Exam Report: 7.4.6 Practice Questions

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Time Spent: 10:20

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Overall Performance

Your Score: 89%

Passing Score: 80%

View results by: Objective Analysis Individual Responses

Individual Responses

Question 1: Correct

You work for a large multinational organization that has an extensive global network that is interconnected using WAN links and routers.

Lately, users in one location have complained that they are unable to access resources stored on a server named FS23 in a South American branch office.

To troubleshoot the issue, you have done the following:

- Verified that the server is up and running.
- Verified that the various routers in between the two locations are up and running.

You suspect that perhaps one of the routers between the two locations may be dropping packets. To test this theory, you enter the **ping FS23 -f -l 1500** command on your workstation. The ping command returns the following command for each ping packet sent:

"Packet needs to be fragmented but DF set."

What does this mean?

- One of the intermediate routers is offline.
- The destination host is down.
- Communications are functioning normally between your workstation and the target server.
- Collisions are occurring on the network.
- One of the intermediate routers is an MTU black hole.

Explanation

A black hole router will drop packets when the packet size exceeds the maximum transmission unit (MTU) size. You can use ping to locate a black hole router by setting the following parameters along with the IP address of the remote host:

- **-f** causes the ping utility to send an ICMP echo packet that has the IP do not fragment bit set.
- **-l** sets the buffer (or payload) size of the ICMP echo packet. Specify this size by typing a number after the -l parameter.

The ping test will provide you with helpful information:

- If the MTU of every segment of a routed connection is at least the MTU size, the ping is successful.
- If there is an intermediate segment that has a smaller MTU size, the router returns an ICMP destination unreachable packet, and the ping utility displays a "Packet needs to be fragmented but DF set" message.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm RT NP15_4.6-4]

Question 2: Correct

You have just connected a new computer to your network. The network uses static IP addressing.

You find that the computer can communicate with hosts on the same subnet, but not with hosts on a different subnet. No other computers are having a problem.

Which of the configuration values would you most likely need to change?

- DNS server
- IP address
- Default gateway
- Subnet mask

Explanation

Check the default gateway setting on the computer. The default gateway value is used for sending packets to other subnets. If the value is incorrect, then the packets will not be sent to the correct router.

In this scenario, the host can communicate with other hosts on the same subnet, meaning that the IP address and subnet mask are correctly configured. The DNS server address is likely not the problem, as name resolution is not mentioned in the scenario. In addition, if name resolution were a problem, it could affect access to both local and remote hosts.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS10]

Question 3: Incorrect

You manage a network with multiple subnets connected to the internet.

A user reports that she can't access the new server used in the accounting department. You check the problem and find out that her computer cannot access any server on that subnet. However, the computer does access other computers on other subnets as well as the internet.

Which of the following is most likely the cause of the problem?

- Missing route on the default gateway router
- ~~Incorrect default gateway setting on the computer~~
- Switching loop on the user's subnet
- Incorrect VLAN membership of the accounting server

Explanation

The most likely cause of the problem is a missing route in one of the routers on your internal network (or that the router connecting that subnet to the network is down). Because the problem applies to all hosts in the remote subnet, you can suspect some type of misconfiguration of the router.

The default gateway on the workstation is configured properly because routing to other subnets and the internet works correctly, meaning that the workstation is able to send and receive packets from remote networks. A switching loop would affect devices within the subnet, not on other subnets. Incorrect VLAN membership for the server would affect

communications with the server only, not all devices on the subnet (unless all switch ports on the remote subnet are assigned to the same VLAN).

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS18]

Question 4: Correct

You manage a network with multiple subnets connected to the internet.

A user reports that she can't access the internet. You investigate the problem and find that she can access all hosts on the private network, including subnets, but no hosts on the internet.

Which of the following is likely the cause of the problem?

- Duplex mismatch between a switch and a router
- Incorrect default gateway setting on the computer
- Missing default route on a router
- Switching loop on the user's subnet

Explanation

If you can access all private subnets but not the internet, troubleshoot the connection to the internet. For example, verify that routers have a default route that would apply to internet traffic and make sure the internet link is up and working.

The default gateway on the workstation is configured properly because routing to other subnets works correctly, meaning that the workstation is able to send and receive packets from remote networks.

A duplex mismatch would cause slow communications, but some access might still be possible. A switching loop would affect devices within the subnet, not on other subnets.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP09_4-7 #MCS19||/]

Question 5: Correct

Examine the following output:

4 22 ms 21 ms 22 ms sttlwa01gr02.bb.ispxy.com [154.11.10.62]
5 39 ms 39 ms 65 ms plalca01gr00.bb.ispxy.com [154.11.12.11]
6 39 ms 39 ms 39 ms Rwest.plalca01gr00.bb.ispxy.com [154.11.3.14]
7 40 ms 39 ms 46 ms svl-core-03.inet.ispxy.net [205.171.205.29]
8 75 ms 117 ms 63 ms dia-core-01.inet.ispxy.net [205.171.142.1]

Which of these commands produced this output?

- **tracert**
- **ping**
- **nslookup**
- **pingroute**

Explanation

The output is from a **tracert** command run on a Windows Server 2003 system. The **tracert** command provides information on each step in the route a packet takes to reach a remote host. Responses from each hop on the route are measured three times to provide an accurate representation of how long the packet takes to reach and be returned by that host. This information can be useful for locating congestion points on a network or when verifying that network routing is operating as expected.

The **ping** command is used to test connectivity between devices on a network. Like **tracert**, **ping** sends three packets to the target host, but it does not report information on any intermediate devices it traverses to reach the target.

nslookup is a tool provided on Linux, Unix, and Windows systems that allows manual name resolution requests to be made to a DNS server. This can be useful when troubleshooting name resolution problems.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP05_4-2 #78]

Question 6: Correct

Which of the following utilities would you use to view the routing table?

- **dig**
- **traceroute**
- **tracert**
- **route**
- **mtr**

Explanation

Use the **route** command to display the contents of the routing table and to add or remove static routes.

traceroute, or **tracert,** uses ICMP packets to test connectivity between devices and shows the path between the two devices. Responses from each hop on the route are measured three times to provide an accurate representation of how long the packet takes to reach and be returned by that host. The **mtr** command on Linux is a combination of the **ping** and **traceroute** commands.

The **dig** command resolves (looks up) the IP address of a host name.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP09_5-1 #1]

Question 7: Correct

Which of the following commands would display the output shown here?

```
Route Table
===========================================================================
Interface List
0x1 ........................... MS TCP Loopback interface
0x2 ...00 10 4b 73 0e 0e ...... 3Com 3C90x Ethernet Adapter
===========================================================================
===========================================================================
Active Routes:
Network Destination        Netmask          Gateway       Interface  Metric
          0.0.0.0          0.0.0.0      192.168.1.1   192.168.1.111       1
        127.0.0.0        255.0.0.0        127.0.0.1     127.0.0.1       1
      192.168.1.0    255.255.255.0    192.168.1.111   192.168.1.111       1
    192.168.1.111  255.255.255.255        127.0.0.1     127.0.0.1       1
    192.168.1.255  255.255.255.255    192.168.1.111   192.168.1.111       1
        224.0.0.0        224.0.0.0    192.168.1.111   192.168.1.111       1
  255.255.255.255  255.255.255.255    192.168.1.111   192.168.1.111       1
Default Gateway:       192.168.1.1
===========================================================================
Persistent Routes:
  None
```

- **ifconfig**
- **mtr**
- **route print**

- **host**

Explanation

Use the **route print** or **netstat -r** commands to display the contents of the routing table.

The **mtr** command performs a test that is like a combination of the **ping** and **traceroute** commands. The **host** command resolves host names to IP addresses. The **ifconfig** command shows the IP configuration on a Linux computer.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP09_5-1 #4]

Question 8: Correct

Which TCP/IP utility gives you the following output?

```
 2    14 ms   <10 ms    14 ms  Loopback0.GW1.SLT1.ALTER.NET [137.39.2.123]
 3    14 ms   <10 ms    13 ms  122.at-6-0-0.XR1.SLT4.ALTER.NET [152.63.91.86]
 4   <10 ms    14 ms   <10 ms  0.so-0-1-0.TL1.SLT4.ALTER.NET [152.63.1.210]
 5    41 ms    41 ms    41 ms  0.so-7-0-0.TL1.POR3.ALTER.NET [152.63.32.41]
 6    42 ms    41 ms    41 ms  0.so-6-0-0.XL1.SEA1.ALTER.NET [152.63.38.82]
 7    41 ms    41 ms    42 ms  POS6-0.GW11.SEA1.ALTER.NET [152.63.107.17]
```

- **tracert**
- **ifconfig**
- **ipconfig**
- **nslookup**

Explanation

The exhibit shows a few lines from the **tracert** command, which shows you each host a packet must pass through to reach its destination.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP05_4-2 #69]

Question 9: Correct

You are the network administrator of a branch office of your company. The branch office network is part of a WAN that covers most of the United States. The office has two Windows 2000 servers, two UNIX servers, one Windows NT server, 90 Windows 98 clients, 40 Windows 2000 Professional clients, and five Macintosh clients.

Users have been complaining that they are unable to access resources over the WAN at the main headquarters. You suspect that one of the routers between your office and the main headquarters is not working properly.

What TCP/IP utility can you use to see if a router is working properly?

- **tracert**
- **netstat**
- **nbtstat**
- **nslookup**

Explanation

tracert shows you the series of routers that are used between the source and destination computers. If a router is not functioning, **tracert** can help you find which router is not working by showing you the last router it was able to contact successfully.

References

LabSim for Network Pro, Section 7.4.
[netpro18v5_all_questions_en.exm NP05_4-1 #7]