

**Actualtests.com**

The Power of Knowing



Exam : 642-831

Title : Cisco Internetwork Troubleshooting (CIT)

**QUESTION 1**

When troubleshooting a network, what are the advantages of using a logically layered network model?

- A. Focus on physical, data link and network layers to isolate a problem.
- B. Focus on specific elements to isolate a problem.
- C. Focus on physical layers to isolate a problem
- D. Focus on transport and application layers to isolate a problem.
- E. None of the above.

Answer: B

Explanation:

When troubleshooting any network issue, it is best to utilize the seven-layer OSI model and troubleshoot issues systematically from layer one (physical) all the way to the application layer. Since every layer relies on the layers below it in order to work properly, it is best to start verify the layers individually. Working from the bottom-up, you should focus on specific elements in order to most effectively isolate and correct the problem.

---

**QUESTION 2**

Your junior administrator is in the midst of a troubleshooting assignment. You observe him: gathering symptoms, isolating network problems, and then correcting the problem. What general troubleshooting methodology is he using?

- A. Proactive
- B. Reactive
- C. Standards-based
- D. Cisco proprietary

Answer: A

Explanation:

The word proactive means to act in advance, to use anticipation when dealing with a difficulty. In this sense, a troubleshooter should prepare a network in advance for a loss of availability. In this case, symptoms of network problems are being collected in advance of network issues. Here, these symptoms are being used to proactively isolate and correct problems before major network outages occur. A network administrator that waited until a complete network outage occurs before taking any corrective steps would be indicative of a reactive methodology.

---

**QUESTION 3**

The general troubleshooting process is composed of three essential stages. What are these three steps in the general troubleshooting process? (Choose three)

- A. Isolate Symptoms
- B. Isolate the problem
- C. Correct the problem
- D. Identify the problem

- E. Gather Symptoms
- F. Document the problem
- G. Research Solutions

Answer: B, C, E

Explanation:

Each school of thought and each manufacturer has a different troubleshooting process, and these processes change every few years. (Even Cisco had different troubleshooting steps five years ago). As of right now, for your exam the troubleshooting process consists of three steps.

- \* Gathering symptoms
- \* Isolating the problem
- \* Correcting the problem

Gathering symptoms is all about comparing the status of the current model relative to the standard level of performance indicated on the baseline. This involves listening to the complaints of end-users, sub-administrators, and the statistics of general show commands.

Isolating the problem is an attempt to find the root of the problem. Your first priority is to find out what OSI layers the problem is effecting then what specific equipment and part of the equipment.

Correcting the problem is reconfiguring the affected portion/component, testing it to make sure it worked, then documenting your changes in your log book and if necessary updating your network configuration tables and topologies.

Reference:

[http://www.cisco.com/en/US/about/ac123/ac114/ac173/ac224/about\\_cisco\\_packet\\_department0900aecd800b198c.html](http://www.cisco.com/en/US/about/ac123/ac114/ac173/ac224/about_cisco_packet_department0900aecd800b198c.html)

---

#### **QUESTION 4**

You're a network administrator, and while you were gone in vacation; your junior administrator installed a new router. Since then, response time for end users on the network has degraded to the point of concern. To begin troubleshooting you start by examining the routing protocol operations, and then check the physical connections on the affected devices. What is the name of this troubleshooting method?

- A. Bottom-up
- B. Experience based
- C. Top-down
- D. Divide-and-conquer
- E. None of the above.

Answer: D

Explanation:

Since we started troubleshooting at the routing protocol layer (layer3) we have started our troubleshooting process by using the divide and conquer method.

Incorrect Answers:

A, C: The "top" and "bottom" refers to the different layers of the OSI model. Since the routing protocol operation was checked first, this means that layer 3 connectivity was being checked. The physical connections

reside on the physical layer of the OSI model, which is layer 1. In this example, since layer 3 was checked first, and then layer 1, the model used here was the top-down method.

---

**QUESTION 5**

Is the following statement true or false?

The Cisco troubleshooting model is based on a rigid framework.

- A. False, it should instead be flexible
- B. False, as it is a software product, not a framework
- C. True
- D. False, as it is a proprietary slogan, not a framework

Answer: A

Explanation:

Cisco illustrates the process flow for the general problem-solving model. This process flow is not a rigid outline for troubleshooting an internet work; it is a foundation from which you can build a problem-solving process to suit your particular environment.

This process is a methodology, a framework, but not a software product.

---

**QUESTION 6**

Network trobleshooters are like detectives, sometimes they have to bring in network users for questioning in order to determine what the problem is. In which troubleshooting step does this happen?

- A. Verifying the information
- B. Defining the problem
- C. Isolating the problem
- D. Gathering facts
- E. Logging the trouble ticket
- F. None of the above.

Answer: D

Explanation:

You do not rely on the staffs telling you the problem. Instead, you gather the facts and then determine the problem using your judgment and analysis. The best source for problem-related information is often from the actual end users that are impacted by the network issue.

---

**QUESTION 7**

Is the following statement true or false?

Systematic approaches are very effective when troubleshooting networks.

- A. True only when you are running IOS to manage the network gears.
- B. False
- C. True only when CWSI is in use.
- D. True

E. True only when all network gear is Cisco based

Answer: D

Explanation:

When you're troubleshooting a network environment, a systematic approach works best. An unsystematic approach to troubleshooting can result in wasting valuable time and resources, and can sometimes make symptoms even worse. Define the specific symptoms, identify all potential problems that could be causing the symptoms, and then systematically eliminate each potential problem (from most likely to least likely) until the symptoms disappear. This method is true regardless of the network hardware that is being used.

---

**QUESTION 8**

According to Cisco's problem-solving model, what should a network troubleshooter do after they have resolved a problem?

- A. Gather facts about the problem.
- B. Call TAC to have the case closed.
- C. Document the changes that were made.
- D. Try the same solution on another router to verify the fix.

Answer: C

Explanation:

If the symptoms have disappeared and you are confident that the problem has been solved, you proceed to the next step: Report the problem as solved and document the results. It is always important to document the changes that were made, so that if other problems arise as a result of the changes that was made to the network.

Incorrect Answers:

- A: This is an initial step.
  - B: Not all troubleshooting tasks are reported to the Technical Assistance Center (TAC).
  - D: It might not be possible to recreate the original problem on another router. Furthermore, problems are not always related to routers.
- 

**QUESTION 9**

When analyzing a network problem; in what terms should a network troubleshooter define the problem?

- A. Symptoms and root causes
- B. Root causes and root benefits
- C. Benefits and ROI
- D. Causes and benefits
- E. Symptoms and potential causes

Answer: E

Explanation:

When analyzing a network problem, make a clear problem statement. You should define the problem in terms

of a set of symptoms and potential causes. To properly analyze the problem, identify the general symptoms and then ascertain what kinds of problems (causes) could result in these symptoms. For example, hosts might not be responding to service requests from clients (a symptom). Possible causes might include a misconfigured host, bad interface cards, or missing router configuration commands.

### QUESTION 10

Match the correct network documentation procedure stage on the left side to its description on the right.

Stage	Place description here	Select from these
Login in	place here	discover relevant information about the device
Interface Discovery	place here	transfer any information from the network configuration table
Document	place here	log in to an undocumented neighboring device
Diagram	place here	use information to build the network configuration table
Device Discovery	place here	determine if any neighboring devices are undocumented

Answer:

Stage	Place description here	Select from these
Login in	log in to an undocumented neighboring device	
Interface Discovery	discover relevant information about the device	
Document	use information about the network configuration table	
Diagram	transfer any information from the network configuration table	
Device Discovery	determine if any neighboring devices are undocumented	

Explanation:

To properly create network documentation the following steps are necessary:

- \* Login: to gain access to any undocumented neighboring device.
- \* Interface discovery: once logged in, you can determine the connections to the network to enable you to construct a cogent theory
- \* Document: If you have this then you are in good shape and can "see" a network diagram but for a lot of areas you must do this yourself and the result will be a more thorough understanding of the issues and the processes to solve them.
- \* Diagram: When focusing on new elements you will need to add any new info to the current (if any) diagrams you have.
- \* Device discovery: This applies to my previous answer in that Device discovery: To check out any relevant devices that pertain to the issue is always a necessary step. But after seeing that you have inadequate documentation you may want to proceed to get this situation together ASAP. So this is ALWAYS a necessary step, even if you do not have any issues at all this should have been done.

Reference:

[http://www.cisco.com/en/US/products/hw/switches/ps2246/prod\\_troubleshooting\\_guide\\_chapter09186a00800ea8aa.htm](http://www.cisco.com/en/US/products/hw/switches/ps2246/prod_troubleshooting_guide_chapter09186a00800ea8aa.htm)

### QUESTION 11

Which of the following is a network process characterized by the following: Log in, Interface discovery, and Device discovery?

- A. Network testing
- B. Network documentation
- C. Network configuration
- D. Network troubleshooting
- E. All of the above

Answer: B

Explanation:

In order to properly create network documentation the following steps are necessary:

1. Login: log in to an undocumented network device
2. Interface discovery: discovery relevant information about the device
3. Document: Use information to build the network configuration table.
4. Diagram: Transfer any information from the network configuration table.
5. Device discovery: Determine if any neighboring devices are documented.

---

**QUESTION 12**

Documenting the network is important for any network administrator. In which three ways is documentation beneficial? (Select three)

- A. Annual review
- B. Managed access
- C. Revision history
- D. Guaranteed accuracy
- E. Distribution efficiency

Answer: A, C, D

Explanation:

Proper network documentation can be useful for many reasons, including periodic reviews, a history or any changes that were made, and in order to guarantee the accuracy of any document via supporting documentation.

Incorrect Answers:

B: Managing the actual access to devices is a security measure, not a documentation measure.

E: The process of network documentation alone will not improve the efficiency or performance of the network.

---

**QUESTION 13**

What can you find in the Cisco Documentation CD-ROM that is provided from Cisco?

- A. Information on the most popular topics only
- B. A search facility to go directly to the needed information
- C. Similar information to the CCO web site but it is not in HTML format
- D. Command references and command summaries, but not product catalog information
- E. None of the above

Answer: B

Explanation:

The Cisco Documentation CD-ROM is actually a 2 CD set that contains an entire library of relevant information.

Navigating through the Documentation CD-Rom is facilitated by the online help, a table of contents, hypertext links, a search engine, book marking, and the history window.

1. Cisco IOS release notes, configuration guides, command references, and command summaries
2. Debug command reference and system error messages
3. Cisco Management Information Base (MIB) User Quick Reference and Access Services Quick Configuration Guide
4. Cisco product catalogue
5. Router and hub installation and configuration guides
6. Switch installation and configuration guides, switch command references guides and switch MIB reference guides
7. Client/server software installation guides
8. Configuration notes for memory upgrades, network interface cards, rack-mount kits, and other field upgrade products.

Reference:

CCNP Support Exam Certification Guide Amir S. Ranjibar, page 16, Cisco Press 2001, ISBN 0-7357-09955-5

---

**QUESTION 14**

When creating standards for network diagrams; which document characteristic should you use primarily?

- A. Icons
- B. Inventory
- C. Configuration
- D. Command syntax
- E. None of the above.

Answer: A

Explanation:

If you use any standardized diagrams or symbols to represent anything, use consistency and keep a guide so another troubleshooter can interpret them. A leading example of icons that are used is the stencils that are found in the Visio application.

---

**QUESTION 15**

Having a library of standardized symbols and templates contributes to which network documentation guideline?

- A. Document objectives
- B. Document accessibility
- C. Document scope
- D. Document consistency
- E. Document maintenance

Answer: D

Explanation:

Chapter 1 of the Cisco CIT Book offers the following guidelines for creating documentation for networks:

Table 1-7. Guidelines for Creating Network DGuideline	Explanation ocumentation
Determine the scope.	Know which devices are part of your domain of responsibility.
Know your objective.	Collect data that is relevant to your objective and provide sufficient detail information. Avoid extraneous data because it renders the documentation difficult to use.
<b>Be consistent.</b>	<b>Use consistent terminology, abbreviations, and style. Use templates when possible, and keep a library of symbols and graphics icons that you can reuse.</b>

---

**QUESTION 16**

What is true regarding network documentation?

- A. For security reasons, all network documentation should be stored at on off-site location.
- B. For security reasons, all network documentation should be kept on-site.
- C. Copies of the network documentation should be stored in both on-site and off-site locations.
- D. The documentation should be completely open to allow anyone to make changes without having to go through any administrative channels and thus slowing the process.

Answer: C

---

**QUESTION 17**

You've just been hired as the new senior systems administrator at the Certkiller Corporation and although the network is working perfectly and efficiently the previous system administrator left no network documentation. In order to create a network baseline, what three steps should you take in creating this initial baseline? (Choose three)

- A. Determine all the variables in the network and record them.

- B. Determine the scope of the domain responsibility.
- C. Record the baseline data for the first two months.
- D. Determine the network performance goals.
- E. Start the baseline network model with the access layer.
- F. Identify the devices and ports of interest.

Answer: B, D, F

Explanation:

When creating network documentation, don't bite off more than you can chew. Limit your energies to the scope of your domain. All of the variables outside of your domain are worthy to be known about, but not to be written about by you.

It is also good to determine the performance goals of your network, relative to the strength and capabilities of your equipment versus the number of users. This is especially important when creating your initial baseline. Each device in your network that's within your domain should be identified, and every junction of interest needs particular attention.

---

**QUESTION 18**

While a network performs at an acceptable level, what should you do in order to create a snapshot of a network configuration?

- A. Establish a baseline
- B. Configure snapshot routing
- C. Use Netsys Baseliner
- D. Use Netsys Analyzer
- E. None of the above.

Answer: A

Explanation:

When your network is performing at the exact level you're comfortable with it performing at, use that as your benchmark for establishing a baseline. If our network performance drops as a result of doing anything, you'll have documentation to tell you what normal is, and you'll be quickly able to proactively monitor the network for any performance issues.

Incorrect Answers:

B: Snapshot routing is normally used on DDR situations such as ISDN in order to keep dial costs down but it will not help in this scenario.

Snapshot routing is useful in two command situations:

1. Configuring static routes for DDR interfaces
2. Reducing the overhead of periodic updates sent by routing protocols to remote branch offices over a dedicated serial line

C, D: Using third party tools can be useful in establishing a baseline or for monitoring the performance of the network, but using any single tool will not be sufficient in this example.

---

**QUESTION 19**

Which of the following guidelines should you adhere to if you wanted to ensure proper network

documentation as network devices and conditions change? (Choose four)

- A. Be consistent
- B. Know your objective
- C. Document everything
- D. Keep the documents accessible
- E. Establish new baselines weekly
- F. Maintain the documentation

Answer: A, B, D, F

Explanation:

Consistency is the key to good documentation, as slow response is a relative term.

When you know your objective, you'll be more efficient in reaching your goal, and you'll know exactly what brought you to your goal.

Keep the documents accessible where you can find them, your supervisor can find them, and your subordinate can find them. You should be able to tell somebody you've never met before over the phone or email where to find your documents. The documents themselves should be well organized and easy to read.

Maintain the documentation consistently every time the network changes, so you can go over it and study the networks evolution like a historian, pinpointing cause and effect.

Incorrect Answers:

C: You don't have to document absolutely everything. The more time you spend documenting menial data, the more clutter you're going to have in your notes, and the longer it is going to take you to go through all that clutter when you have to fix a problem when time is of an essence.

E: You should not change your baselines on a weekly basis or as a result of any event on a calendar. There will be times when you will go weeks without changing anything, and you won't need to waste your time. There will be other times, when you'll have to make major changes on your network numerous times in a single week.

---

### **QUESTION 20**

You work as a network administrator at Certkiller .com. You are establishing a topology diagram as part of a baseline strategy for troubleshooting.

Which three components should you include? Select three.

- A. IP addresses
- B. VLANs
- C. duplexes
- D. STP states
- E. routing protocols

Answer: A, B, E

---

### **QUESTION 21**

Which two types of documentation use network information captured from a baseline? Select two.

- A. a layered networking model
- B. network configuration tables

- C. topology diagrams
- D. a troubleshooting model
- E. end-system user guides

Answer: B, C

---

**QUESTION 22**

Which step of the troubleshooting model may require that affected users be contacted and that network baselines be checked?

- A. gather symptoms
- B. isolate the problem
- C. correct the problem
- D. verify the problem resolution

Answer: A

---

**QUESTION 23**

When a network baseline is first being established, which router CLI command will display information about the operational status, IP addresses, media type, and interface name for all interfaces?

- A. show ip interface
- B. show interface
- C. show ip interface brief
- D. show interface status

Answer: C

---

**QUESTION 24**

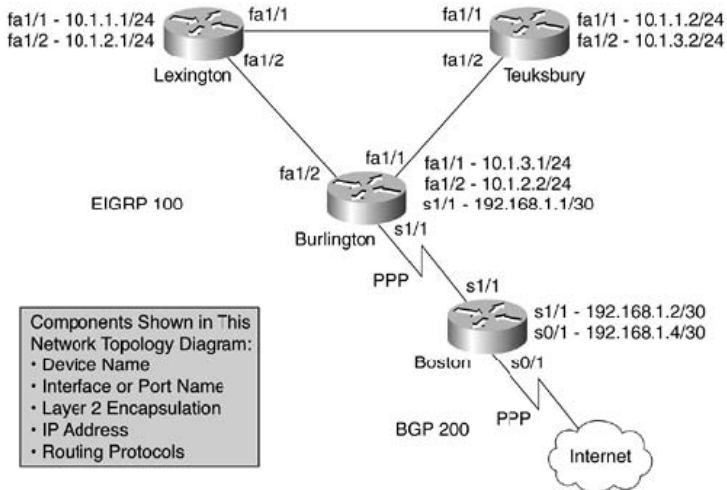
Which of the following items should you include in a network topology diagram? (Choose two)

- A. Individual end user systems.
- B. Location of configuration files.
- C. Illustrations of each network device.
- D. Representations of logical and physical connections.
- E. Speed and duplex of individual switch ports.

Answer: C, D

Explanation:

The following is an example of properly drawn network topology diagram:



A network topology diagram shows all the devices and how they are physically and logically connected. The device name, interface or port name, IP address, and routing protocol(s) are a few of its important components.

### QUESTION 25

In order to be more proactive in the management of the Certkiller network, an action plan was created. What step should an administrator take while in the process of implementing an action plan?

- A. Document the topology of the network.
- B. Delete access lists on routers to isolate traffic.
- C. Create troubleshooting steps as needed during the process.
- D. Restore your network to a known previous state if the action item does not solve the problem.
- E. None of the above.

Answer: C

Explanation:

General Problem-Solving Model

The following steps detail the problem-solving process:

Step 1 When analyzing a network problem, make a clear problem statement. You should define the problem in terms of a set of symptoms and potential causes.

To properly analyze the problem, identify the general symptoms and then ascertain what kinds of problems (causes) could result in these symptoms. For example, hosts might not be responding to service requests from clients (a symptom). Possible causes might include a misconfigured host, bad interface cards, or missing router configuration commands.

Step 2 Gather the facts that you need to help isolate possible causes.

Ask questions of affected users, network administrators, managers, and other key people. Collect information from sources such as network management systems, protocol analyzer traces, output from router diagnostic commands, or software release notes.

Step 3 Consider possible problems based on the facts that you gathered. Using the facts, you can eliminate some of the potential problems from your list.

Depending on the data, for example, you might be able to eliminate hardware as a problem so that you can focus on software problems. At every opportunity, try to narrow the number of potential problems so that you can create an efficient plan of action.

Step 4 Create an action plan based on the remaining potential problems. Begin with the most likely problem, and devise a plan in which only one variable is manipulated.

Changing only one variable at a time enables you to reproduce a given solution to a specific problem. If you alter more than one variable simultaneously, you might solve the problem, but identifying the specific change that eliminated the symptom becomes far more difficult and will not help you solve the same problem if it occurs in the future.

Step 5 Implement the action plan, performing each step carefully while testing to see whether the symptom disappears.

Step 6 Whenever you change a variable, be sure to gather results. Generally, you should use the same method of gathering facts that you used in Step 2 (that is, working with the key people affected, in conjunction with utilizing your diagnostic tools).

Step 7

Analyze the results to determine whether the problem has been resolved. If it has, then the process is complete.

Step 8 If the problem has not been resolved, you must create an action plan based on the next most likely problem in your list. Return to Step 4, change one variable at a time, and repeat the process until the problem is solved.

Reference: Troubleshooting Overview:

[http://www.cisco.com/univercd/cc/td/doc/cisintwk/itg\\_v1/tr1901.htm](http://www.cisco.com/univercd/cc/td/doc/cisintwk/itg_v1/tr1901.htm)

---

**QUESTION 26**

Network Topology Diagrams and Network Configuration Tables share two similarities. What are they? (Choose two)

- A. Both share few components.
- B. Both share many of the same components.
- C. Both define physical memory components.
- D. Both are used for troubleshooting.
- E. Both use lines and symbols to represent network components.

Answer: B, D

Explanation:

Network Topology Diagrams and Network Configuration Tables basically do the same thing; they are used to help the trouble shooter understand the network. A topology diagram uses lines, symbols, and pictures to help

someone understand the way a network is built and operates. A network configuration table has a table of facts and stats to give details about the network. For visually orientated people a topology diagram is better, for auditory oriented people a configuration table is better, for some jobs a topology diagram is best, and for others a network configuration table is better. Regardless, both are excellent troubleshooting tools.

---

**QUESTION 27**

What is true about the characteristics of a network topology diagram? (Choose all that apply)

- A. It is a detailed report about the capabilities of the network.
- B. It is an illustration of how each network is connected to the Internet.
- C. It contains the components that the network configuration table does not contain.

- D. It illustrates how each device in a network is connected.
- E. It is defined by the aspects of its logical architecture.

Answer: D, E

Explanation:

A network topology diagram shows all the devices and how they are physically and logically connected. The device name, interface or port name, IP address, and routing protocol(s) are a few of its important components.

Incorrect Answers:

A: A Topology diagram is used as a high-level view of the network, not as a detailed report.

B: This is not necessarily true, as many networks and network diagrams do not include Internet access circuits.

C: The diagram shares much of the same information that can be found in the configuration table, except that it is displayed using a different format.

---

**QUESTION 28**

The Topology Builder is a network tool that is included with which of the following?

- A. Router Configuration File Loader
- B. Connectivity Baseline
- C. Connectivity Solver
- D. Topology Builder
- E. Diagnostic Report Generator

Answer: B

Explanation:

The Connectivity Tools currently have two components; the Connectivity Baseline and the Connectivity

Solver. The Connectivity Baseline is a pre-requisite of the Connectivity Solver. As such, the additional functionality of the Connectivity Solver is used in conjunction with the Connectivity Baseline. The functionality provided is:

Connectivity Baseline

Router Configuration File Loader

Diagnostic Report Generator

Topology Builder

Connectivity Solver

Connectivity Requirements Analyzer

Scenario "what-if" Simulator

Delta IOS command generation

---

**QUESTION 29**

A Certkiller network documentation file contains the following:

1. Hardware and software installed
2. Device hostnames and locations
3. Data link & network layer addresses
4. VLANs

## 5. ACL configurations

What is the proper name of this type of network documentation?

- A. Network configuration table
- B. Network topology diagram
- C. End-system configuration table
- D. End-system topology table.

Answer: A

Explanation:

A network configuration table contains the physical, data link, and network configuration elements as shown below:

Physical - Contains the CPU type, Flash memory, DRAM, MAC address, media type, Speed, Duplex, and Trunk Status

Data Link - Contains the Device name, model (and IOS version) MAC address, Duplex, port identifier, STP status, etc.

Network - IP address, subnet mask, IP routing, access lists, VLANs, Interface name, IP information

Incorrect Answers:

B: The topology diagram does not include Access List information.

Reference:CCNP CIT Exam Certification Guide Page No. 12

Second Edition ISBN: 1-58720-081-3

---

### QUESTION 30

Which of the following documentation traits have to be addressed when creating network diagram standards?

- A. Inventory
- B. Abbreviations
- C. Configurations
- D. Command syntax
- E. None of the above

Answer: B

Explanation:

The *network topology diagram* is the second piece of documentation (after the network configuration table), and it is considered an essential part of any network baseline. This diagram is a graphical representation of the network that must illustrate all the devices and how they are connected. Physical and logical detail about the network are revealed using consistent notations and symbols. Figure 1-1 is an example of a network topology diagram. In Figure 1-1, you can see a network cloud symbol with the title *Internet*. A network cloud symbol is often used to represent a network that is under control of another group (or company, or autonomous system, and so on). At times, the network cloud symbol is used within a network topology diagram to show an area whose detail is outside the scope of the diagram.

Reference:

CCNP CIT Exam Certification Guide Page No. 14

Second Edition ISBN: 1-58720-081-3