Layer 1

bad connection	cable placement
distance limita tions	splitting pairs in a cable
cross talk	transposed Tx/Rx

Cables & Connections

faulty cables or connec tions i.e. broken cables or cable drop in electric box

wrong category cable i.e. video across cat 3

Disatance Limitations

Copper cabling max run is 100 meters

including Cat5, 5e, 6, 6a & 7

Fiber multimode max run is 70 meters

EMI & cross talk

cable running over florecent lights

cable tray with electrical and network runs

Switched Transmit & Receive

Switch without MDIX wired w/ straight through rather than crossover

Fiber module, port cables may be switched

red | receive & black | transmit

Layer 2

bad module

Layer 2 loops

miscon figured port

vlan config uration

Layer 2 Loops

spanning tree protocol failures can cause a broadcast

Port Misconfiguration

check for mismatched speeds, duplex settings, or MDI

check host, switch and switch port - turn off auto ne

vlan configuration

all traffic must be routed between vlans

all devices must be on the same subnet

Layer 3

duplicate ips

incorrect default gateway

incorrect dns

mismatched mtu

Troubleshooting LAN & WAN issues w/ routing, sub-netting and services i.e. DNS



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Not published yet.
Last updated 20th August, 2020.
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