

CCNA Exploration: Accessing the WAN (Version 4.0)

Chapter 1 - Introduction to WANs

- 1 A company needs a WAN connection that is capable of transferring voice, video, and data at a minimum data rate of 155 Mbps. Which WAN connection is the best choice?**

 - ☐ X.25
 - ☐ DSL
 - ☒ ATM
 - ☐ ISDN BRI
 - ☐ ISDN PRI
- 2 At which two layers of the OSI model does a WAN operate? (Choose two)**

 - ☒ Physical Layer
 - ☒ DataLink Layer
 - ☐ Network Layer
 - ☐ Transport Layer
 - ☐ Presentation Layer
 - ☐ Application Layer
- 3 Which networking device is typically used to concentrate the dial-in and dial-out traffic of multiple users to and from a network?**

 - ☐ Core router
 - ☒ Access server
 - ☐ Frame Relay switch
 - ☐ ATM switch
- 4 Which statement is true about the differences between a WAN and a LAN?**

 - ☐ WANs generally support higher bandwidth than LANs support.
 - ☐ A WAN link typically traverses shorter geographic distances than a LAN link traverses.
 - ☒ A WAN often relies on the services of carriers, such as telephone or cable companies, but a LAN does not.
 - ☐ All WAN implementations generally use the same Layer 2 protocol but there are many accepted LAN Layer 2 protocols in use.
- 5 What is an advantage of packet-switched technology over circuit-switched technology?**

 - ☐ Packet-switched networks are less susceptible to jitter than circuit-switched networks are.
 - ☒ Packet-switched networks can efficiently use multiple routes inside a service provider network.
 - ☐ Packet-switched networks do not require an expensive permanent connection to each endpoint.
 - ☐ Packet-switched networks usually experience lower latency than circuit-switched networks experience.
- 6 For digital lines, which device is used to establish the communications link between customer equipment and local loop?**

 - ☒ CSU/DSU
 - ☐ FrameRelayswitch
 - ☐ ISDN switch
 - ☐ Modem
 - ☐ PBX switch

7 Which statement about WAN protocols is correct?

- ☐ ATM differs from other WAN protocols in that it uses variably sized packets.
- ☒ Most WAN protocols use HDLC or a variant of HDLC as a framing mechanism.
- ☐ The frame header consists of the frame check sequence and cyclic redundancy check.
- ☐ ISDN differs from Frame Relay, HDLC, and ATM in that it is packet-switched rather than circuit-switched technology.

8 What three terms are associated with ISDN PRI? (Choose three).

- ☐ Cell
- ☐ DLCI
- ☒ Circuit switching
- ☐ Packet switching
- ☒ Data bearer channels
- ☒ time-division multiplexing

9 Which two features are identified with Frame Relay connections? (Choose two)

- ☐ 53-byte cells
 - ☒ DLCI
 - ☐ DSLAM
 - ☒ PVC
 - ☐ SPID
-

10 Which statement is true about data connectivity between a customer and a service provider?

- ☐ Normally the CSU/DSU is the designated demarcation point for the service provider but not the customer.
 - ☒ The segment between the demarcation point and the central office is known as the "last mile."
 - ☐ The local loop is the segment between the CSU/DSU and the serial port on a router.
 - ☐ Putting data on the local loop is the responsibility of the DTE.
-

11 Which statement is true of the functionality of the layers in the hierarchical network model?

- ☐ The purpose of the access layer is to provide very high bandwidth communications between network devices.
 - ☐ Most security screening to prevent unauthorized entry to the network happens at the core layer.
 - ☐ Untrusted external connections are segmented from the rest of the network at all three levels.
 - ☒ The distribution layer aggregates WAN connections at the edge of the campus.
-

12 Why is the call setup time of a circuit-switched WAN implementation considered a drawback?

- ☐ Routing protocols are incompatible with this function.
 - ☐ It restricts the communication sent to voice traffic only.
 - ☐ A telephone must be used to initially start transferring data.
 - ☒ Data cannot be transferred until a circuit has been established.
-

13 Which packet-switched WAN technology offers high-bandwidth connectivity capable of managing data, voice, and video all on the same infrastructure?

- ☐ Time Division Multiplexing (TDM)
 - ☒ Metro Ethernet
 - ☐ Integrated Services Digital Network (ISDN)
 - ☐ Public Switched Telephone Network (PSTN)
-

14 A U.S. company requires a WAN connection used only to transfer sales data from individual stores to the home office. All transfers will occur after business hours. The required bandwidth for this connection is estimated to be less than 38 kbps. Which type of connection requires the least investment for this company?

- ☐ ATM
 - ☐ ISDN
 - ☒ Analog dialup
 - ☐ T1 Leased Line
-

15 Which switching type will allow the communication devices in the provider network to be shared and only allocated to an individual subscriber during data transfer?

- ☐ Circuit-switched
 - ☐ Dedicatedswitchedlines
 - ☐ Frame-switched
 - ☒ Packet-switched
-

16 Which term describes a device that will put data on the local loop?

- ☐ DLCI
 - ☐ DTE
 - ☒ DCE
 - ☐ BRI
 - ☐ PRI
-

17 What type of connectivity is established when VPNs are used from the remote site to the private network?

- ☐ PVCs
 - ☐ DLCIs
 - ☒ tunnels
 - ☐ Dedicated Layer 2 links
-

18 What can cause a reduction in available bandwidth on a cable broadband connection?

- ☐ Smaller cells
 - ☒ Number of subscribers
 - ☐ Committed information rate
 - ☐ distance from the central office of the provider
-

19 Which three WAN devices can be found in the cloud? (Choose three)

- ☐ ATM switches
 - ☒ Core routers
 - ☒ CSU/DSU
 - ☒ Ethernet switches
 - ☐ Frame Relay switches
 - ☐ repeaters
-

20 What are two advantages of an analog PSTN WAN connection? (Choose two)

- ☒ Low cost
 - ☒ Availability
 - ☐ Traffic encryption
 - ☐ Available bandwidth
 - ☐ Support for voice and video
-

21 Which WAN technology uses a fixed payload of 48 bytes and is transported across both switched and permanent virtual circuits?

- ☒ ATM
 - ☐ ISDN
 - ☐ FrameRelay
 - ☐ metroEthernet
-

22 Which two devices are commonly used as data communications equipment? (Choose two)

- ☒ Modem
 - ☐ Router
 - ☒ CSU/DSU
 - ☐ ISDN switch
 - ☐ Ethernet switch
-