



December 2019

# AireNMS Overview and Navigation Guide

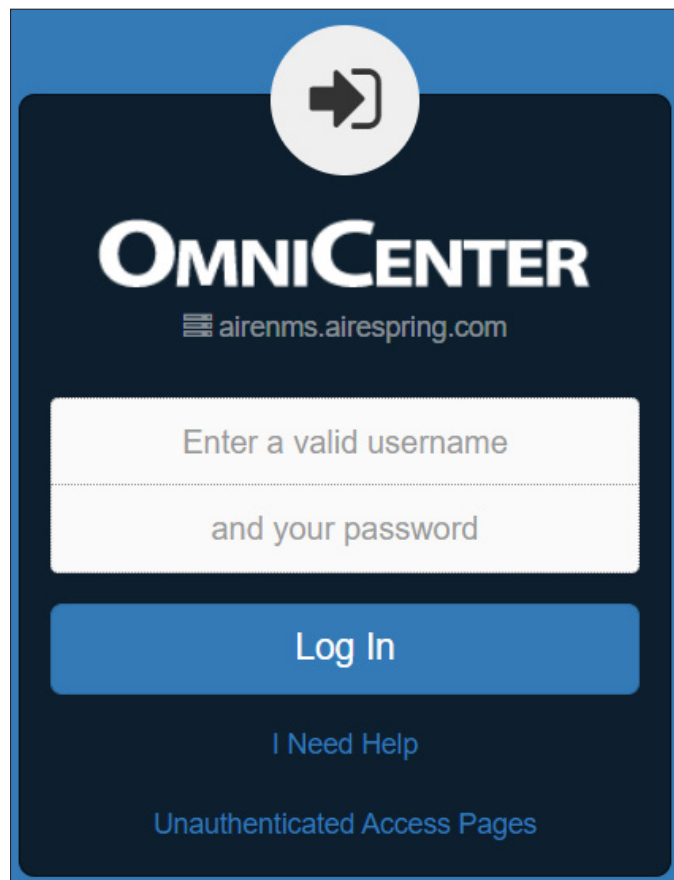
This document is to guide users of AireNMS portal, to facilitate effective monitoring of network devices for availability and downtime, and analysis of important network elements.

- AireNMS is derived from two words: AireSpring + Network Monitoring System.
- AireSpring's Network Monitoring System is based on netreo OmniCenter solution (<http://www.netreo.com/>).
- AireNMS monitors CPEs (Customer Premise Equipment) in real-time for network availability, device health (CPU/memory) and network utilization.

## Login to the Portal

- Any AireSpring customer who requests access to AireNMS portal is given read-only access to the portal.
- The customer's dashboard is customized, so they are only able to view those devices assigned for their service/product purchased from AireSpring.
- AireSpring staff (NOC, Repair Center, Engineering and others) have access to ALL customer devices which are monitored in AireNMS.

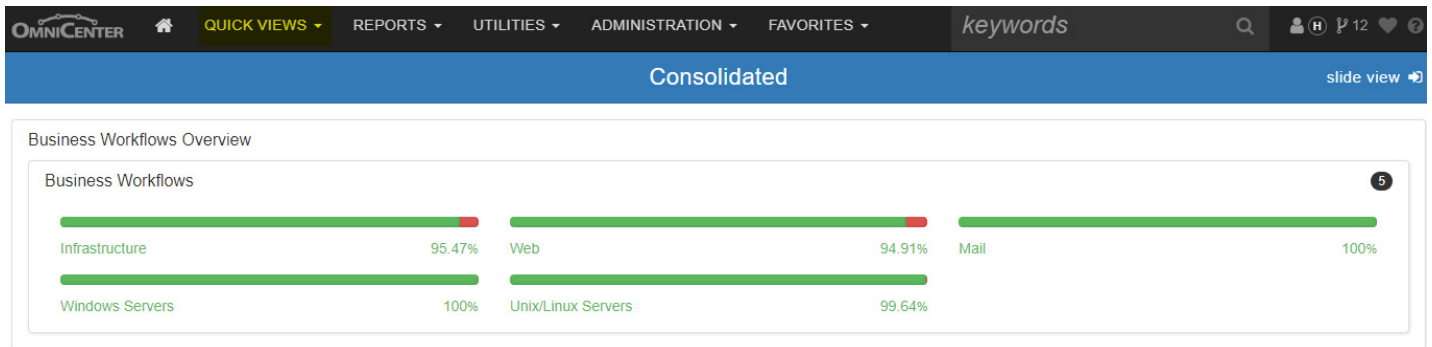
Visit <https://airenms.airespring.com/> and login using the credentials provided to you.



## Overview once you log in

(All Screenshots are just examples and will not hold true for every login)

- Once successfully logged in, you will see the default summary page or dashboard.
- The **'Consolidated View'** will show you the overall availability of the devices categorized under different groups.



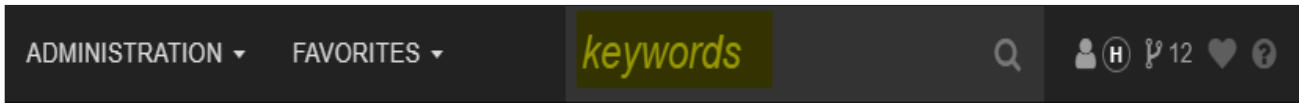
- The **'DEVICES'** section will show you the actual devices monitored.

We can select option of viewing by Category, by Site or by Strategic Group.

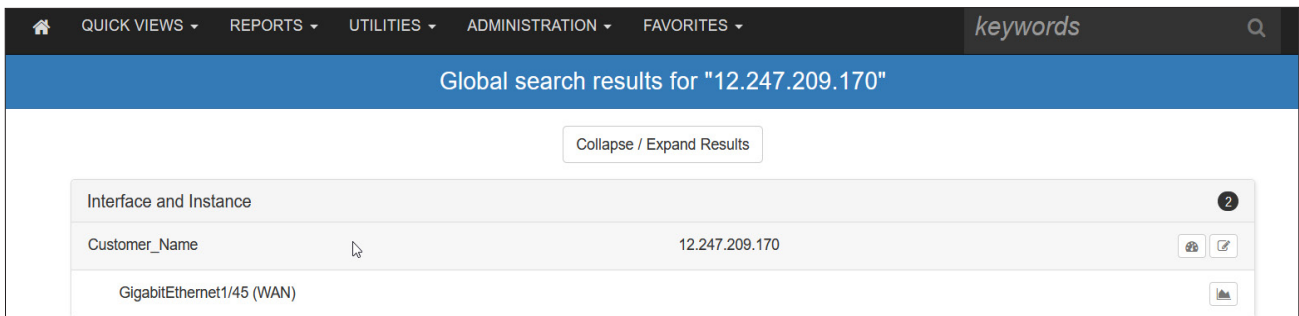
CATEGORIES	HOSTS		SERVICES		THRESHOLDS		ANOMALIES
	STATE	RoC	STATE	RoC	STATE	RoC	
Velo Devices	462 39 0	-0.60%	939 98 1	+0.61%	10.9k 3 6	-0.01%	Not configured
Adtran_Group_1 Routers	300 17 0	-1.03%	628 35 0	-0.46%	5179 1 0	0.00%	Not configured
Adtran_Group_5 Routers	674 13 0	+0.04%	1406 26 1	-0.13%	9145 3 4	0.00%	Not configured
Adtran_Group_2 Routers	441 13 0	-0.06%	917 26 0	-0.30%	6099 1 1	+0.01%	Not configured
New Devices	1204 12 0	-0.16%	2437 37 2	-0.63%	15.5k 1 4	0.00%	Not configured
Adtran_Group_4 Routers	639 12 0	-0.29%	1322 25 2	-6.20%	10.6k 1 4	+0.01%	Not configured
CONCENTRA-Med Routers	7 5 0	-4.19%	23 10 0	-3.34%	183 1 0	0.00%	Not configured
Cisco_Routers Routers	320 4 0	+0.21%	980 12 1	+0.19%	8570 1 3	0.00%	Not configured

## Example of going to Actual Devices

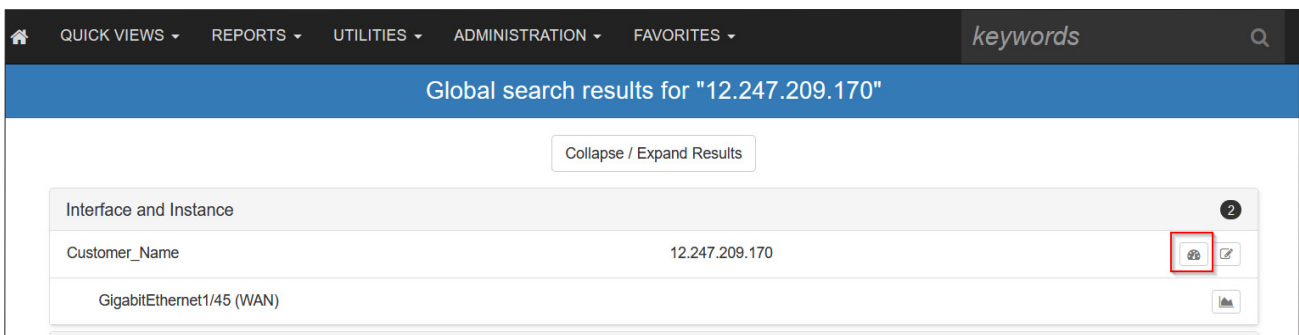
- Below is an example of an actual device in AireSpring Network (screenshots are just examples and will not hold true for every login)
- If you know the name of the device or its IPv4 address, you can search it in the global search bar:



This example shows a search on the IPv4 address.



- Click the icon to the far right to see the details.



That step brings up another page with complete details of the device. You will see the complete details of the device, such as the Category under which it has been monitored, IPv4 address, location and host information.

The screenshot shows the 'DEVICE DASHBOARD' for a customer. The dashboard includes a navigation menu at the top with options like 'QUICK VIEWS', 'REPORTS', 'UTILITIES', 'CUSTOM', and 'FAVORITES'. Below the navigation, there are tabs for 'Overview', 'Services', 'Performance', 'Topology', and 'Trends'. The main content area displays a large green icon with four arrows pointing outwards, representing network connectivity. Below this icon are four status indicators: '0 CRITICAL', '0 WARNING', '1 ACK', and '28 HEALTHY'. A 'HOST INFORMATION' dropdown menu is visible. To the right, the 'ALL INTERFACES' section contains a table with columns for NAME, SPEED, STATUS, BANDWIDTH (%), ERRORS (ERR/SEC), and TAGS. The table lists four interfaces: GigabitEthernet1/1 (LAN\_HANDOFF), GigabitEthernet1/2 (LAN\_HANDOFF), GigabitEthernet1/45 (WAN), and Vlan4000 (LAN).

NAME	SPEED	STATUS	BANDWIDTH (%)		ERRORS (ERR/SEC)		TAGS
			IN	OUT	IN	OUT	
GigabitEthernet1/1 (LAN_HANDOFF)	1 G	OK	* 0 %	* 0 %	* 0	* 0	
GigabitEthernet1/2 (LAN_HANDOFF)	1 G	OK	* 0.018 %	* 0.052 %	* 0	* 0	
GigabitEthernet1/45 (WAN)	250 M	OK	* 0.208 %	* 0.072 %	* 0	* 0	
Vlan4000 (LAN)	1 G	OK	* 0.016 %	* 0.050 %	* 0	* 0	

- Host information will give you details of the equipment, like its uptime, serial number and firmware version. The interface utilization can be checked by clicking on the graph next to it.

HOST INFORMATION				
Current State	<b>UP</b>			<a href="#">Status Details</a>
Last Reboot Time	80d 9h 40m 29s			
Type of Device	Cisco IOS Router			
Category	<a href="#">4948 Switches</a>			
Site	<a href="#">HQ LA</a>			
Address	7800 Woodley Ave Van Nuys, CA USA 91406			
Uptime	Previous Month	Month to Date	7d	1d
	100.00%	100.00%	100.00%	100.00%
Serial Number	FOX1346G11P			
Description	Cisco IOS Software, Catalyst 4500 L3 Switch Software (cat4500-ENTSERVICESK9-M), Version 15.0(2)SG6, RELEASE SOFTWARE (fc1) Technical Support: <a href="http://www.cisco.com">http://www.cisco.com</a>			

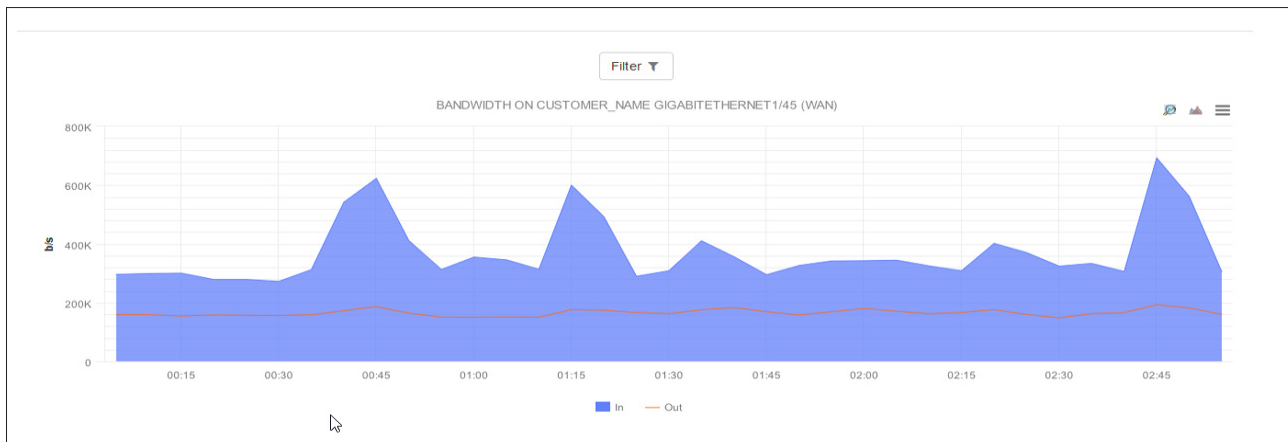
- The interface utilization can be checked by clicking on the graph next to it. In this example, this device has three layer1 interfaces and one layer2 interface.

ALL INTERFACES

Search:

NAME	SPEED	STATUS	BANDWIDTH (%)		ERRORS (ERR/SEC)		TAGS
			IN	OUT	IN	OUT	
GigabitEthernet1/1 (LAN_HANDOFF)	1 G	OK	* 0 %	* 0 %	* 0	* 0	
GigabitEthernet1/2 (LAN_HANDOFF)	1 G	OK	* 0.018 %	* 0.062 %	* 0	* 0	
GigabitEthernet1/45 (WAN)	250 M	OK	* 0.251 %	* 0.075 %	* 0	* 0	
Vlan4000 (LAN)	1 G	OK	* 0.017 %	* 0.061 %	* 0	* 0	

- Once the graph is clicked, we get the details about the network utilization (b/s and its multiple), physical error counts and round trip latency (seconds and its multiple), as shown below.



## The second navigation tab is “Services”

- Check all the services being monitored by AireNMS for devices, and view their status.
- There are four possible states: OK, WARNING, CRITICAL and ACKNOWLEDGED.

The screenshot shows the 'DEVICE DASHBOARD' for a customer. The 'Services' tab is selected, displaying a 'SERVICES LIST' table. The table includes columns for service name, status, details, and last update time.

Service Name	Status	Details	Last Update
Authentication	OK		76d 14h 23m 48s
PING	OK	Ping OK: Packet Loss 0%   RTA = 89.809 ms	7d 2h 25m 48s
Auto-Monitor Interfaces	OK	OK. No device repoll detected.	76d 13h 48m 37s
Configuration Save Check	ACKNOWLEDGED	CRITICAL: Configuration has been changed but not saved!	76d 13h 3m 38s
Cisco Hardware Check	OK	No alarms.	76d 13h 48m 37s
Check Interface Status on GigabitEthernet1/1 (LAN_HANDOFF)	OK	Interface 2 is UP.	62d 21h 7m 8s
Check Interface Status on GigabitEthernet1/2 (LAN_HANDOFF)	OK	Interface 3 is UP.	75d 48m 48s
Check Interface Status on GigabitEthernet1/45 (WAN)	OK	Interface 46 is UP.	75d 48m 48s
Check Interface Status on Vlan4000 (LAN)	OK	Interface 57 is UP.	75d 48m 48s

## The third tab shows “Performance”

- Navigate to an individual parameter by clicking it (left hand side of the page).

The screenshot shows the 'Performance' tab for a customer. The left navigation pane is visible, with 'Latency' selected and 'Round-trip Latency' highlighted. The main content area displays a graph and summary statistics for Round-trip Latency.

**NAVIGATION**

- Latency
  - Round-trip Latency
- CPU
  - CPU Utilization
- Memory
  - Memory Statistics
- Network
  - Interfaces (3)

**LATENCY**

Round-trip Latency

24 HOUR PEAK: 0.000 s

0 s current | 0 s avg | 0 s max

**CPU**

CPU Utilization

**MEMORY**

Memory Statistics

**NETWORK**

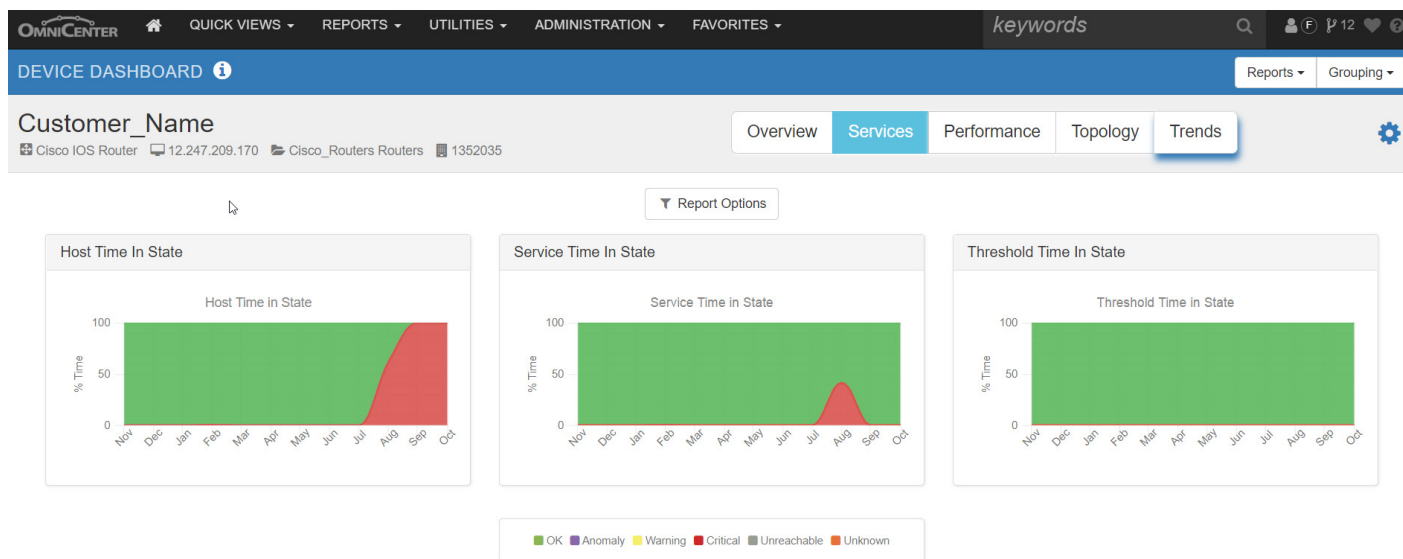
\* INTERFACES (3)

## The fourth tab shows “Topology”

- This tab is only available if there is a topology map configured for the device. In our example, we do not have any topology defined.

## The fifth tab shows “Trends”

- This section indicates host uptime, service time and threshold time in graphical as well as percentage details.



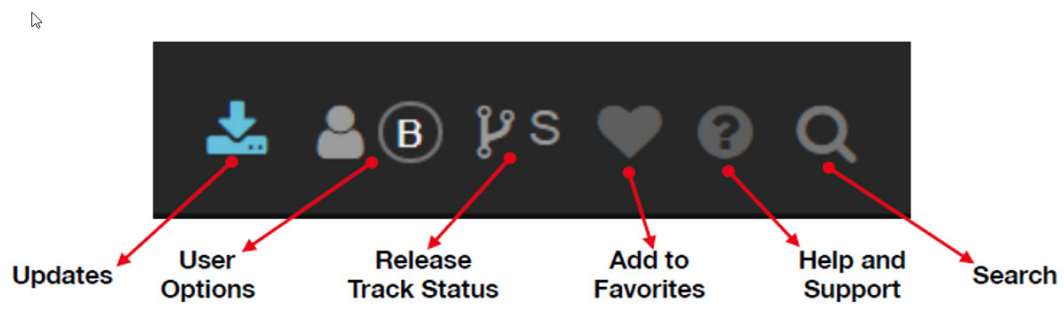
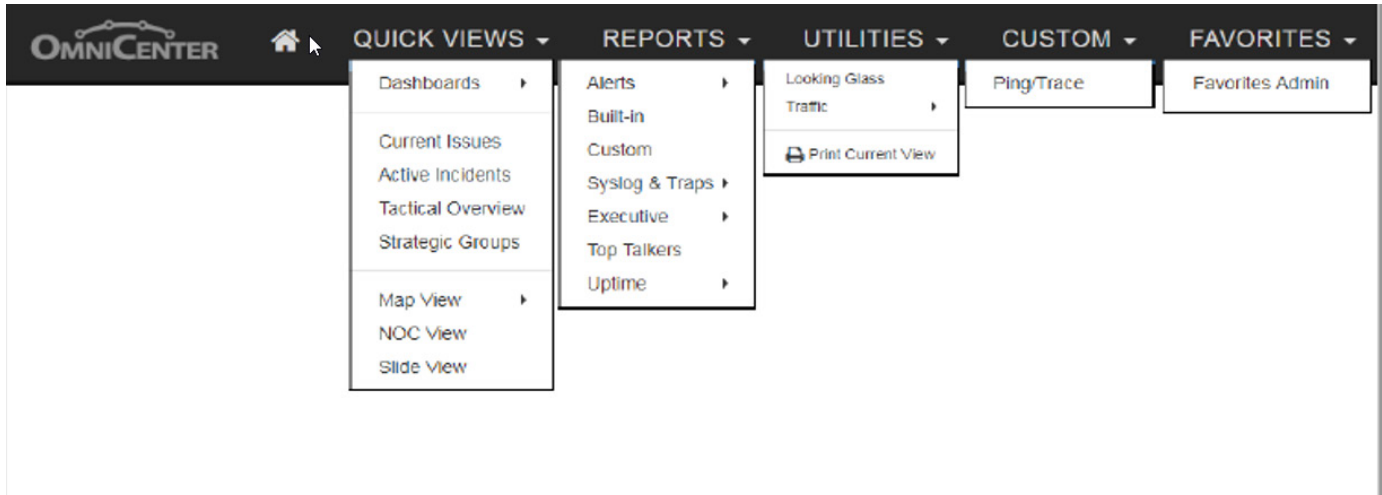
Alert Details						
TYPE		LAST 24 HOURS		LAST 7 DAYS		LAST 30 DAYS
New Host Alerts	0	No Change	0	No Change	0	No Change
Host Renotify	0	No Change	0	No Change	0	No Change
Host Acknowledgments	0	No Change	0	No Change	0	No Change
Host Recoveries	0	No Change	0	No Change	0	No Change
New Service Alerts	0	No Change	0	No Change	0	No Change
Service Renotify	0	No Change	0	No Change	0	No Change
Service Acknowledgments	0	No Change	0	No Change	0	No Change
Service Recoveries	0	No Change	0	No Change	0	No Change
New Threshold Alerts	0	No Change	0	No Change	0	No Change
Threshold Renotify	0	No Change	0	No Change	0	No Change
Threshold Acknowledgments	0	No Change	0	No Change	0	No Change



## Additional Utilities

- On top of the page you can see additional utilities available to customize the page, reports or troubleshooting tools.

*Individuals with knowledge of networking (system admins or IT professionals) can find some of the tools useful for troubleshooting like Ping/Trace or Looking Glass.*



## Notes for AireNMS Users—

- Screenshots provided above to illustrate different features are only examples and will NOT be the same for the customer's AireNMS dashboard.
- Monitoring is done using SNMP between AireSpring managed CPEs and AireNMS server.
- AireNMS server is hosted in a Data Center in Los Angeles, CA. Latency, round trip time and other network parameters are monitored based on the physical distance between the actual device and AireNMS server.
- Ping times and latency will vary if individuals test it from any other network or physical location within United States or around the world.