

# Troubleshooting physical connectivity



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.

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.

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