ພາetAlly

A Quick Guide to Topology Mapping

The NetAlly AirCheck[®] G3, CyberScope[®], CyberScope Air, EtherScope[®] nXG, LinkRunner[®] 10G, and LinkRunner[®] AT 4000 feature an advanced network discovery engine that supports the testers Discovery App. Additionally, each tester can produce a 'snapshot' of a discovery, which can then be uploaded to Link-Live[™] for off-line analysis and Topology Mapping. This guide briefly describes how to make the most out of the discovery engine and the resulting topology maps.

Tester Setup

By default, NetAlly testers will use up to 4 independent network connections to discover devices connected to the network:

- Wired Test Port
- Wi-Fi Test Port
- Wired Management
- Wi-Fi Management

NOTE: The number of independent network connections available on each NetAlly tester varies per model.

They will automatically discover the subnet they are connected to on all the linked ports. The subnets on each port are either determined from DHCP or from a static IP address assignment.

 ≡ Extended Ranges
■ 10.250.0.0 - 10.250.0.255 Extended Ranges
: >

Additional subnets, if desired, can be added in the Discovery Settings…Extended Ranges.

For infrastructure network topology mapping, the most important enabler is a valid SNMP read community string. This allows a NetAlly tester to interrogate managed switches and routers for connection information to draw a more complete topology and interconnect the devices.



Wi-Fi Topology

By utilizing the Wi-Fi radios in your NetAlly tester (if available in the model being used), a complete network topology can be acquired even when untethered. Simply let the Wi-Fi Test radio scan while connecting the Wi-Fi management radio to the SSID of interest. The status bar provides indication of the status:

Scanning Currently on Channel 40	Discovery 60% complete	Management Port Active	Wi-F Managem Android	i ent via 1x1
40 Q	× ا	Ý	100% 月	9:25
\equiv Discovery (25)		25)	Q	:

Additional information is found by swiping down from the top.

IŽ4 EtherScope nXG Wi-Fi Channel Notification Mode: Scanning Channel: 144

Q Discovery Discovery Status: 100%

EtherScope ^
Wi-Fi Management Port
IP Address: 192.168.0.15
SSID: Black Forest Mist
Channel: 108

This allows the scanning test radio to detect all clients, APs and their associations in the air, while the connected radio can actively discover and classify details of the Wi-Fi clients by IP address, NetBIOS/mDNS/SNMP name and services (e.g. printer).

Once discovery is 100% completed, the current snapshot can be uploaded to Link-Live for topology mapping and offline analysis using the interval and in the upper right of the Discovery title bar.



Link-Live Topology

Once the snapshot is in Link-Live, you have the option of either doing additional analysis or topology mapping in the Analysis section of Link-Live.

First, select the snapshot from the list on the left side of the screen.

20240524-000006	12:00 AM
Julio's Demo CyberScope	5/24/24
Discovery Monitoring	Discovery

Then, select the **Analysis** option on the upper right of the screen and select the **Topology** view option on the upper left of the screen.



Solid lines are wired connections determined from the switches & routers. Dashed lines are Wi-Fi connections determined over the air.



Double-clicking on any of the devices brings up additional details about the node.

Topology Controls

Topology controls allow you optimize the map.

Filter		Ŧ
	Error(s) Warning(s) Resolved	

Using the = filter, you can select the individual VLANS, subnets, SSIDs and types of network elements to be displayed.

The Filter allows free string entry and displays only devices matching the name, IP/MAC addresses, or manufacturer prefix of the string.

Under 🔯 settings are controls for labeling devices and their connections.

Circular Hierarchical
Labels
Devices
🗸 Name 🔲 Mfg-MAC Address 🔲 IPv4
Wireless Connections
SSID Channel Media Type Security
Wired Connections
VLAN Port Speed Duplex
Data Options
Show Connected Devices When Filtering
Hide Unconnected Devices
Display Options
Manual Placement
Edge Length
•
Network Spread

When filtering, it is best to select **Show Connected Devices When Filtering** to provide a more complete map. **Hide Unconnected Devices** will only show devices where a connection between the device and network was discovered. **Edge Length** can be used to optimize the map based on the Connection labels that are selected. **Network Spread** controls the spacing between the network clusters. The automated layout can be overridden for manual placement by selecting **Manual Placement**.

Once you have the desired topology map with appropriate device and connection labels, the image can be captured using a right mouse click or by exporting to Visio for further work.



