

# Troubleshooting Basics

## LinkRunner® AT 2000

### Application Layer



#### PROBLEM



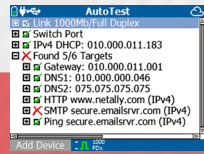
DNS Server Fail

#### ACTION

• If TCP Test, Add ICMP Test

#### RESOLUTION

- Verify DNS IP Address is Correct
- Verify Server is Responding
- Verify DNS is Running on Server
- Check Firewall Rules



Test Target Fail

- Both ICMP and TCP Fail
  - Check Path to Target
  - Verify Target is Operational
- TCP Fails, ICMP Succeeds
  - Verify Target Service is Running
  - Check Firewall Rules



Slow Application

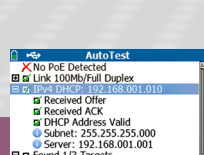
• Add Application Server to Targets  
• Run AutoTest  
• Expand Target to View Response Times

- Look for Time-outs
- Look for Abnormally Long Response Times
- Trace Path to Server, Looking for Spikes in Response Time

### Network Layer



#### PROBLEM



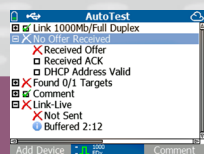
Wrong IP Address

#### ACTION

• Use Switch Port to Determine Switch, Port and VLAN

#### RESOLUTION

- Verify Port is on Correct VLAN
- Address Such as 192.168.0.X Can Indicate a Rogue DHCP Server Has Been Attached to the Network



No DHCP Address

- DHCP Server on Broadcast Domain
- DHCP Relay on Router Broken
- DHCP Address Pool Exhausted
- Path Broken Between LinkRunner AT 2000 and DHCP Server

### Power Over Ethernet (PoE)



#### PROBLEM



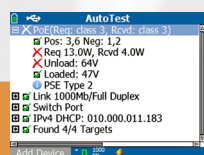
Wrong Class

#### ACTION

• Verify Switch Supports Requested PoE Class

#### RESOLUTION

Class	PSE Output	PD Input	PoE Type	IEEE Standard
0	15.4 W	12.95 W	1	802.3af
1	4 W	3.84 W	1	
2	7 W	6.49 W	1	
3	15.4 W	12.95 W	1	802.3at
4	30 W	25.5 W	2	



Low Wattage

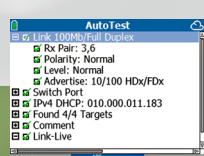
• Connect LinkRunner AT 2000 to SwitchPort  
• Run AutoTest

- If PoE Passes at Switch, Problem is with Cable
- Check for Poor Connections and Damaged Cable

### Physical Layer



#### PROBLEM



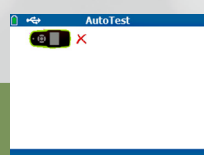
Slow Link Speed

#### ACTION

• Disconnect Switch  
• Attach Wire Mapper  
• Run Cable Test

#### RESOLUTION

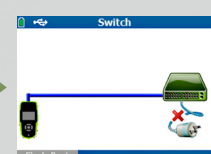
- Check for Open Pairs
- Pairs 4,5 and 7,8 required for 1Gbps
- Use Distance to Open to Locate Problem



No Link

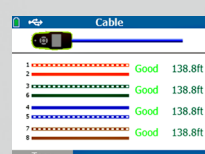
• Run Cable Test

Connected to Switch, Port Disabled



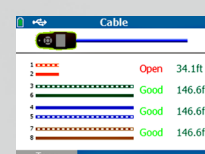
Enable Switch Port

Cable Good, Not Connected to Switch



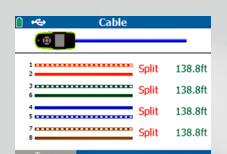
Connect to Active Switch Port

Cable Bad, Pair 1,2 Broken at 34.1"



Repair Cable

Cable Bad, Didn't Follow Cable Standards



Re-terminate to Standards