



Wireless Network Monitoring & Management

BMO Training 2013

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Overview

- Wireless Device Monitoring
- Wireless Traffic Monitoring
- Session Accounting
- RF Monitoring
- WLAN Management Tools
- Q&A



Wireless Device Monitoring

- Device Load
 - CPU Utilization
 - Memory Utilization
- Device Uptime
- Device Alarms
- Device Availability
- Monitoring?
 - SNMP [Availability, Uptime, CPU, Memory]
 - PING [Availability, Latency]

Wireless Traffic Monitoring

- What is the total wireless traffic?
- What is the traffic per access point?
 - Busiest Access Points
 - Hot spots in your campus
- Who are the top WLAN users?
 - Per Department
 - Per individual
 - Per VLAN
- What are the traffic load patterns on the WLAN?

Session Accounting

- How many users connect per day/week?
- What is the maximum concurrent connections per day/week?
- What types of mobile/portable equipment join the network?



RF Activity Monitoring/Roaming

- Are other access points using your channels?
- How noisy is your campus?
 - USB WLAN analyzer
 - WLAN controller/AP
 - Software[NetStumbler, WIFI Stumbler, WiEye, etc]
- IP Addressing?
 - Automatic
- User Management?
- Database?
- Configuration Backups?



WLAN Management Tools/Controllers

- To Centralize or NOT?
- Benefits of Centralization
 - Simplify Upgrades
 - Dynamic RF/Radio Resource Management (RRM)
 - Self-Healing Mechanism when a single radio fails
 - Simplified deployment/management
 - Single point of failure?
- WLAN Controllers & Tools
 - Doloradius, Cacti, Ubiquiti UniFi Controller Software, HP MSM710 Mobility Controller, Cisco Wireless LAN Controller, Ruckus ZoneDirector, Mikrotik Wireless Controller, Juniper wireless LAN controller



WLAN Controller - Map

UniFi

Access Points: 3 connected 0 disconnected 0 pending Stations: 14 users 3 guests Refresh Every 2 minutes

Welcome admin | [settings](#) | [logout](#)

Map Statistics Access Points Users Guests

Show: labels details coverage Map: Office configure maps

jerry's office Connected

Details Users Guests Configuration

Overview

MAC Address	00:15:6d:00:03:cd
Model	UniFi AP
Version	6.0.5920
IP Address	192.168.1.173
Uptime	7d 3h 6m
# Users	8
# Guests	1

Radio (11n/b/g)

locate restart


Conf. Room


jerry's office


HW Lab


10m

Recent Events Alerts Settings Admin

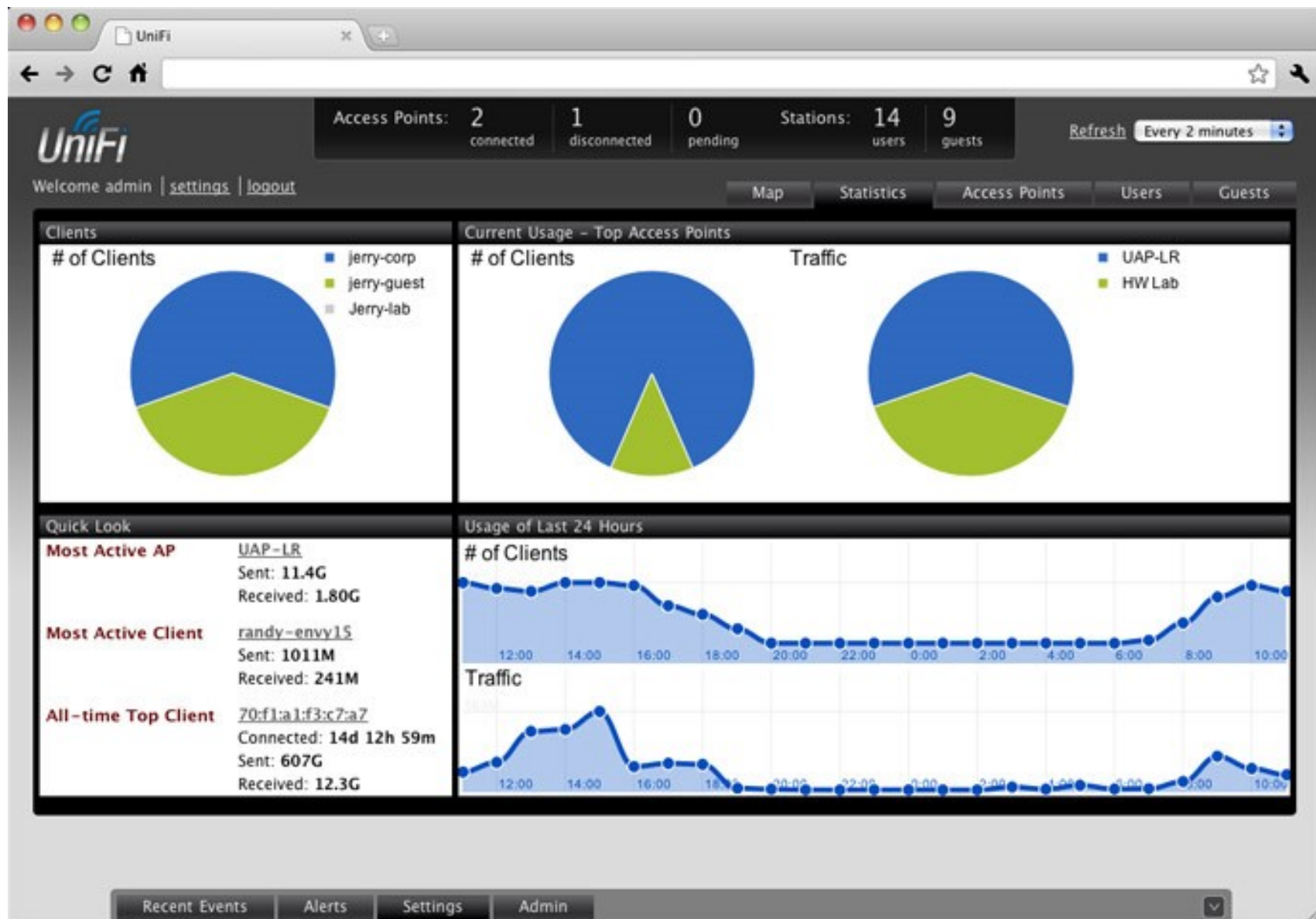
 **System**
System related settings

 **Wireless Networks**
Wireless Networks

 **Guest Control**
Guest portal and policies

 **Blocked Devices**
List of blocked wireless devices

WLAN Controller - Statistics



WLAN Controller - APs

The screenshot displays the UniFi web interface. At the top, a status bar shows: Access Points: 2 connected, 1 disconnected, 0 pending; Stations: 14 users, 9 guests. A 'Refresh' button is set to 'Every 2 minutes'. Below this, a navigation bar includes 'Map', 'Statistics', 'Access Points', 'Users', and 'Guests'. The main content area is titled 'Managed Access Points' and features a search bar and a table of access points.

Name/MAC Address	IP Address	Status	Num Clients	Download	Upload	Channel	Actions
HW_Lab	192.168.0.172	Connected	3	7.66G	950M	6 (ng)	Restart Locate Upgrade
UAP-LR	192.168.1.129	Connected	20	11.4G	1.80G	1 (ng)	Restart Locate Upgrade
Jerry's Office	192.168.1.135	Disconnected		0.00	0.00		

A modal window titled 'Admin' is open, showing the following sections:

- Server Information**: Version 1.2.0
- Backup**: Download [Download Backup Settings](#)
- Restore**: Browse [Choose File](#) No file chosen
- Support Info**: Download [Download Support Info](#)

WLAN Controller - Users

The screenshot displays the UniFi web interface for managing wireless users. At the top, a summary bar shows: Access Points: 2 connected, 1 disconnected, 0 pending; Stations: 14 users, 9 guests. A 'Refresh' button is set to 'Every 2 minutes'. Below this, navigation tabs include 'Map', 'Statistics', 'Access Points', 'Users' (selected), and 'Guests'. The 'Active Wireless Users' section features a search bar and a 'Filter by AP' dropdown set to 'All (14)'. A table lists 14 active users with columns for Name/MAC Address, IP Address, WLAN, Access Point, Signal, Down, Up, Activity, Uptime, and Actions. Each user entry includes 'block' and 'reconnect' buttons. The bottom of the interface has tabs for 'Recent Events', 'Alerts', 'Settings', and 'Admin'.

Name/MAC Address	IP Address	WLAN	Access Point	Signal	Down	Up	Activity	Uptime	Actions
read-only	192.168.0.37	jerry-corp	UAP-LR	97%	2.82G	205M		5d 19h 12m	block reconnect
randy-envy15	192.168.1.214	jerry-corp	UAP-LR	45%	1011M	241M	■	5d 19h 9m	block reconnect
RMAInventory-PC	192.168.1.143	jerry-corp	HW Lab	52%	605M	24.2M		12d 19h 51m	block reconnect
patrick-hp-en	192.168.0.226	jerry-corp	UAP-LR	47%	223M	73.7M	■	20h 3m 20s	block reconnect
Kevin-PC	192.168.1.86	jerry-corp	UAP-LR	62%	192M	2.95M		7d 58m 37s	block reconnect
KM-dv2000	192.168.0.23	jerry-corp	UAP-LR	92%	72.1M	51.7M	■	1d 17h 10m	block reconnect
ubnt-PC	192.168.0.224	jerry-corp	HW Lab	92%	39.8M	6.95M	■	2h 41m 27s	block reconnect
AHOUSLEY00190	192.168.1.104	jerry-corp	UAP-LR	74%	27.5M	4.15M	■	32m 31s	block reconnect
demo103-PC	192.168.1.118	jerry-corp	UAP-LR	62%	14.7M	1.86M	■	2h 49m 26s	block reconnect
abhijit-ubuntu-10-10	192.168.1.70	jerry-corp	UAP-LR	59%	13.1M	4.37M		2d 22h 10m	block reconnect

1 - 10 / 14

WLAN Controller – Users 2

UniFi

Access Points: 2 connected, 1 disconnected, 0 pending. Stations: 14 users, 9 guests. Refresh: Every 2 minutes.

Welcome admin | [settings](#) | [logout](#)

Map | Statistics | Access Points | Users | Guests

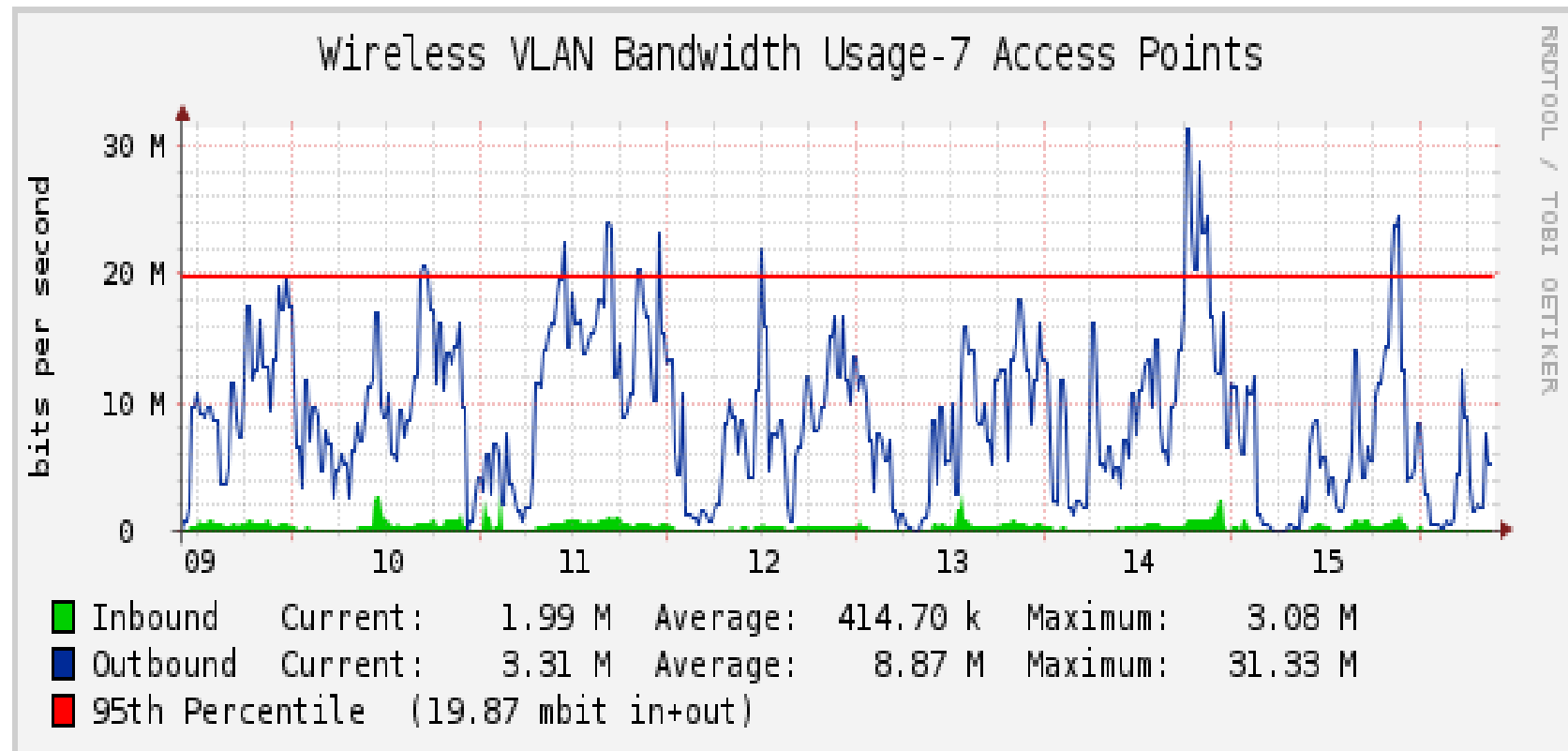
Active Wireless Guests

Search: Filter by AP: All (9)

Name/MAC Address	Status	IP Address	Access Point	Signal	Down	Up	Activity	Uptime	Actions
c4:2c:03:e9:98:77	Authorized	192.168.0.81	UAP-LR	0.0%	566K	169K		2h 56m 20s	block disconnect
TRUAN00330	Authorized	192.168.1.152	UAP-LR	92%	55.2M	10.1M	■	2h 27m 13s	block disconnect
78:ca:39:b0:36:d8	Authorized	192.168.1.193	UAP-LR	17%	10.9M	3.80M		2h 24m 5s	block disconnect
58ONN00399	Authorized	192.168.1.181	UAP-LR	79%	125M	20.2M	■	2h 13m 34s	block disconnect
4M2TTL1-772	Authorized	192.168.1.13	UAP-LR	52%	12.5M	2.12M	■	1h 24m 11s	block disconnect
roberts-iPhone	Authorized	192.168.0.42	UAP-LR	25%	64.1K	112K		1h 13m 27s	block disconnect
bmc-1c7afebd846	Authorized	192.168.1.103	UAP-LR	9.9%	2.08M	158K		1h 7m 33s	block disconnect
1VTWRM1-162	Authorized	192.168.1.96	UAP-LR	30%	676K	110K		52m 23s	block disconnect
f8:1e:df:25:f8:6a	Authorized	192.168.1.117	UAP-LR	15%	1.56M	120K		18m 54s	block disconnect

Recent Events | Alerts | Settings | Admin

WLAN Monitoring – Bandwidth Use



WLAN Monitoring – Associations

