

Case project troubleshooting wans



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Case Project- Troubleshooting WANs It is very likely that the problem occurs with the Service Department's internet gateway. The department's link to the Internet Service Provider can also be faulty. To troubleshoot the problem, I would try to send a TCP/IP based command or ping command to their default gateway through my workstation, by typing ping [IP address of the department's gateway] at the command prompt. This is important to check the basic connectivity or packet loss. In case of error messages, I would verify the physical layer connectivity to that gateway because most network problems occur due to trouble in cables, network adapters, poorly done connections and hubs. This step would include identifying if the NIC is properly installed; cable connections into ports and wall jacks are not loose; network length does not exceed IEEE standards; and, device configurations. The best way to troubleshoot would be to replace a suspicious network component with an efficient one. I would set the NIC to 100 MBs with full duplex because there might be an auto-negotiation trouble with the router. I would also try rebooting the server. I would also check if there are any firewalls that are preventing the computers from seeing each other. After this step, I would log into the department's gateway to check the transfer of data traffic. If that turns out to be okay, then I would try to locate any changes made to the gateway. In case there are no changes, I would try to use a trace route command to an Internet site to the other side of the router to find out where the blockage in data traffic is occurring. This trace route command will go beyond the gateway but will fail in case of no connectivity.

2) If I figure out that the internet gateway was malfunctioning due to a faulty NIC, then this problem could have been prevented by making sure beforehand that the NIC card is seated in the motherboard slot properly and

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the drivers are also properly installed and updated. If there is a corrupt driver, then uninstalling the card, rebooting the computer and reinstalling the card, may solve the problem. Cable connections and cable types must be checked. The next thing to identify is that whether this NIC card is compatible with other NIC cards on the WAN. The NIC card settings must be accurate on all computers. It is also important to make sure that every NIC card has a unique IP address. The device manager can always detect a conflicting NIC card. Another important thing is to make sure that the NIC card is able to ping itself and is also able to see itself when it receives a ping command. Another way to detect a problem with NIC card is to check if it is showing the green activity light. If the light is off or is red or orange, that means the NIC is not signaling and is faulty. Typing ping 127. 0. 0. 1 in the command prompt is also a good way to detect any fault in the NIC card. If there is a reply, then it is fine, and if there is no response, then it is faulty.