



Verifying Operation

Checking Your Network

Skills Learned

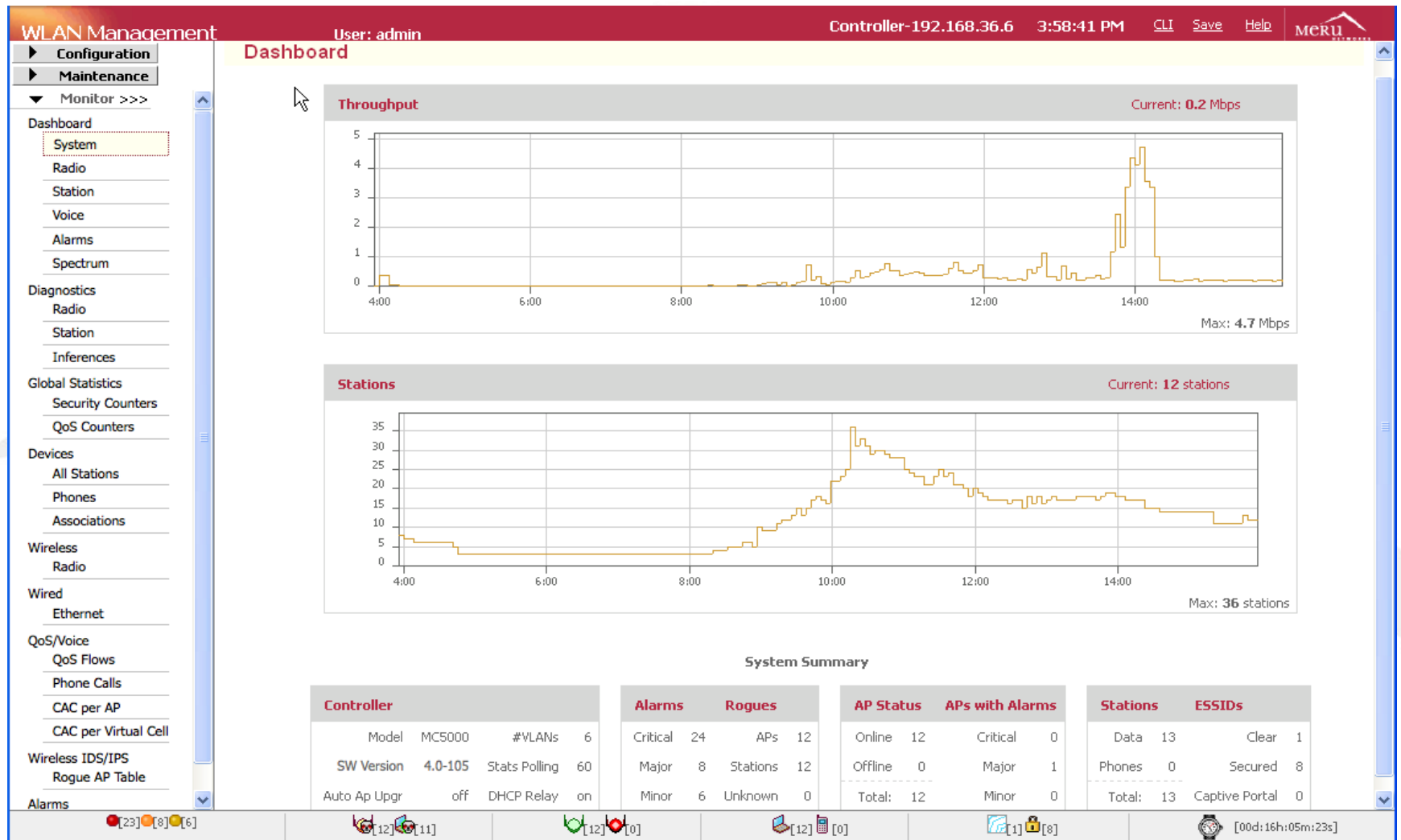
You'll be able to:

- > Use and explain the messages from the
 - System dashboard
 - Radio dashboard
 - Station dashboard
 - Voice dashboard
- > Monitor your system with the CLI

Typical Questions

- > How many people are connected?
- > Is there enough throughput?
 - Highest and lowest bandwidth users?
- > Which users are connected to which AP?
- > What's the signal strength?
- > What's the SNR?
- > What's the noise floor?
- > What SSID are users connected to?

Dashboards - System



Dashboards - Station

Stations Dashboard [Graph Help] Total Stations: 67 (A=5, B=0, G=13, N=32, Unknown=17)

Station Throughput Distribution Advanced...

Min = 0 Kbps, Max = 236.405 Kbps
Avg = 15.299 Kbps, Total = 67 stations



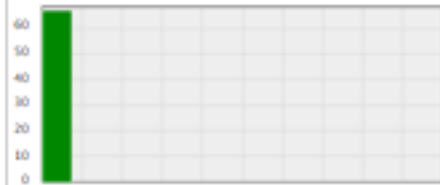
Airtime Utilization Distribution Advanced...

Min = 0%, Max = 0%
Avg = 0%, Total = 67 stations



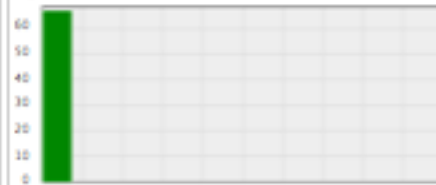
Retry Distribution Advanced...

Min = 0%, Max = 0%
Avg = 0%, Total = 67 stations



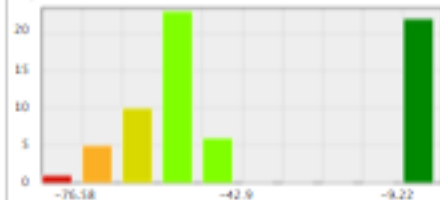
Loss Distribution Advanced...

Min = 0%, Max = 0%
Avg = 0%, Total = 67 stations



Signal Strength Distribution Advanced...

Min = -85, Max = 0
Avg = -40, Total = 67 stations



Rx Rate Distribution (A Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 4 stations



Tx Rate Distribution (A Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 4 stations



Rx Rate Distribution (S Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 0 stations



Tx Rate Distribution (S Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 0 stations



Rx Rate Distribution (ABG Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 11 stations



Tx Rate Distribution (ABG Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 11 stations



Rx Rate Distribution (ABGN Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 31 stations



Tx Rate Distribution (ABGN Band) Advanced...

Min = 0 Mbps, Max = 0 Mbps
Avg = 0 Mbps, Total = 31 stations



Station Table – Sortable Info

WLAN Management

User: admin

Controller-10.196.52.13 10:10:45 AM

CLI Save Help

MERU NETWORKS

Configuration

Maintenance

Monitor >>>

Dashboard

System

Radio

Station

Voice

Alarms

Spectrum

Diagnostics

Radio

Station

Inferences

Global Statistics

Security Counters

QoS Counters

Devices

All Stations

Phones

Associations

Wireless

Radio

Wired

Ethernet

QoS/Voice

QoS Flows

Phone Calls

Station Table (160 entries)

	MAC Address	IP Address Type	AP ID	AP Name	L2 Security State	L3 Security State	Authenticated User Name	Tag	RF Band	Client IP
Search:										
<input type="checkbox"/>	00:1f:e1:c5:9c:f5	DHCP	18	R252-A127-N	WPA	Clear Active	PHILASD\zt3653	29	802.11a	10.113.187.199
<input type="checkbox"/>	00:1f:e1:c5:91:bc	IP address discovered	8	R306-A74-N	WPA	Clear Active	PHILASD\yr8844	29	802.11a	10.113.187.73
<input type="checkbox"/>	00:1f:e1:cc:a4:c4	IP address discovered	19	R241-A133-N	WPA	Clear Active	PHILASD\xs4838	29	802.11a	10.113.187.90
<input type="checkbox"/>	00:1f:e1:cc:8e:01	DHCP	16	R231-A112-N	WPA	Clear Active	PHILASD\to7652	29	802.11a	10.113.188.1
<input type="checkbox"/>	00:22:69:08:c6:0a	DHCP	20	R249-A141-N	WPA	Clear Active	PHILASD\tgaffey	29	802.11a	10.113.187.48
<input type="checkbox"/>	00:1f:e1:cc:8d:5e	DHCP	2	R326-A17-N	WPA	Clear Active	PHILASD\teemerson	29	802.11a	10.113.188.18
<input type="checkbox"/>	00:1f:e1:c5:92:80	IP address discovered	17	R201-A122-N	WPA	Clear Active	PHILASD\tb4492	29	802.11a	10.113.187.204
<input type="checkbox"/>	00:1f:e1:cc:9b:17	DHCP	5	R332-A45-N	WPA	Clear Active	PHILASD\tb4194	29	802.11a	10.113.187.4
<input type="checkbox"/>	00:1f:e1:c5:9d:41	DHCP	18	R252-A127-N	WPA	Clear Active	PHILASD\sw6484	29	802.11a	10.113.187.175

Refresh

Delete

Settings

View Details

[29]

[1]

[30]

[0]

[0]

[39]

[0]

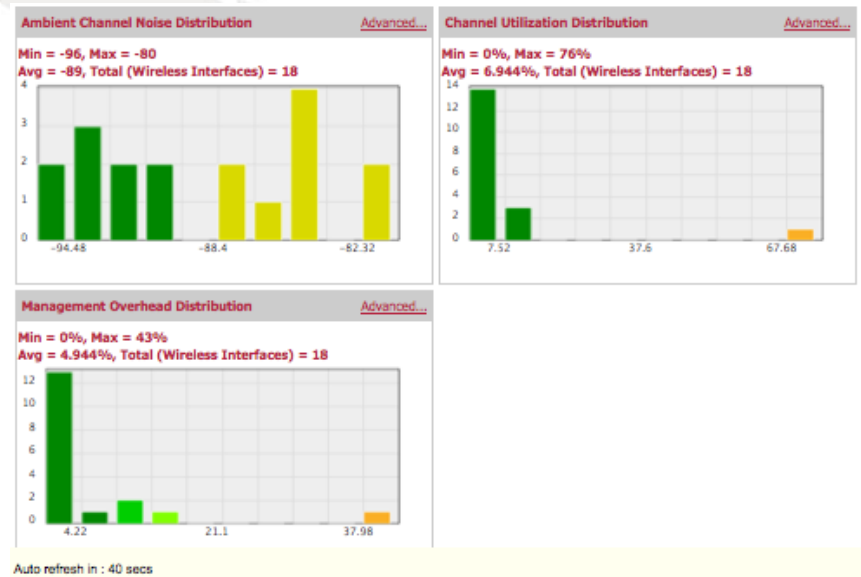
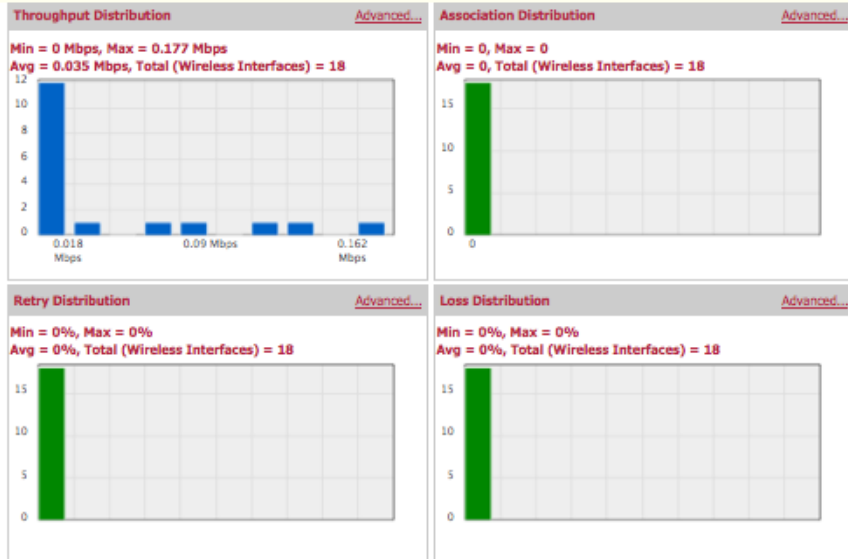
[1]

[1]

[03d:22h:18m:17s]

Dashboards - Radio

Radio Dashboard [\[Graph Help \]](#)



Device Associations - Station per AP

WLAN Management User: admin Controller-10.196.52.13 10:11:40 AM CLI Save Help MERU

Station Per AP Statistics (160 entries)

	AP ID	AP Name	Interface Index	Station MAC Address	Station IP Address	SSID	Rx packet count	Tx packet count	Encryption error count
Search:									
<input type="checkbox"/> ➔	40	R304-A65-N	2	00:22:69:08:c5:b8	10.113.187.22	HSOFWirelessX	10692439	3369365	2
<input type="checkbox"/> ➔	19	R241-A133-N	2	00:1c:bf:b4:64:50	10.113.184.26	HSOFWirelessX	2504970	1785229	503
<input type="checkbox"/> ➔	40	R304-A65-N	2	00:1f:e1:cc:8e:00	10.113.187.50	HSOFWirelessX	2197923	2471573	52
<input type="checkbox"/> ➔	20	R249-A141-N	1	00:1f:e1:cc:9c:a6	10.113.187.20	PhilaSDWireless	2133854	2070287	68
<input type="checkbox"/> ➔	6	R301-A51-N	2	00:1b:77:54:ea:b5	10.113.187.29	HSOFWirelessX	2110709	3012570	515
<input type="checkbox"/> ➔	8	R306-A74-N	2	00:1f:e1:cc:9a:2d	10.113.187.238	HSOFWirelessX	1783328	1697864	159
<input type="checkbox"/> ➔	8	R306-A74-N	2	00:1f:e1:cc:a4:d1	10.113.187.25	HSOFWirelessX	1657381	1523115	3
<input type="checkbox"/> ➔	40	R304-A65-N	2	00:22:69:08:c5:cb	10.113.187.72	HSOFWirelessX	1565016	1556425	66
<input type="checkbox"/> ➔	39	R311-A78-N	1	00:22:69:12:d6:08	10.113.187.150	PhilaSDWireless	1396201	1340815	59
<input type="checkbox"/> ➔	17	R201-A122-N	2	00:1b:77:40:72:76	10.113.188.47	HSOFWirelessX	1370280	1302758	16
<input type="checkbox"/> ➔	6	R301-A51-N	2	00:1b:77:54:d8:70	10.113.187.139	HSOFWirelessX	1297433	1173233	230

Refresh View Details

[29] [1] [30] [0] [0] [39] [0] [1] [1] [03d:22h:18m:17s]

Radio Interfaces – Statistics

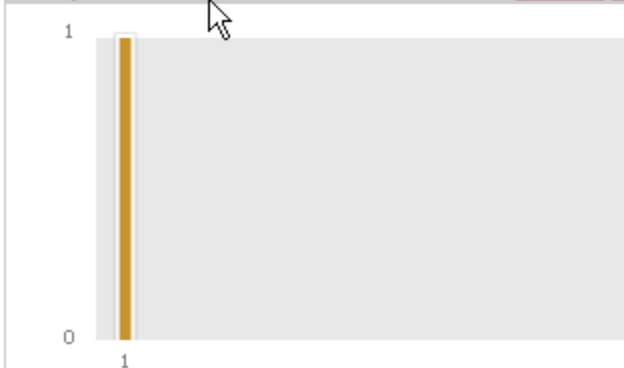
<div>WLAN Management</div> <div>User: admin</div> <div>Controller-10.196.52.13 10:13:08 AM</div> <div>CLI Save Help</div> <div>Meru</div>															
<div>Configuration</div> <div>Maintenance</div> <div>Monitor >>></div> <div>Dashboard</div> <div>System</div> <div>Radio</div> <div>Station</div> <div>Voice</div> <div>Alarms</div> <div>Spectrum</div> <div>Diagnostics</div> <div>Radio</div> <div>Station</div> <div>Inferences</div> <div>Global Statistics</div> <div>Security Counters</div> <div>QoS Counters</div> <div>Devices</div> <div>All Stations</div> <div>Phones</div> <div>Associations</div> <div>Wireless</div> <div>Radio</div> <div>Wired</div> <div>Ethernet</div> <div>QoS/Voice</div> <div>QoS Flows</div> <div>Phone Calls</div>															
Wireless (802.11) Statistics (78 entries)															
	Interface Index	AP ID	AP Name	Failed Count	Transmit Frame Count	Multicast Transmit Frame Count	Transmit Fragment Count	Multicast Received Frame Count	Received Fragment Count	Received Retried frame Count	Received Unicast frame Count	Assigned Station Count	Associated Station Count	Discovered Station Count	Average throughput
	2	5	R332-A45-N	332067	2630881	2	2630883	148065	30652866	213809	5299131	15	15	105	658209
	2	4	R329-A36-N	554579	8874918	0	8874918	340034	59196884	584763	13705329	13	13	89	114337
	2	42	R230-A130-N	20866	371800	0	371800	10236	2447565	16816	542217	10	10	71	92804
	2	17	R201-A122-N	65235	1084726	0	1084726	15214	6331255	35057	788010	9	9	82	425390
	2	23	R245-A157-N	59343	953559	0	953559	24021	8025170	37589	1304051	8	8	50	30246
	2	18	R252-A127-N	19535	354538	0	354538	13747	8270867	13513	799792	8	8	112	1893638
	2	20	R249-A141-	161737	4017675	0	4017675	31438	9074486	147284	2113311	7	7	94	742627
<div>Refresh</div> <div>Reset</div> <div>View Details</div>															
<div>[29]</div> <div>[1]</div> <div>[30]</div> <div>[0]</div> <div>[0]</div> <div>[39]</div> <div>[0]</div> <div>[1]</div> <div>[1]</div> <div>[03d:22h:20m:17s]</div>															

Dashboards - Voice

Voice Statistics

Calls per AP

[Details...](#) [Advanced...](#)



Registered Phones per AP

[Details...](#) [Advanced...](#)



<< Prev (Showing 1 - 1 of 1) Next >>

Ongoing Calls

Row #	From Phone	From IP Address	To Phone	To IP Address	Protocol	Call State
1	309	192.168.1.31	302	192.168.1.27	sip	connected

<< Prev (Showing 1 - 2 of 2) Next >>

Registered Phones

Row #	MAC Address	IP Address	Phone	AP ID	AP Name	Protocol
1	00:1c:bf:03:dd:8a	192.168.1.31	309	1	AP-1	sip
2	00:1c:bf:03:e0:00	192.168.1.27	302	1	AP-1	sip

☒ Enable Auto Refresh

Monitoring with the CLI

What is the controller setup information?

`show controller`

What stations are associated?

`show station`
`show phones`

What stations and APs are detectable?

`show ap-discovered`

What APs are connected?

`show ap`

How are APs connected?

`show ap-connectivity [ap_id]`

Use `topo-update enable` for additional info

What stations are connected to which APs?

`show ap-assigned [mac_address]`

Also, full SNMP
GET support



Monitoring with the Popup CLI

Controller-192.168.1.154:04:56 PMCLI Save HelpMERU

Command Line Interface

Command

Show AP

Run

CLI Reference

Command Parameters

Show AP Assigned

Show AP Connectivity

Show AP Discovered

Show AP Redirect

Show AP Siblings

Show AP Topology

Show ap-swap

Result

Search

Next

Previous

Clear Highlights

Clear Result

Save

Lab Break

- > Examine the following dashboards for network status:
 - System Dashboard
 - Radio Dashboard
 - Station Dashboard
- > Use the CLI to examine device status