Exam Code: 640-861
Designing for Cisco Internetwork Solutions (DESGN)

Demo Version
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QUESTION 2
Itexamworld is planning to upgrade its current network. The chief technology officer (CTO) has supplied a topology diagram and IP addressing scheme of the current network during an interview. Itexamworld has been growing at about twenty percent per year and it has been difficult to maintain customer support at a satisfactory level. The Itexamworld board has met and directed the CTO to look into network improvements.
Which two items are most relevant in documenting Itexamworld 's business requirements?

A. Improved customer support
B. Existing network topologies
C. IP addresses assigned by the ISP
D. Projected growth
E. Frequency of board meetings

Answer: A, D

Explanation:
Based on the facts provided about this network, it is clear that the chief concerns that need to be addressed is the rate of growth of the company and the network, and the level of customer support. When any growing company expands quickly, it is common for the company to outgrow the capacity of the network, requiring additional network equipment and resources.

QUESTION 3
Proof of concept is required for a proposed design of a new campus network that utilized multilayer switching. The production network is business critical and no network disruptions are tolerated.
Which approach should be used to verify this design?

A. Pilot network
B. Prototype network
C. Hardware simulation
D. Expert consensus
E. None of the above
Answer: B
Explanation:
A prototype is a complex and full trial run of the network design used to prove that the design works. A prototype is usually a large-scale, fully functional form of a new design and thus is used to prove a large implementation. The customer would have to decide whether the need to prove the design justifies the cost of setting up a prototype. If the prototype is not appropriate for your customer, you might consider recommending a pilot, which is a smaller test designed for smaller businesses. The pilot usually tests more basic functions of the design, and it also usually requires less time and fewer resources. The criteria for choosing either test plan involves comparing the cost of the test against the need to prove that the design works. In this case, the network elements being tested are critical, so a full blown prototype should be used to test the design fully.

Reference: CCDA Exam Certification Guide,
A. Anthony Bruno, CCIE #2738, p.286

QUESTION 4
Which factor is a social requirement that will help you to identify current and future needs of your customer as you develop a new design plan?

A. Improved communications
B. Business partnerships
C. Improved customer-support services
D. The use of the network by its users as it relates to investors

Answer: C

Explanation:
Social requirements define the use of the network based on the company's business goals by its users and can include locations, market position, investors, vendors and customers. Developing the customer relations aspects such as identifying their future needs fall into this category.

QUESTION 5
Which organizational constraint most directly affects the social requirements of a business?

A. Budget
B. Personnel
C. Policy
D. Schedule
Answer: B
Explanation:
Social requirements define the use of the network based on the company's business goals by its users and can include locations, market position, employees, unions, investors, vendors and customers. Employee relations and changes in personnel fall under the category of business social requirements.

QUESTION 6
Itexamworld wants to improve the security of their network.
Which information supplied by Itexamworld would be most relevant to the new design?

A. The network topology.
B. The speed of the network.
C. The company's user policy.
D. The number of network users.
E. The applications permitted on the network.

Answer: C

Explanation:
Since the security policy of the Itexamworld network is the chief concern, the current user policy would be most beneficial for the new design.
Incorrect Answers:
A: The network topology is not the primary issue.
B: Speed affect the number of users and applications and is an important consideration, but in this case we are more concerned with the security aspects.
D: Number of users matters in case of performance issue. It is not the primary issue in this case.
E: One can add or delete applications. It will not play major role

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QUESTION 7
Itexamworld users have online access to sales records, customer records and billing data in various branch office databases. Itexamworld want to open a new branch office in the Midwest. The new branch office will have a dispatch center which will require constant communication with the local retailers.
What additional information should you obtain about applications in use on the network?

A. The authentication used by the application.
B. The routing protocols supported by the application.
C. The applications' integration in the network.
D. The application data-link layer overhead.
E. The applications' level of criticality.

Answer: E

Explanation:
It is always very important to first understand all of the major applications that will be running within the network, as well as their importance. In order to design the network properly, the critical applications must first be identified.

QUESTION 8
Which three factors will you take into account when asked to characterize an existing network? (Select three.)

A. Traffic analysis
B. Impact on future business
C. Customer staff input
D. Visual inventory
E. Network   audit
F. Server statistics
G. Ping analysis

Answer: A, C, E

Explanation:
To characterize a customer's network, you will need to:
* Identify any bottlenecks

* Determine whether the anticipated growth will cause problems
* Recognize legacy systems that must be incorporated into the new design
* Recognize business constraints and inputs to the design; business constraints are business-related issues that may place a limitation on your network design.
Reference: Designing Cisco Networks (Cisco Press) page 45

QUESTION 9
Which of the following sources of information will prove to be most helpful and accurate when you are collecting data about a customer's existing network? (Choose two.)

A. Existing network topology diagram
B. The resident IT specialist at the customer's company
C. User interviews
D. Configuration obtained from network equipment
E. Traffic analysis
F. Customer-supplied server list

Answer: A, D

Explanation:
Documenting the customer's current network is important before any changes are made. Items you should be most attentive to include the following:
1. Network Topology
2. Addressing schemes
3. Concerns about the network
Reference: Designing Cisco Networks (Ciscopress) page 55

QUESTION 10
You work as a network consultant. You are contracted by Itexamworld to help with the expansion of the Itexamworld network.
Itexamworld users have online access to sales records, customer records and billing data in various branch office databases. Itexamworld want to open a new branch office in the Midwest. The new branch office will have a dispatch center which will require constant communication with the local retailers.
You want to obtain information about current network availability. Which question would you ask?

A. Is clustering technology in use by servers on the network?
B. Is full-duplex Ethernet technology deployed on the network?
C. Which routers have HSRP implemented?
D. Are the switches configured for auto-sensing?

Answer: C

Explanation:
The key is at the end of the question when it asks about current network availability, which directly implies HSRP. HSRP is the Cisco Hot Standby Routing Protocol, which is used to provide for router redundancy and network availability should one of the routers or upstream links fail.

QUESTION 11

You are contracted as the network administrator, for a gaming software company, Itexamworld . The CEO wants an improved communication infrastructure and thus wants you to redesign the existing network. The following is the Itexamworld CEO's opinion:

* The goal is to become one of the top three peer-to-peer online gaming software companies.
* There are currently 200 employees around the globe, of which 150 is located in London, the head quarters.
* Anticipated staff growth is set at around 500 employees in two year's time. Of the 500 employees, 40% will work remotely as a cost reduction method.
* With such a growth rate, the release of 20 titles in the next 12 months is anticipated.
Which additional pieces of information are necessary to design the campus core? (Choose all that apply?)

A. The current operating system.
B. The authenticity and security policy
C. The traffic pattern
D. The current implementation
E. The company's position in the gaming market industry

Answer: C, D
Explanation
Itexamworld wants to redesign the network based on growth, therefore the below are needed in the assessment: Network Topology
Address Schemes
Concerns about the network
Incorrect Answers:
A: The OS is not relevant in the network redesign
B: Security and authenticity are not objectives and should already be in place given the scenario.
E: Company position is irrelevant
Reference: Designing Cisco Networks, Page 55

QUESTION 12

Which three sources does the network engineer use to collect information for characterizing an existing network? (Choose tree)

A. Staff input
B. Visual inventory
C. Network Audit
D. Traffic analysis
E. Server Statistic

Answer: A, C, D

Explanation:
According to the Cisco Press CCDA Study Guide the steps for characterizing an existing network are:
Step 1 - Customer Input

Step 2 - Network Audit
Step 3 - Traffic Analysis

QUESTION 13
Which two information sources will provide the most accurate data if you were tasked to find information regarding a customer's existing network? (Select two)

A. Existing network topology diagram
B. Customer interview
C. Traffic analyst
D. Configuration obtain from network equipment
E. Customer supply server list

Answer: A, D

Explanation:
Although gathering information from the customer is the 1st step it is usually not the most accurate. The most accurate sources of data can be found directly from the configuration files of the equipment and from documentation sources such as the existing network topology exams.

QUESTION 14
The Itexamworld network is upgrading their core LAN to a switched network. Which group of requirements is the primary reason to upgrade a client's network to a switched network?

A. Business requirements
B. Performance requirements
C. Manageability requirements
D. Application requirements
E. None of the above
Answer: B
Explanation:
With the recent developments in Gigabit Ethernet and LAN switching technologies, LAN designs are now capable of 1000 Mbps speeds. High-speed Gigabit links can connect servers to LAN switches. At these speeds, the capacity is there to meet the performance requirements of current high-bandwidth applications. Although upgrading a LAN to a switched environment may mean additional up front costs, the performance of the network will increase greatly.

QUESTION 15
A stock brokerage firm is opening a new office in Melbourne. A dozen stock traders will require constant data access to exchanges all around the world. This access must be fast and without interruption. Which two features can help provide this level of service? (Select two)

A. CDP
B. IGRP

C. CoS
D. QoS
E. GoS

Answer: C, D

Explanation:
Quality of Service/Class of Service:
More and more services running over converged, wireless or wireline networks require Quality of Service (QoS) commitments in order to guarantee delivery of mission critical traffic and applications across a network. Enterprise customers also increasingly require Class of Service (CoS) control that allows them to implement priority queuing to classify and prioritize packets based on factors such as type of application or by user.

QUESTION 16
What are three valid methods of gathering information about an existing data network? (Choose three)

A. Perform an audit at packet level detail (PLD) and for carrier service guarantees.
B. Use organizational input.
C. Perform a network audit to gather more detailed information of the network.
D. Analyze the user-mapping of a running application.
E. Perform a traffic analysis.
F. Use reports that have the ability to measure metrics.

Answer: C, D, E

Explanation:
The network information gathering aspects of the design phase comprise the following steps:
1. Performing a network audit
2. Performing traffic analysis
3. Analyzing user applications
All of the above steps should be taken when gathering data about an existing network.

QUESTION 17
A PBX is connected to a service provider that makes use of three ISDN PRI (T1) links and no other facility. Non-Facility Associated Signaling (NFAS) is in use (only one signaling channel for all three PRI links) and the tariff offering provides for the maximum number of voice channels.
What is the maximum number of voice calls that can be made simultaneously?

A. 69
B. 71
C. 72
D. 90
E. 92
F. 120

Answer: B

Explanation:
ISDN Non-Facility Associated Signaling (NFAS) allows a single D channel to control multiple Primary Rate Interfaces
(PRIs). You can configure a backup D channel when the primary NFAS D channel fails. When you configure the
canalized T1 controller for ISDN PRI, you only need to configure the NFAS primary D channel;
its configuration is
distributed to all the members of the associated NFAS group. By using a single D channel to control multiple PRIs, one
extra channel on each interface is free to carry data traffic. Any hard failure of the primary D-signaling channel results in
an immediate switchover to the backup D channel without disconnecting currently connected users. Note: If you configure
a backup D channel, only 23 B channels can be used on the backup T1 controller because the D channel on the backup is
unavailable. Therefore, only those T1s that are neither primary nor backup can have 24 B channels available.
(23+1 23+1 23) = 71 last t1 D channel will used for backup
http://www.cisco.com/warp/public/793/access_dial/quadt1_nfas.pd
f

QUESTION 18
Which of the following features will you affect when you choose a codec in your network design to carry
IP telephony? (Choose all that apply.)

A.   Voice packet header size
B. Bandwidth necessary for voice calls
C. Voice quality
D. Silence packet handling
B.   E. All of the above

Answer: B, C

Explanation:
The Codec that is chosen for VOIP will directly impact the bandwidth needed for each call, as well as the quality of that VOIP call. Generally, the codec that uses the least amount of bandwidth also has the worst voice quality. Below are the three most commonly used VOIP codecs:

Standard	Packet Size	Sample Duration	Data Rate Bits	PPS Simplex
G.711	120	15ms	64K	66
G.729A	10	10ms	8K	100
G.723.1	24	30ms	5.3/6.4K	33

Incorrect Answers:
A: This will not play any role for deciding codec
D: This is not main characteristic of codec
E: This is not a valid option.

QUESTION 19
You are the network administrator at Itexamworld . You are planning trunk capacity for the Itexamworld network. You need to determine the number of circuits needed from a PBX to a converged network. Which information would you require to make this decision? (Choose all that apply.)

A. Busy hour traffic.
B. The number of sites.
C.   Blocking   probability
(GoS).
D. The number of users per site.
E. The average duration of a call.

Answer: A, C
Explanation:
A
: Measure network traffic load during the busiest hour because this period represents the maximum traffic load that your network must support. The result gives you a traffic load measurement commonly referred to as the Busy Hour Traffic (BHT).
C: Grade of Service (GoS) is defined as the probability that calls will be blocked while attempting to seize circuits. It is written as P.xx blocking factor or blockage, where xx is the percentage of calls that are blocked for a traffic system.

Incorrect Answers
B: Number of sites will give an idea for sizing the PBX
D: This will not play major role.
E: Most traffic models do not consider call duration. Call holding times are assumed to be exponential.

QUESTION 20
To minimize expenses due to long distance charges, you designed a converged network to carry calls on-net as close as possible to the destination.
Why can a VoIP call go off-net earlier that designed? (Choose two.)

A. The local voice gateway sends busy-back signal.
B. The Call Manager server is too busy to process the call in a usual manner.
C. The telephone user dials an access code.
D. Destination routing not properly setup on the local and remote gateways.

Answer: A, C