

Combo with troubleshooting physical connectivity and 5 others



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Upon conducting a visual inspection of the server room, you see that a switch displays LED collision lights that are continually lit. You check the LED on the corresponding workstation and see that it is flashing rapidly even though it is not sending or receiving network traffic at that time.

What is the cause of the network collision? Faulty network card.

You have been asked to document the wiring in the building. You would like to identify the length of each Cat5 cable to verify that it meets Ethernet standards. You need to identify the length of the cables, but most cables run through walls and ceilings, making them difficult to trace.

Which tool should you use? TDR.

Users report that the Internet is no longer accessible. You suspect that the line connecting your building to the Internet is not working properly.

Which of the following allows the service provider to remotely test the local loop? Smart jack.

The phone line to one office is not working. You have identified the location of the phone line in a 66 block in the wiring closet.

Which tool would you use to connect to the phone line at the punchdown block to see if you can make or receive calls? Butt set.

You want to create a loopback plug using a single RJ-45 connector. How should you connect the wires in the connector? Connect pin 1 to pin 3 and pin 2 to pin 6.

You are working with an existing fiber optic installation in your building. You want to know how long each length of cable is that runs through walls.

Which tool should you use? OTDR

You want to measure the voltage, amps, and ohms of various devices.

Which tool should you use? Multimeter.

During a network infrastructure upgrade, you have replaced two 10 Mbps hubs with switches and upgraded from Category 3 UTP cable to Category 5e.

During the process, you accidentally cut the Cat 5e patch cable that stretches from the network printer to the upgraded switch.

What is the impact on the network? All network nodes, with exception of the printer, will be available.

You are creating an Ethernet network for your company. The shipping department is located in a different building that is located 150 meters from the main wiring closet. You connect a single Cat 6e cable to connect the wiring closet to the shipping building.

Which of the following should you include in your plan? Repeater.

Which of the following best describes the condition where a signal sent on one wire is received on another wire within the same connector? NEXT.

You have a network connected using a physical bus topology. One of the cables connecting a workstation to the bus breaks.

Which of the following best describes what happens to network communications? No device is able to communicate.

You're responsible for implementing network cabling in a new network installation. The cabling will be installed in a manufacturing environment where there is a great deal of electromagnetic interference (EMI).

Which type of cabling would operate best in this environment? Shielded twisted pair cable.

Fiber-optic cable.

You are creating an Ethernet network for your company. The shipping department is located in a different building that is located 150 meters from the main wiring closet. You connect a single Cat6e cable to connect the wiring closet to the shipping building.

Which of the following are you most likely to experience? Attenuation.

You have a cable Internet connection at home. The installer had connected the router near the outside wall of your house with RG-6 cable.

You move the cable router a distance of 50 meters using RG-8 cables and special connector adapters.

Which condition are you most likely to experience? Echo.

You are troubleshooting a client connectivity problem on an Ethernet network. The client system has intermittent connectivity to the network. You discover that the UTP patch cable is run 75 feet from the wall outlet, passes through the ceiling and over several fluorescent light fixtures before reaching the client system.

Which of the following may be a cause of the connectivity problem? EMI interference.

You manage a network that uses 1000BaseT Ethernet. You find that one device communicates on the network at only 100 Mbps.

Which tool should you use to test the drop cable and the connection to the network? Certifier.

A user from the Sales department calls to report that he is experiencing problems connecting to the Sales file server. All users in the Sales department connect to the Sales server through a single Ethernet switch. No other users have reported problems connecting to the Sales server.

Which of the following troubleshooting actions are you most likely to perform first? Replace the network card in the user's computer.

You have a network connected using a physical star topology. One of the drop cables connecting a workstation is removed.

Which of the following best describes what happens to network communications? All devices except the device connected to the drop cable will be able to communicate.

You have a network using a full physical mesh topology. The link between device A and device B is broken.

Which of the following best describes what happens to network communications? Device A will be able to communicate with all other devices.

You have decided to implement Gigabit Ethernet on your network. Each switch port is connected to a single device. Following the installation, you find one device connected to a switch that is only running at 100 Mbps.

Which of the following are likely causes? Crosstalk.

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Which of the following tests can be performed by a TDR? Measure the length of a cable.

Identify the location of a fault on a cable.

You have just connected four new computer systems to an Ethernet switch using spare patch cables. After the installation only three systems are able to access the network. You verify all client network settings and replace the network card in the failed system. The client is still unable to access the network.

Which of the following might you suspect as the real cause of the problem?

Failed patch cable.

You are moving a client to a new location within an Ethernet network.

Previous to the move, the client system did not have any difficulty accessing the network.

During the relocation, you attach a patch cable from the client system to the wall jack and from the patch panel to the switch. Once connected you do not get a link light on the network card or the switch. You swap out the cable running between the patch panel and the switch with a known working one but you can still not connect.

Which of the following might you suspect as the problem? Failed patch cable between the client system and the wall jack.

You are troubleshooting a connectivity problem in which one client system is unable to connect to a server. Both the server and the client system are connected to the same Ethernet network switch. No other users have complained of a problem, and you suspect that faulty network cabling might

be to blame.

Which of the following troubleshooting steps are you most likely to perform first? Use a media tester to test the cable between the computer and the network switch.

You have just been hired as a network administrator. A user has just changed offices and needs you to activate the network and telephone communications in his office. However, the wiring at the punch down block is labeled poorly and you are unable to tell which wires go to the user's office. What should you do? Use a tone generator to locate the correct wiring.

You use Cat5e twisted pair cable on your network. Cables are routed through walls and the ceiling. A user puts a screw in the wall to hang a picture and pierces the cable such that a signal sent on pin 1 arrives on the cable connected to pin 7.

What term describes this condition? Short circuit.

You are a network administrator for your company. A user calls and tells you that after stepping on the network cable in her office, that she can no longer access the network.

You go to the office and see that one of the user's stiletto heels has broken and exposed some of the wiring in the Cat 5 network cable. You make another cable and attach it from the wall plate to the user's computer. What should you do next in your troubleshooting strategy? Test the solution.

Users report that the network is down. After some investigation, you determine that a specific router is configured such that a routing loop exists.

What should you do next? Determine if escalation is needed.

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A user reports that he can't connect to a specific Web site. You go to the user's computer and reproduce the problem.

What should you do next? Identify the affected areas of the network.

You are a network administrator for your computer. A frantic user calls you one morning exclaiming that "nothing is working." What should you do next in your troubleshooting strategy? Establish the symptoms.

A router periodically goes offline. Once it goes offline, you find that a simple reboot puts the router back online.

After doing some research you find that the most likely cause of the problem is a bug in the router's software. A new patch is available from the manufacturer that is supposed to eliminate the problem.

What should you do next? Identify possible effects of the solution.

A user is unable to connect to the network. You investigate the problem and determine that the network adapter is defective. You replace the network adapter and verify that it works.

What should you do next? Identify the results and effects of the solution

A user reports that she can't connect to a server on your network. You check the problem and find out that all users are having the same problem.

What should you do next? Determine what has changed.

A user reports that she can't connect to the internet. After some investigation, you find the wireless router has been misconfigured. You are responsible for managing and maintaining the wireless access point.

What should you do next? Create an action plan.

While working on a Linux server, you are unable to connect to Windows Server 2003 system across the Internet. You are able to ping the default gateway on your own network, so you suspect the problem lies outside the local network.

Which utility would you use to trace the route a packet takes as it crosses the network? traceroute.

You want to be able to view the DNS server address that a computer is using. Which of the following utilities would you use? ipconfig.
ifconfig.

Examine the following output:

Active Connections

Proto Local Address Foreign Address State

TCP SERVER1: 1036 localhost: 4832 TIME_WAIT

TCP SERVER1: 4798 localhost: 1032 TIME_WAIT

TCP SERVER1: 1258 pool-141-150-16-231. mad. east. ttr: 24076 CLOSE_WAIT

TCP SERVER1: 2150 cpe-66-67-255-118. roc. res. rr. com: 14100

ESTABLISHED

TCP SERVER1: 268 C872c-032. cpe. net. cale. rers. com: 46360 ESTABLISHED

TCP SERVER1: 2995 ip68-97-96-186. ok. ok. cox. net: 23135 ESTABLISHED

Which of the following utilities produced this output?

Netstat

Which TCP/IP utility gives you the following output? nbtstat -c.

Which TCP/IP utility gives you the following output?

Interface: 192. 168. 4. 101 on Interface 0x3

Internet Address Physical Address Type

192. 168. 1. 23 00-d1-b6-b7-c2-af dynamicarp.

You are troubleshooting a connectivity problem on a Linux server. You are unable to connect to another system on the local network, but are not able to connect to a server on a remote network.

You suspect that a default gateway information for the system may be configured incorrectly. Which of the following commands would you use to view the default gateway information on a Linux server? ifconfig.

Which TCP/IP utility gives you the following output?

Reply from 192. 168. 1. 68: bytes= 32 time <10ms TTL= 128Reply from 192.

168. 1. 68: bytes= 32 time <10ms TTL= 128Reply from 192. 168. 1. 68:

bytes= 32 time <10ms TTL= 128Reply from 192. 168. 1. 68: bytes= 32 time

<10ms TTL= 128Packets: Sent = 4, Received = 4, Lost = 0 <0% loss> ,

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 0ms, Average = 0msping.

While troubleshooting a problem on a Linux system, you run a utility that generates the following output: traceroute

You manage a local area network with several switches. A new employee has started today so you connect her workstation to a switch port.

After connecting the workstation, you find that the workstation cannot get an IP address from the DHCP server. You check the link and status lights and the connection is working properly. A ping to the local loopback address on the workstation succeeds. No other computers seem to have a problem.

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

Incorrect VLAN assignment.

A user reports that network access from her workstation is very slow. The problem does not seem to be affecting any other ways.

Which of the following conditions is the most likely cause? Duplex mismatch.

You manage a network with multiple switches. You find that your switches are experiencing heavy broadcast storms.

Which of the following will help reduce the effects of a broadcast storm?

Enable spanning tree on the switches.

Select the statement that best describes a broadcast storm. A broadcast storm occurs where there are many broadcast messages on the network that they approach or exceed the network bandwidth.

Which of the following solutions would you implement to eliminate switching loops? Spanning tree.

You manage a network with a single switch. On each switch port, a hub connects multiple devices to the switch.

Which condition are you most likely to experience on the network?

Collisions.

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 the 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.

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 not working properly?

tracert.

You are troubleshooting access to a server in a remote network. You use the `tracert` command and see the following:

Trace route to 192. 168. 2. 250 over a maximum of 30 hops:

1 2 ms 2 ms 2 ms 192. 168. 12. 11

2 2 ms 2 ms 2ms 192. 168. 11. 1

3 5 ms 5 ms 3 ms 192. 168. 10. 15

4 2 ms 2 ms 2 ms 192. 168. 9. 1

5 5 ms 5 ms 3 ms 192. 168. 11. 1

6 2 ms 2 ms 2 ms 192. 168. 10. 15

7 5 ms 5 ms 3 ms 192. 168. 9. 1

... additional output omitted

What is the problem?

Routing loop.

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

`route print`.

You manage a network of 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, but no hosts on the Internet.

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

Missing default route on a router.

You have a remote access server to accept dial-up connections for remote access clients.

Remote clients are able to connect successfully and access resources on the remote access server. However, the remote clients are not able to connect to other devices located on the same subnet where the remote access server is located.

Which action would likely correct the problem?

Enable proxy arp on the LAN connection for the remote access server.

Examine the following output:

```
4 22 ms 21 ms 22 ms sttlawa01gr02. 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. placa01gr00. bb. ispxy. com [154. 11. 3. 14]
7 40 ms 39 ms 46 ms svl-core-03. inet. ispxy. net [205. 171. 206. 29]
8 75 ms 117 ms 63 ms dia-core-01. inet. ispxy. net [205. 151. 142. 1]
```

Which of the following produced this output?

tracert.

You have just connected a new computer to your network. The network user 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?

Default gateway.

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. PQR3. 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 41 ms PQS6-0. GW11. SEA1. ALTER. NET [152. 63.
107. 17]tracert.
```

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

Consider the following output for a dig command run on a Linux system.

```
; <<> DiG 82 <<> westsimlll. com
;; res options; init recurs defnam dnsrch
;; got answer:
;;->> HEADER <<-opcode: QUERY, status: NOERROR, id: 4;; flags: qr rd ra;
QUERY: 1 ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 0;; QUERY SECTION;;
westsimlll. com, type = A, class = IN;; ANSWER SECTION: westsimlll. com
7h33m IN A 76. 141. 43. 129;; AUTHORITY SECTION: westsimlll. com. 7h33m
IN NS dns1. deriatct111. com. westsimlll. com. 7h33m IN NS dns2.
deriatct222. com.;; Total query time: 78 sec;; FROM: localhost. localdomain
to SERVER: default --202. 64. 49. 150;; WHEN: Tue Feb 16 23: 21: 24 2005;;
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```

MSG SIZE sent: 30 rcvd: 103What is the IP address of the DNS server that performed this name resolution?

202. 64. 49. 150

After installing a new DHCP server on the network, you need to verify that the network devices are receiving IP addresses via DHCP. You reboot a Windows XP client system and using the ipconfig command, receive the following information:

Ethernet adapter Local Area Connection 1:

Description: CardBus-II 10/100 PC Card

Physical Address : 02-00-4C-3F-50

DHCP Enabled : Yes

Auto configuration Enabled : Yes

Auto configuration IP Address : 169. 254. 25. 129

Subnet : 255. 255. 0. 0

Default Gateway:

DNS Servers:

Which of the following statements are true?

The client system is unable to reach the DHCP server.

The client system is configured to use DHCP.

You are troubleshooting a network connectivity issue on a UNIX system. You are able to connect to the remote system by using their IP address, but unable to connect using the hostname. You check the TCP/IP configuration, and note that a DNS server IP address is configured.

You decide to run some manual resolution queries to ensure that the communication between the UNIX system and the DNS server are working correctly. Which utilities can you use to do this? nslookup.

dig.

Mary calls to tell you that she can't to an intranet server called WebSrv1. From her computer, you ping the server's IP address. The ping test is successful. Which tool would you use on her workstation next to troubleshoot the problem? nslookup.

CorpServ is a small company with 14 client systems and a network printer. Because there are only a limited number of networked systems, you decide to use APIPA addressing for the network. With APIPA configured, all systems are able to communicate with each other but you are having trouble configuring Internet access.

What is the likely cause of the problem? Private addresses cannot directly communicate to hosts outside the local subnet.

Consider the following output:

```
;; res option: init rescuers defnam dnsrch
;; got answer
;;->> HEADER;<<-opcode: QUERY, status: NOERROR, id: 4;; flags: gr rd ra;
QUERY: 1, ANSWERS: 1, AUTHORITY: 2, ADDITIONAL: 0;; QUERY SECTION:;;
westsimlll. com, type = A, class = IN;; ANSWER SECTION; westsimlll. com.
7h33m IN A 76. 141. 43. 129;; AUTHORITY SECTION: westsimlll. com. 7h33m
IN NS dns1. deriact111. com. westsimlll. com. 7h33m IN NS dns2. deriact222.
com.;; Total query time: 78 sec;; FROM: localhost. localdomain to SERVER:
```

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default -- 202. 64. 49. 150;; WHEN: Tue Feb 6 23: 21: 24 2005;; MSG SIZE sent: 30 rcvd: 103Which of the following utilities produced this output? dig.

A user reports that he can't browse to a specific Web site on the Internet. From his computer, you find that a ping test to the Web server succeeds. A trace route test shows that 17 hops to the destination Web server. What is the most likely cause of the problem? Incorrect DNS server address.

You are implementing a DHCP server for your segment. Your segment's IP address is 192. 168. 1. 0. Your default gateway address is 192. 168. 1. 254. Your DNS server address is 192. 168. 1. 1. Your default gateway is configured as a NAT router to translate addresses between network segments.

YOu configured the 03 Router option on your DHCP server so it can deliver the IP address of the default gateway to workstations. After configuring your workstations to get their IP address information dynamically, your users complain that they are unable to access web sites on the Internet. How can you resolve this problem? You must configure your DHCP server with an option that delivers the IP address of the DNS server (Option 06).

Examine the following output:

Server: helicuplar. xct. takro. net

Address: 209. 53. 4. 130

Name: westsim. com

Address: 64. 78. 193. 84

Which of the following utilities produced this output?

nslookup.

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