronous serial ports to backhaul routed traffic through T1/E1 lines. The Cisco 2500 access server series provide a variety of models designed for small office and remote site environments. Each model is a fixed-configuration router that supports at least two interface types. Each access server comes standard with Flash EPROM technology for simplified software maintenance. For software, the Cisco 2500 access server series offer a wide choice of feature sets, so you can select the appropriate protocol set for your network environment. These feature sets range from IP and bridging-only to a feature set containing the full array of Cisco`s software functionality.

QUESTION 450
What command should you use to specify the local username database as the authentication method for use on lines running PPP when no other method list has been

defined (fill in the blank):

Answer: aaa authentication ppp default local

Explanation:
According to the technical documentation at CCO:
Use the aaa authentication ppp command with the method keyword local to specify that the Cisco router or access server will use the local username database for authentication. For example, to specify the local username database as the method of authentication for use on lines running PPP when no other method list has been defined, enter:
aaa authentication ppp default local

QUESTION 451
You are a Cisco Certified Engineer. You are configuring a remote access solution. What T1 controller command can you use to configure the controller for ISDN PRI operation (fill in the blank):

Answer: ISDN Switch-type

Explanation:
According to Cisco: National ISDN Switch Types for Basic Rate and Primary Rate Interfaces provides the following benefits: Unlike previous custom implementations, such as basic-5ess, basic-dms100, primary-5ess, and primary-dms100, the National ISDN specification is designed to be switch independent. This increases flexibility in adapting to evolving standards and future enhancements. The ability to select PRI B channel order election for outgoing calls allows extended flexibility and compatibility with a variety of ISDN switch type service implementations. Additionally, this ability reduces ISDN switch misconfigurations, which can delay initial service activation. More information about the switch types can be found at this site

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QUESTION 452
Which of the following indicates the address of the CiscoSecure server in your network?

A. en tacacs-server host
B. server host tacacs
C. tacacs-server en
D. tacacs-server host

Answer: D

Explanation:
According to Cisco: The tacacs-server host command allows you to specify the names of the IP host or hosts maintaining a TACACS server. Because the TACACS software searches for the hosts in the order specified, this feature can be useful for setting up a list of preferred servers.

QUESTION 453
Which of the following LMI extensions are NOT optional (Choose all that apply)?

A. Multicasting
B. Simple flow control
C. Virtual circuit status messages
D. Global addressing

Answer: A, B, D

Explanation:
According to the technical documentation at CCO:
In addition to the basic Frame Relay protocol functions for transferring data, the consortium Frame Relay specification includes LMI extensions that make supporting large, complex internetworks easier. Some LMI extensions are referred to as "common" and are expected to be implemented by everyone who adopts the specification. Other LMI functions are referred to as "optional." A summary of the LMI extensions follows:
Virtual circuit status messages (common)-Provide communication and synchronization between the network and the user device, periodically reporting the existence of new PVCs and the deletion of already existing PVCs, and generally provide information about PVC integrity. Virtual circuit status messages prevent the sending of data into black holes-that is, over PVCs that no longer exist.
Multicasting (optional)-Allows a sender to transmit a single frame but have it delivered by the network to multiple recipients. Thus, multicasting supports the efficient conveyance of routing protocol messages and address resolution procedures that typically must be sent to many destinations simultaneously.
Global addressing (optional)-Gives connection identifiers global rather than local significance, allowing them to be used to identify a specific interface to the Frame Relay network. Global addressing makes the Frame Relay network resemble a local-area network (LAN) in terms of addressing; Address Resolution Protocols, therefore, perform over Frame Relay exactly as they do over a LAN.
Simple flow control (optional)-Provides for an XON/XOFF flow control mechanism that applies to the entire Frame Relay interface. It is intended for devices whose higher layers cannot use the congestion notification bits and that need some level of flow control.

QUESTION 454
You are a Cisco Certified Engineer. You are configuring a remote access solution.
Which of the following correctly describe the IP un-numbered Ethernet 0/0 command, when it is issued in configuration mode for a serial interface?

A. The IP address of the Ethernet interface is used by the serial interface.
B. There is no effect at all
C. DHCP traffic received on the serial interface is forwarded to the Ethernet interface.
D. ARP traffic received on the serial interface is forwarded to the Ethernet interface.

Answer: A

Explanation:
According to Cisco: The ip unnumbered configuration command allows you to enable IP processing on a serial interface without assigning it an explicit IP address. The ip unnumbered interface can "borrow" the IP address of another interface already configured on the router, thereby conserving network and address space. More information can be found at: this site

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QUESTION 455
You are a Cisco Certified Engineer. You are configuring a remote access solution. Which of the following are network-termination devices, in addition to NT1, that can connect the four-wire subscriber wiring to the conventional two-wire local loop (Choose all that apply)?

A. NT3
B. TA2
C. LE
D. NT2
E. TA
F. LE2

Answer: D

Explanation:
According to Cisco: Beyond the TE1 and TE2 devices, the next connection point in the ISDN network is the network termination type 1 (NT1) or network termination type 2 (NT2) device. These are network-termination devices that connect the four-wire subscriber wiring to the conventional two-wire local loop. In North America, the NT1 is a customer premises equipment (CPE) device. In most other parts of the world, the NT1 is part of the network provided by the carrier. The NT2 is a more complicated device that typically is found in digital private branch exchanges (PBXs) and that performs Layer 2 and 3 protocol functions and concentration services. An NT1/2 device also exists as a single device that combines the functions of an NT1 and an NT2.

QUESTION 456
You are a Cisco Certified Engineer. You are configuring a remote access solution. Cisco multi-link PPP is compatible with and supports which of the following items (Choose all that apply)?

A. Most routers confirming to RFC1997
B. Synchronous dialer interfaces
C. Asynchronous dialer interfaces
D. Cisco700 series routers
E. A multiple-LAN interface
F. RFC1917

Answer: B, C

Explanation:
Multilink PPP
The Multilink PPP feature provides load balancing functionality over multiple WAN links, while providing multivendor interoperability, packet fragmentation and proper sequencing, and load calculation on both inbound and outbound traffic. The Cisco implementation of MLP supports the fragmentation and packet sequencing specifications in RFC 1990. Additionally, you can change the default endpoint discriminator value that is supplied as part of user authentication. Refer to RFC 1990 for more information about the endpoint discriminator.
MLP allows packets to be fragmented and the fragments to be sent at the same time over multiple point-to-point links to the same remote address. The multiple links come up in response to a defined dialer load threshold. The load can be calculated on inbound traffic, outbound traffic, or on either, as needed for the traffic between the specific sites. MLP provides bandwidth on demand and reduces transmission latency across WAN links.
MLP is designed to work over synchronous and asynchronous serial and BRI and PRI types of single or multiple interfaces that have been configured to support both dial-on-demand rotary groups and PPP encapsulation.

QUESTION 457
What keyword of the aaa authentication login command do you use to specify the line password as the login authentication method (fill in the blank):

Answer: line

Explanation:
According to the technical documentation at CCO: Use the aaa authentication login command with the line method keyword to specify the line password as the login authentication method. For example, to specify the line password as the method of user authentication at login when no other method list has been defined, enter the following:
aaa authentication login default line

QUESTION 458
In general, multiple ISDN Switch Types supports which of the following ISDN interfaces?

A. None of the choices.
B. Both BRI and PRI
C. BRI only
D. PRI only
E. This feature is no longer supported

Answer: B

Explanation:
According to Cisco: The Multiple ISDN Switch Types feature allows you to configure more than one ISDN switch type per router. You can apply an ISDN switch type on a per interface basis, thus extending the existing global isdn switch-type command to the interface level. This allows Basic Rate Interfaces (BRI) and Primary Rate Interfaces (PRI) to run simultaneously on platforms that support both interface types.

QUESTION 459
You are a Cisco Certified Engineer. You are configuring a remote access solution. Which of the following statements about the ISDN switch type are NOT true (Choose all that apply)?

A. It selects the PRI controller line code.
B. It defines the type of signaling used by the ISDN service provider switch.
C. It is a set of US only standard
D. It is proprietary
E. It is both a global and an interface command.
F. It is a PRI controller command.

Answer: A, C, D, F

Explanation:
According to Cisco: ISDN PRI is supported on the Cisco 7200 series and 7500 series routers using T1 or E1 versions of the Multichannel Interface Processor (MIP) card, on the Cisco 4000 series channelized E1/T1/PRI network processor module (NPM), and on the Cisco AS5200 access server. Channelized T1 ISDN PRI offers 23 B channels and 1 D channel. Channelized E1 ISDN PRI offers 30 B channels and 1 D channel. Channel 24 is the D channel for T1, and channel 16 is the D channel for E1. More information about the switch types can be found at this site

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QUESTION 460
You are a Cisco Certified Engineer. You are configuring a remote access solution with modems. What prevents the speed between the modem and the DTE from being varied?

A. the modem attribute syn DTE
B. the modem attribute static DTE
C. the modem attribute lock DTE
D. the modem attribute fixed DTE

Answer: C

Explanation:
According to Cisco: The lock DTE speed command, which might also be referred to as port

rate adjust or buffered mode, is often related to the way in which the modem handles error correction. This command varies widely from one modem to another. Locking the modem speed ensures that the modem always communicates with the Cisco access server or router at the speed configured on the Cisco auxiliary port. If this command is not used, the modem reverts to the speed of the data link (the telephone line), instead of communicating at the speed configured on the access server.

QUESTION 461
You are a Cisco Certified Engineer. You are configuring a DDR remote access solution. What command do you use to define interesting packets (fill in the blank):

Answer: dialer-list

Explanation:
According to Cisco: Dial-on-Demand Routing (DDR) addresses the need for intermittent network connections over circuit-switched WANs. With DDR, all traffic is classified as either interesting or uninteresting. If traffic is interesting, the packet is passed to the interface, and the router then connects to the remote router (if not currently connected). The router defines interesting packets with the dialer-list command. DDR is implemented in two ways: DDR with dialer profiles and legacy DDR.

QUESTION 462
You are a Cisco Certified Engineer. You are configuring a remote access solution with modems. Which of the following terms, in addition to port rate adjust, are associated with the modem attribute lock DTE (Choose all that apply)?

A. buffered mode
B. port rate prefetch
C. port id tag changes
D. unbuffered cache

Answer: A

Explanation:
According to Cisco: The lock DTE speed command, which might also be referred to as port rate adjust or buffered mode, is often related to the way in which the modem handles error correction. This command varies widely from one modem to another.Locking the modem speed ensures that the modem always communicates with the Cisco access server or router at the speed configured on the Cisco auxiliary port. If this command is not used, the modem reverts to the speed of the data link (the telephone line), instead of communicating at the speed configured on the access server.

QUESTION 463
You are a Cisco Certified Engineer. You are configuring a remote access solution. Your company currently uses an ISDN BRI in standby mode to back up the primary serial connection. How can the BRI interface be configured to allow dialup operation as well

as backup services?

A. Configure the BRI as a standard DDR connection and configure the serial port to use BRI as the backup.
B. Configure one B channel of the BRI as Standby Backup and two B channels as DDR.
C. Configure one B channel of the BRI as Standby Backup and the other B channel as DDR.
D. Configure two B channels of the BRI as Standby Backup and the other B channel as DDR.
E. Use the dialer profile as a backup and configure the BRI as a member of the dialer pool.
F. Configure one B channel of the BRI as Standby Backup and nothing else.

Answer: E

Explanation:
According to Cisco: A backup interface is an interface that stays idle until certain circumstances occur, then it is activated. The backup interface can be a physical interface such as a Basic Rate Interface (BRI), or an assigned backup dialer interface to be used in a dialer pool. While the primary line is up, the backup interface is placed in standby mode. Once in standby, the backup interface is effectively shutdown until enabled. Any route associated with the backup interface will not appear in the routing table. More information can be found at: this site

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QUESTION 464
You are a Cisco Certified Engineer. You are configuring a remote access solution. ITUT Q.931 is the protocol that works for:

A. Layer3; D channel
B. Layer1, D channel
C. Layer5; B channel
D. Layer2; B channel
E. Layer4; B channel
F. Layer2; D channel

Answer: A

Explanation:
According to Cisco: Cisco platforms support Q.931 user- and network-side switch types for ISDN call processing. User-side PRI enables the Cisco platform to provide a standard ISDN PRI user-side interface to the Public Switched Telephone Network (PSTN). Network-side PRI enables the Cisco platform to provide a standard Digital T1/E1 Packet Voice Trunk Network Modules on Cisco 2600 series and Cisco 3600 series routers. More information can be found at: this site

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QUESTION 465
You are a Cisco Certified Engineer. You are configuring a remote access solution.
Which of the following commands can be used on the server side of a PPP callback

configuration?

A. PPP callback accepts
B. PPP callback servers
C. PPP callback server accept PPP
D. PPP callback request
E. PPP callb acb
F. PPP call accept

Answer: A

Explanation:
According to Cisco: PPP callback provides a client-server relationship between the end points of a point-to-point connection. PPP callback allows a router to request that a dial-up peer router call back. The callback feature can be used to control access and toll costs between the routers. When PPP callback is configured on the participating routers, the calling router (the callback client) passes authentication information to the remote router (the callback server), which uses the host name and dial string authentication information to determine whether to place a return call. If the authentication is successful, the callback server disconnects and then places a return call. The remote username of the return call is used to associate it with the initial call so that packets can be transmitted.

QUESTION 466
You are a Cisco Certified Engineer. You are configuring a remote access solution. Which of the following statements will you consider as NOT true (Choose all that apply)?

A. ITU-T Q.932 defines call control between the TE and LE.
B. The D channel is governed by IAB.
C. DSSI is a subset of Q.931.
D. The D channel is governed by DDR.
E. ITU-T Q.931 is specified as the protocol for layer2 of the ISDN D channel.

Answer: A, B, C, E

Explanation:
According to Cisco: Dial-on-Demand Routing (DDR) backup is a method of bringing up an alternate link should the primary WAN link fail. The router configured for DDR backup recognizes that the connection to the remote site has been lost, and initiates a DDR connection to the remote site using a different transmission media. More information can be found at: this site

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QUESTION 467
You are a Cisco Certified Engineer. You are configuring a remote access solution. You run the following command:
ip host corpX 1098 157.11.11.96

Which of the following statements are NOT true (Choose all that apply)?

A. 157.11.11.96 is NOT a valid IANA approved IP address.
B. 157.11.11.96 is the IP address of the remote host.
C. The command allows a reverse telnet connection.
D. The configuration applies in 1098 seconds.
E. 1098 is the dialer group ID.

Answer: A, B, D, E

Explanation:
According to Cisco: Manually assigning host names to addresses is useful when you want to force a local address association and you are reasonably certain this address association will not conflict with other associations elsewhere in the internetwork. To map IP addresses to a host name, perform the following global configuration task: Task Command
Statically associate a host names with IP addresses. ip host name [TCP-port-number] address1[address2...address8]

QUESTION 468
You are a Cisco Certified Engineer. You are configuring a remote access solution.
Which of the following is the first configuration step necessary to enable frame relay traffic shaping?

A. Specify the FECN for traffic adaptation.
B. Specify a queuing technique to be used on a connection.
C. Specify the BECN for traffic adaptation.
D. Specify and define map class.

Answer: D

Explanation:
According to Cisco: Cisco's QoS software solutions include two traffic shaping tools---generic traffic shaping (GTS) and Frame Relay traffic shaping (FRTS)---to manage traffic and congestion on the network. GTS provides a mechanism to control the traffic flow on a particular interface. It reduces outbound traffic flow to avoid congestion by constraining specified traffic to a particular bit rate (also known as the token bucket approach), while queuing bursts of the specified traffic. FRTS provides parameters that are useful for managing network traffic congestion. These include committed information rate (CIR), FECN and BECN, and the DE bit. For some time, Cisco has provided support for FECN for DECnet, BECN for SNA traffic using direct LLC2 encapsulation via RFC 1490, and DE bit support. The FRTS feature builds on this Frame Relay support with additional capabilities that improve the scalability and performance of a Frame Relay network, increasing the density of virtual circuits and improving response time. More information can be found at: this site

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QUESTION 469
You are a Cisco Certified Engineer. You are configuring a remote access solution. To ensure that the calls configured for callback can really connect, what command should you use (fill in the blank):

Answer: dialer callback-secure

Explanation:
According to Cisco: PPP callback provides a client-server relationship between the end points of a point-to-point connection. PPP callback allows a router to request that a dial-up peer router call back. The callback feature can be used to control access and toll costs between the routers. When PPP callback is configured on the participating routers, the calling router (the callback client) passes authentication information to the remote router (the callback server), which uses the host name and dial string authentication information to determine whether to place a return call. If the authentication is successful, the callback server disconnects and then places a return call. The remote username of the return call is used to associate it with the initial call so that packets can be transmitted.

QUESTION 470
You are a Cisco Certified Engineer. You are configuring a DDR remote access solution. Which of the following components of a dialer profile is entirely optional (Choose all that apply)?

A. Dialer map-class
B. Dialer interfaces
C. Dialer pool
D. Physical interfaces

Answer: A

Explanation:
According to Cisco: The components of a dialer profile include: Dialer interfaces - logical entities that use a per-destination dialer profile. Any number of dialer interfaces can be created in a router. All configuration settings specific to the destination go in the dialer interface configuration. Each dialer interface uses a dialer pool, which is a pool of physical interfaces (ISDN BRI and PRI, asynchronous-modem, and synchronous serial). Dialer pool - Each interface references a dialer pool, which is a group of physical interfaces associated with a dialer profile. A physical interface can belong to multiple dialer pools. Contention for a specific physical interface is resolved by configuring the optional priority command. Physical interfaces - Interfaces in a dialer pool are configured for encapsulation parameters. The interfaces are also configured to identify the dialer pools to which the interface belong. Dialer profiles support PPP and High-Level Data Link Control (HDLC) encapsulation. Dialer map-class (optional) - Supply configuration parameters to dialer interfaces (for example, ISDN speed, dialer timers parameters, and so on). A map-class can be referenced from multiple dialer interfaces.

QUESTION 471
Which of the following are situations ideal for deploying dedicated leased line, if cost is a concern (Choose all that apply)?

A. long distances
B. multi sites
C. long connect times
D. short distances

Answer: C, D

Explanation:
The longer the distance the higher the cost of the line. For multi-site configuration you should use Packet switching service or VPN instead.

QUESTION 472
Which of the following frames are used by LAPB (Choose all that apply)?

A. unnumbered
B. numbered
C. supervisory
D. information

Answer: A, C, D

Explanation:
According to the technical documentation at CCO:
Layer 2 of the ISDN signaling protocol is Link Access Procedure, D channel (LAPD). LAPD is similar to High-Level Data Link Control (HDLC) and Link Access Procedure, Balanced (LAPB). As the expansion of the LAPD acronym indicates, this layer is used across the D channel to ensure that control and signaling information flows and is received properly. The LAPD frame format is very similar to that of HDLC; like HDLC, LAPD uses supervisory, information, and unnumbered frames. The LAPD protocol is formally specified in ITU-T Q.920 and ITU-T Q.921.

QUESTION 473
You are a Cisco Certified Engineer. You are configuring a remote access solution. What signal is used by DTE to indicate that it is willing to accept a call?

A. RTS
B. DTR
C. CTS
D. ETA
E. DSR
F. DCD
G. FTS

Answer: B

Explanation:
According to Cisco: DTE uses the RTS output signal to indicate if it can receive characters into the Rx input buffer. The DCE should not send data to the DTE when DTR input is low (no RTS). More information can be found at: this site

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QUESTION 474
Refer to the exhibit:
interface serial 1
ip address 128.10.200.65 255.255.255.192
dialer in-band
!
ip route 0.0.0.0 0.0.0.0 128.10.200.66
Which of the following is true?

A. this configuration is for an outgoing call only configuration
B. this configuration is for an answer and outgoing call configuration
C. this configuration is for an answer only configuration
D. this configuration is not valid

Answer: C

Explanation:
According to the technical documentation at CCO:
Cisco's dial-on-demand routing (DDR) feature allows you to use existing telephone lines to form a wide-area network (WAN). While using existing telephone lines, you can analyze traffic patterns to determine whether the installation of leased lines is appropriate. DDR provides significant cost savings over leased lines for links that are utilized for only a few hours each day or that experience low traffic flow.
DDR over serial lines requires the use of dialing devices that support V.25bis. V.25bis is an International Telecommunication Union Telecommunication (ITU-T) Standardization Sector standard for in-band signaling to bit synchronous data communications equipment (DCE) devices. A variety of devices support V.25bis, including analog V.32 modems, ISDN terminal adapters, and inverse multiplexers. Cisco's implementation of V.25bis supports devices that use the 1984 version of V.25bis (which requires the use of odd parity), as well as devices that use the 1988 version of V.25bis (which does not use parity).

QUESTION 475
You are a Cisco Certified Engineer. You are configuring a remote access solution. In which two of the following situations would implementing a queuing policy other than FIFO be NOT beneficial? (Select two.)

A. Time sensitive applications and server connections time out during only the most congested periods.

B. A T1 WAN connection experiences utilization from 20% to 50% with no noticeable congestion.
C. large graphics files transfers between the marketing office and the central printing facility are sometimes needed
D. WAN traffic across a T1 link suffers constant congestion

Answer: B, C

Explanation:
Queuing policy will not be beneficial for B or C.

QUESTION 476
Which of the following is true concerning the nature of a Telecommuter site (Choose all that apply)?

A. tends to have many users
B. needs dedicated connection services most of the time
C. needs only dialup services most of the time
D. tends to have few number of users

Answer: C, D

QUESTION 477
Which of the following are parts of the CHAP challenge packet (Choose all that apply)?

A. host name of the remote router
B. random number
C. ID
D. host name of the local router

Answer: B, C, D

Explanation:
According to the technical documentation at CCO:
When CHAP is enabled on an interface and a remote device attempts to connect to it, the access server sends a CHAP packet to the remote device. The CHAP packet requests or "challenges" the remote device to respond. The challenge packet consists of an ID, a random number, and the host name of the local router.

QUESTION 478
With Frame Relay, a communication session across an SVC consists of how many operational states?

A. four
B. five
C. one

D. three
E. two

Answer: A

Explanation:
According to the technical documentation at CCO:
Switched virtual circuits (SVCs) are temporary connections used in situations requiring only sporadic data transfer between DTE devices across the Frame Relay network. A communication session across an SVC consists of the following four operational states:
Call setup-The virtual circuit between two Frame Relay DTE devices is established.
Data transfer-Data is transmitted between the DTE devices over the virtual circuit.
Idle-The connection between DTE devices is still active, but no data is transferred. If an SVC remains in an idle state for a defined period of time, the call can be terminated.
Call termination-The virtual circuit between DTE devices is terminated.

QUESTION 479
The primary benefit of the use of the FECN and BECN fields in Frame Relay is for the purpose of congestion indications.

A. False
B. True
C. True only for IOS V11 or above
D. True only for IOS V12 or above

Answer: B

Explanation:
According to the technical documentation at CCO:
Forward-explicit congestion notification (FECN) is a single-bit field that can be set to a value of 1 by a switch to indicate to an end DTE device, such as a router, that congestion was experienced in the direction of the frame transmission from source to destination. The primary benefit of the use of the FECN and BECN fields is the capability of higher-layer protocols to react intelligently to these congestion indicators. Today, DECnet and OSI are the only higher-layer protocols that implement these capabilities.
Backward-explicit congestion notification (BECN) is a single-bit field that, when set to a value of 1 by a switch, indicates that congestion was experienced in the network in the direction opposite of the frame transmission from source to destination.

QUESTION 480
You are asked to specify the interface load at which the dialer initiates another call to the destination. Which command will you use?

A. en dialer threshold
B. dialer load-threshold
C. en dialer load-threshold

D. dialer loadthres

Answer: B

Explanation:
You use this command to define the load level that must be exceeded on the first ISDN B channel before the router attempts to bring up a second B channel for a multilink PPP connection. The load value is between 1 and 255.

QUESTION 481
You are a Cisco Certified Engineer. You are configuring a remote access solution. You have multiple ISDN user devices physically attached to one circuit. Which of the following can happen (Choose all that apply)?

A. compression
B. collisions
C. encryption
D. contention

Answer: B, D

Explanation:
According to Cisco: Multiple ISDN user devices can be physically attached to one circuit. In this configuration, collisions can result if two terminals transmit simultaneously. ISDN therefore provides features to determine link contention. When an NT receives a D bit from the TE, it echoes back the bit in the next E-bit position. The TE expects the next E bit to be the same as its last transmitted D bit.

QUESTION 482
In a X25 SVC, Layer 3 X.25 is always in data transfer mode.

A. True only for IOS V12 or above
B. True only for IOS V10 or above
C. True
D. False
E. True only for IOS V11 or above

Answer: D

Explanation:
According to the technical documentation at CCO:
Layer 3 X.25 uses three virtual circuit operational procedures: call setup, data transfer, and call clearing. Execution of these procedures depends on the virtual circuit type being used. For a PVC, Layer 3 X.25 is always in data transfer mode because the circuit has been permanently established. If an SVC is used, all three procedures are used.

QUESTION 483
DDR over serial lines requires dialing devices that support what standard?

A. V.32a
B. ITU-T 5
C. X.121
D. V.25bis
E. LAPD
F. V.26bis

Answer: D

Explanation:
According to the technical documentation at CCO:
DDR over serial lines requires the use of dialing devices that support V.25bis. V.25bis is an International Telecommunication Union Telecommunication (ITU-T) Standardization Sector standard for in-band signaling to bit synchronous data communications equipment (DCE) devices. A variety of devices support V.25bis, including analog V.32 modems, ISDN terminal adapters, and inverse multiplexers. Cisco's implementation of V.25bis supports devices that use the 1984 version of V.25bis (which requires the use of odd parity), as well as devices that use the 1988 version of V.25bis (which does not use parity).

QUESTION 484
Which of the following correctly describe one purpose of using the dialer map command (Choose all that apply)?

A. Configures a serial interface to call one site
B. Configures an ISDN interface to call multiple sites
C. Configures a serial interface to call multiple sites
D. Configures an ISDN interface to call one site

Answer: A, B, C, D

Explanation:
According to Cisco: Typically, dialer maps are the preferred method of placing calls whereas a dialer string is reserved for scenarios in which the name of the answering router may not be known (i.e. a router pool). The dialer map command maps a protocol, a protocol address, a name for PPP authentication, and dial information to a specific remote router. It is one of the most important pieces of an ISDN configuration.

QUESTION 485
What command should you use to double confirm that each of your interfaces supports a QSAAL PVC (fill in the blank):

Answer: show atm vc

Explanation:
According to the technical documentation at CCO: Use the show atm vc command to confirm that each interface supports a QSAAL PVC. Note how this VC cross-connects to interface ATM 2/0/0, which identifies the switch's internal management port. Since signaling messages are control messages, they must be sent to and processed by the CPU.

QUESTION 486
In Frame Relay, what bit is used to indicate that a frame has lower importance than other frames?

A. DA
B. DT
C. DE
D. DL
E. DC

Answer: C

Explanation:
According to the technical documentation at CCO:
The Discard Eligibility (DE) bit is used to indicate that a frame has lower importance than other frames. The DE bit is part of the Address field in the Frame Relay frame header. DTE devices can set the value of the DE bit of a frame to 1 to indicate that the frame has lower importance than other frames. When the network becomes congested, DCE devices will discard frames with the DE bit set before discarding those that do not. This reduces the likelihood of critical data being dropped by Frame Relay DCE devices during periods of congestion.

QUESTION 487
When will PPP callback occur (Choose all that apply)?

A. when PPP NCP negotiation is not successful.
B. when callback timer is started
C. when callback timer is stopped
D. when PPP NCP negotiation is successful

Answer: C, D

QUESTION 488
Methods in traffic shaping do not include which of the following (Choose all that apply)?

A. Rate enforcement on per-Byte basis
B. Rate enforcement on per-VC basis
C. Rate enforcement on per-MB basis
D. Rate enforcement on per-Bit basis

Answer: A, C, D

QUESTION 489
You need to have what type of connection to connect to an AAA server?

A. serial interface
B. synchronous call
C. T1
D. ethernet
E. asynchronous call
F. ISDN PRI
G. T3

Answer: D

QUESTION 480
To connect DTE and DCE devices, what type of connections are appropriate (Choose all that apply)?

A. use RJ-45 to DB-25 adapter for straight-through mode
B. use RJ-45 to DB-25 adapter for rolled mode
C. use RJ-45 to RJ-45 cable for straight-through mode
D. use RJ-45 to RJ-45 cable for rolled mode

Answer: B, C

QUESTION 491
To add links to a multilink bundle, what command should be used?

A. ppp multilink
B. Enable chap
C. Multilink ppp
D. Enable multilink
E. dialer load-threshold

Answer: E

QUESTION 492
LMI signaling multicast mechanism is not intended for (Choose all that apply)?

A. providing outgoing status on known DLCIs
B. providing network server with its remote DLCI
C. providing network server with its local DLCI
D. verifying data flow

Answer: A, B, D

QUESTION 493
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. What command can you use to display all the call setup and tear down of connections (fill in the blank):

Answer: debug isdn q931

Explanation:
According to Cisco: debug isdn q931 - Shows call setup and tear down of the ISDN network connection (Layer 3). debug isdn q921 - Shows data link layer messages (Layer 2) on the D channel between the router and the ISDN switch. Use this debug if the show isdn status command does not display Layer 1 and Layer 2 up.

QUESTION 494
Which of the following are components of the CiscoSecure ACS server (Choose all that apply)?

A. AAA server
B. Netscape Fastrack server
C. RDBMS
D. RADIUS Interface

Answer: A, B, C

QUESTION 495
You want to define maximum calls for DDR. From the following choices which option should you use?

A. Dialer profile
B. Modemcap
C. Dial Routing
D. Dial Encap Entry

Answer: A

QUESTION 496
When you apply the dialer list to an interface, you need to use a command. What command is this?

A. dialer-group profile
B. dialer-group map
C. dialer-group
D. dialer-group list

Answer: C

QUESTION 497
Which of the following is true concerning QoS (Choose all that apply)?

A. need to define QoS properties and policies on devices or device interfaces.
B. need to run with WF

QUESTION 498
C. a set of capabilities allowing you to create differentiated services for network traffic
D. need to send stop signals in 5 minutes interval

Answer: A, C

QUESTION 499
You are a Cisco Certified Engineer. You are configuring a DDR remote access solution. With regards to the dialer pool, what command can you use to resolve potential contention problem (fill in the blank):

Answer: priority

Explanation:
According to Cisco: Dialer pool - Each interface references a dialer pool, which is a group of physical interfaces associated with a dialer profile. A physical interface can belong to multiple dialer pools. Contention for a specific physical interface is resolved by configuring the optional priority command.

QUESTION 500
What option can be used as an alternative to DDR (Choose all that apply)?

A. set the route calling cost
B. set the route priority
C. use a floating static route
D. set up the static route to make it less desirable than the dynamic route

Answer: C, D

QUESTION 501
What does TCP IP header exclude in its compression scheme?

A. TCP/IP header
B. Layer 3 header
C. Layer 4 header
D. Layer 2 header

Answer: B, C, D

QUESTION 502
By using Cisco hardware compression adapters, what compression options can be supported (Choose all that apply)?

A. IPX advanced compression
B. IP payload compression V8
C. frame relay FRF.9 stacker compression
D. PPP stacker compression

Answer: C, D

QUESTION 503
You are a Cisco Certified Engineer. You are configuring an ISDN remote access solution. What command will display the number of active calls (fill in the blank):

Answer: show isdn status

Explanation:
According to Cisco: show isdn status - Ensure that the router is properly communicating with the ISDN switch. In the output, verify that Layer 1 Status is ACTIVE, and that the Layer 2 Status state = MULTIPLE_FRAME_ESTABLISHED appears. This command also displays the number of active calls.

QUESTION 504
To enable TCP header compression, what command will you consider?

A. compress lapd set
B. frame-relay payload-compress
C. ppp compress
D. compress
E. ip tcp header-compression
F. compress all

Answer: E

QUESTION 505
To configure an access server to communicate with a modem, you run the following command:
modem
What is this command for?

A. Set the stop bits per byte
B. Set RTS/CTS for hardware flow control

C. Set login password
D. Set maximum communication speed
E. Set the modem for incoming call, outgoing call or both
F. Set the protocols

Answer: E

QUESTION 506
You are running commands on modemcap. You use the following command:
no modemcap edit
What command is it for?

A. delete entry
B. add new entry or edit current entry
C. view a particular modemcap entry.
D. displays current attributes

Answer: A

QUESTION 507
Which of the following is true concerning the nature of hardware flow control (Choose all that apply)?

A. uses CTS for Clear To Stop
B. uses RTS for Request To Send
C. uses RTS for Request To Stop
D. uses CTS for Clear To Send

Answer: B, D

QUESTION 508
Which of the following are layers covered by PPP (Choose all that apply)?

A. Layer Two-High-Level Data Link Control
B. Layer Three-Upper-Layer protocols
C. LinkControl Protocol and Network Control Protocol
D. Layer One-Physical
E. LAYER Four

Answer: A, B, C, D

QUESTION 509
To configure frame relay subinterface, you use the following command:
frame-relay interface-dlci
What is this command for?

A. remove interface
B. None of the answers
C. loopback interface
D. define local DLCI number
E. define remote DLCI number
F. select interface

Answer: D

QUESTION 510
You are running commands on modemcap. You use the following command:
modemcap entry
What command is it for?

A. add new entry or edit current entry
B. view a particular modemcap entry.
C. displays current attributes
D. delete entry

Answer: B

QUESTION 511
You like to display related statistics. What command can you use?

A. show frame-relay set
B. show frame-relay
C. show frame-relay stat
D. show frame-relay lmi

Answer: D

QUESTION 512
Which of the following is true concerning the characteristics of a packet switching network (Choose all that apply)?

A. more efficient than circuit switching
B. bandwidth is dedicated
bandwidth is shared
D. Less costly than leased line

Answer: A, C, D