

# Mesh

## Mesh Test Plan



Fri Jan 24 20:24:46 PST 2020

Test Setup Information		
Device Under Test	Name	RootAP
	SSIDs	orbimeshstest orbimeshstest orbimeshstest
	BSSIDs	8c:3b:ad:2c:b3:4f 92:3b:ad:2c:b3:4c 92:3b:ad:2c:b3:4e
Estimated Run Time	0 ms	
Actual Run Time	48.288 m	

## Objective

Automated testing for 3-node mesh systems.

## Summary Results

Test	Result	Score	Elapsed	Info
Roam Chamber Loc: ABC STA Loc: Close Root AP	5Ghz PASS	0	12.749 m	STA:CR-Orbit Near UDP DL Sum Throughput: 93.18 Mbps STA:CR-Random Middle UDP DL Sum Throughput: 94.53 Mbps STA:CR-South-East UDP DL Sum Throughput: 86.69 Mbps
Roam Chamber Loc: A-B-C STA Loc: Close Root AP	5Ghz PASS	0	13.616 m	STA:CR-Orbit Near UDP DL Sum Throughput: 179.73 Mbps STA:CR-Random Middle UDP DL Sum Throughput: 157.19 Mbps STA:CR-South-East UDP DL Sum Throughput: 192.58 Mbps
Roam Chamber Loc: Random STA Loc: Close Root AP	5Ghz PASS	0	21.633 m	STA:CR-Orbit Near UDP DL Sum Throughput: 102.67 Mbps STA:CR-Random Middle UDP DL Sum Throughput: 121.94 Mbps STA:CR-South-East UDP DL Sum Throughput: 37.31 Mbps

## Roam

### Summary

Traffic on each AP in the test.

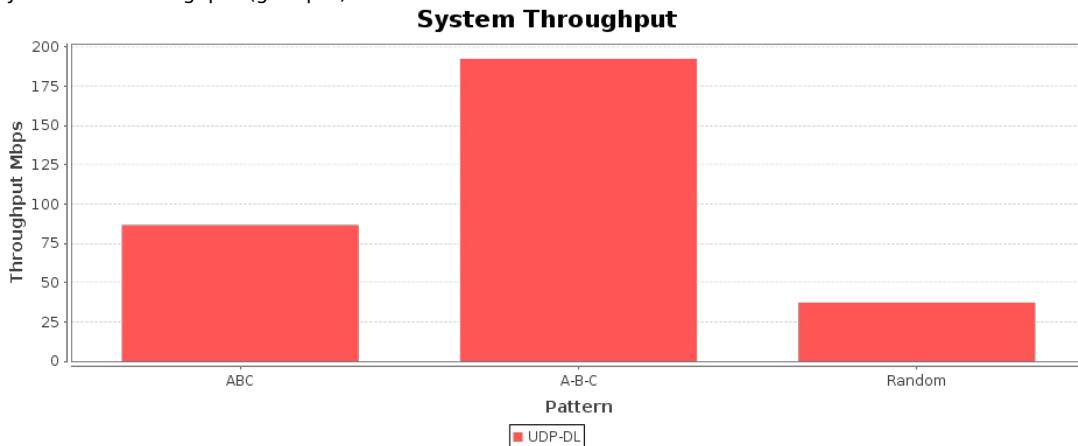
## Roam

### Chamber Loc: ABC

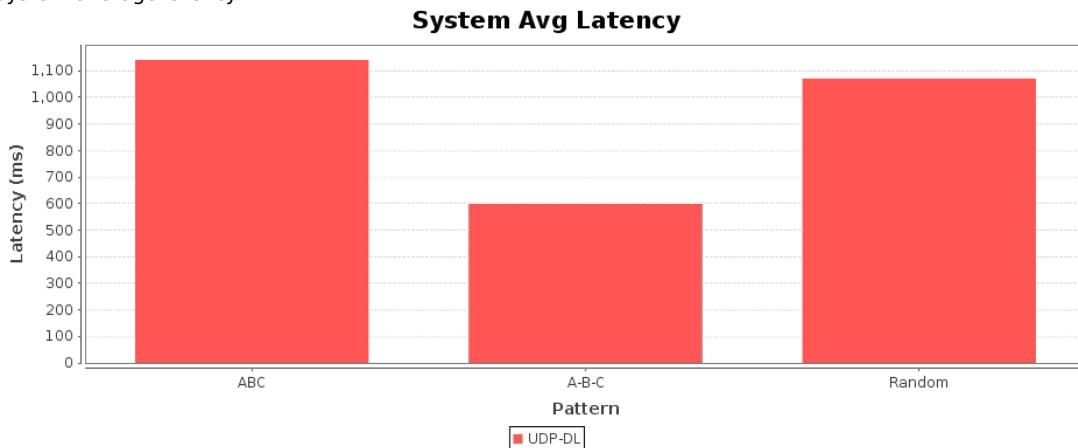
### STA Loc: Close Root AP Results

Type	Result	Notes
AP Chamber Position		ABC
Station Chamber Position		Close Root AP
STA-Orbit Near UDP DL MobileStations	Result	Node Throughput: 93.18 Mbps Avg-Rt-Lat: 214ms
STA-Orbit Near UDP DL Path: Orbit Near	Result	Sum Throughput: 93.18 Mbps Avg-Rt-Lat: 214ms
STA-Random Middle UDP DL MobileStations	Result	Node Throughput: 94.53 Mbps Avg-Rt-Lat: 141ms
STA-Random Middle UDP DL Path: Random Middle	Result	Sum Throughput: 94.53 Mbps Avg-Rt-Lat: 141ms
STA-South-East UDP DL MobileStations	Result	Node Throughput: 86.69 Mbps Avg-Rt-Lat: 1141ms

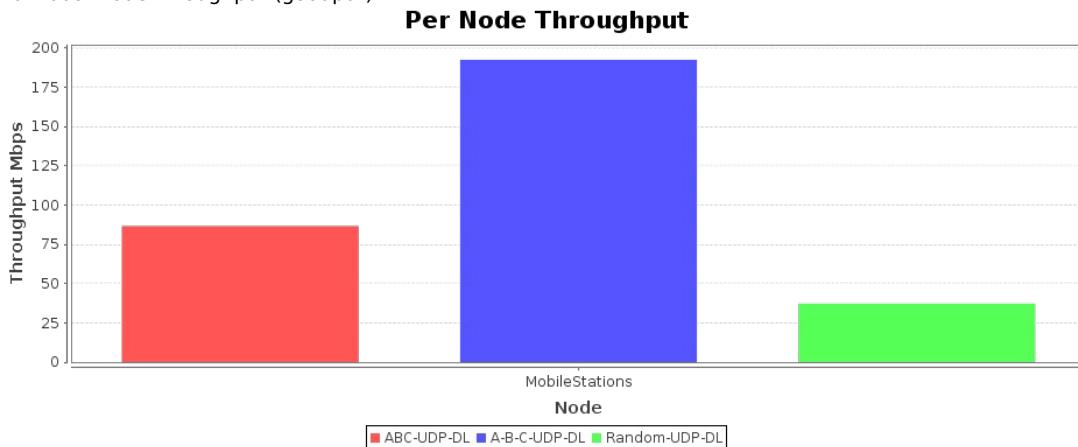
System wide throughput (goodput).



System average latency.

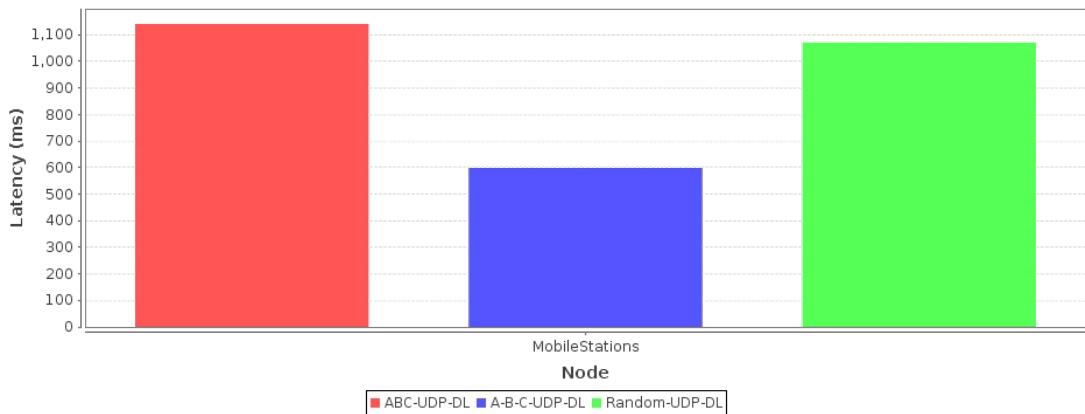


Individual node throughput (goodput).



Node average latency.

### Per Node Avg Latency



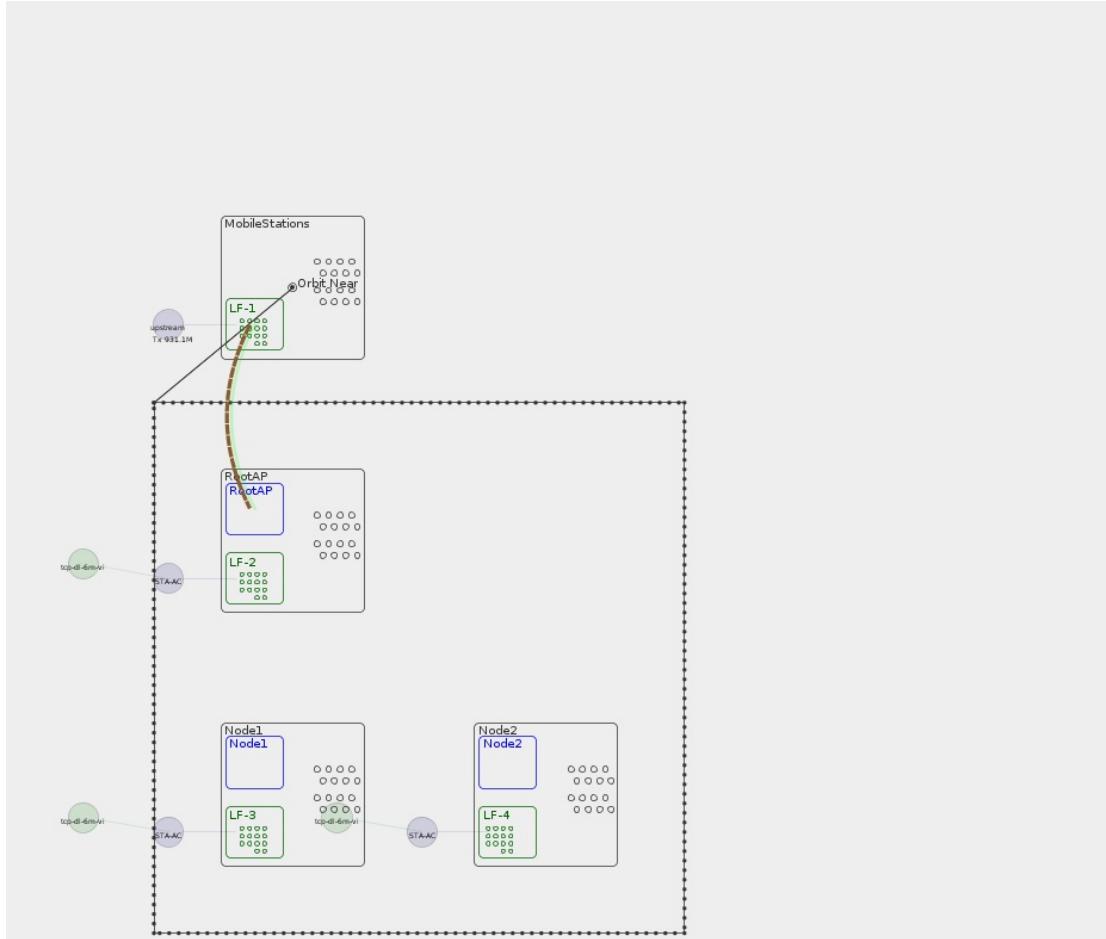
### STA:Close Root AP-Orbit Near UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	220 bps	41.485 Mbps	0	234 Mbps	390 Mbps	802.11an-AC	48	147	-55	8C:3B:AD:2C:B3:4F	192.168.1.70	04:f0:21:3e:f1:09

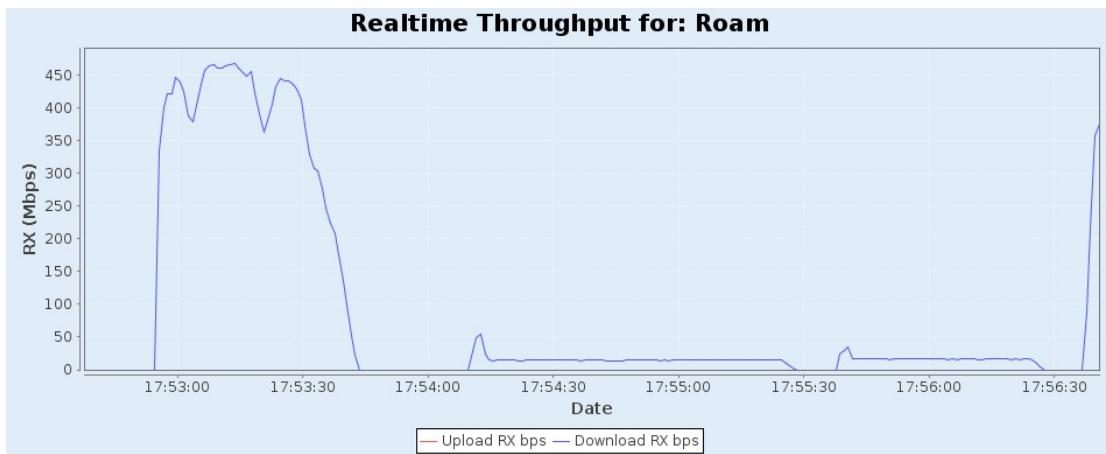
Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	901.416 Mbps	332 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

Endpoint	Tx-Bps 1m	RxBps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	31.739 Mbps	214	214	0	89.929
cv_udp-1.1-1.sta03000--1.0.0-B	73.008 Mbps	0 bps	0	214	0	0

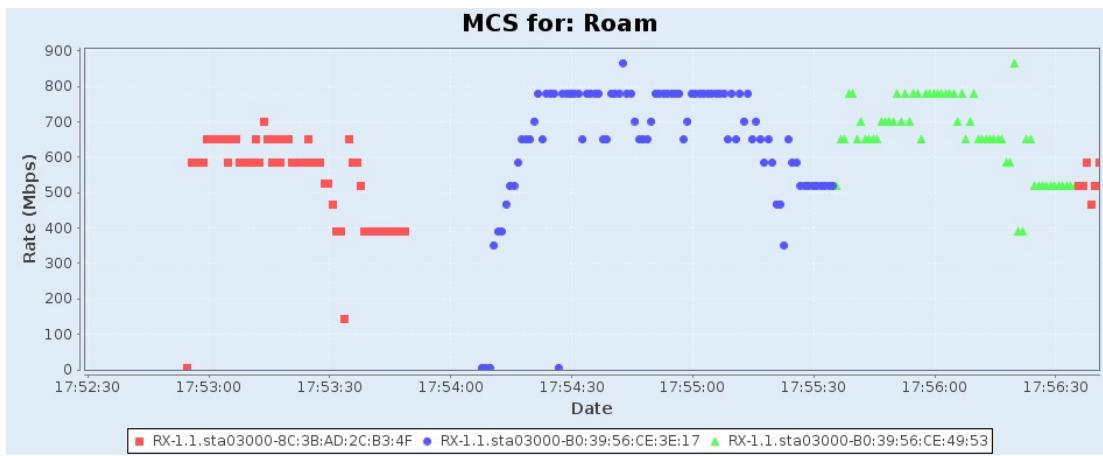
Chamber Layout for this iteration: Roam Chamber Loc: ABC STA Loc: Close Root AP STA:Close Root AP-Orbit Near



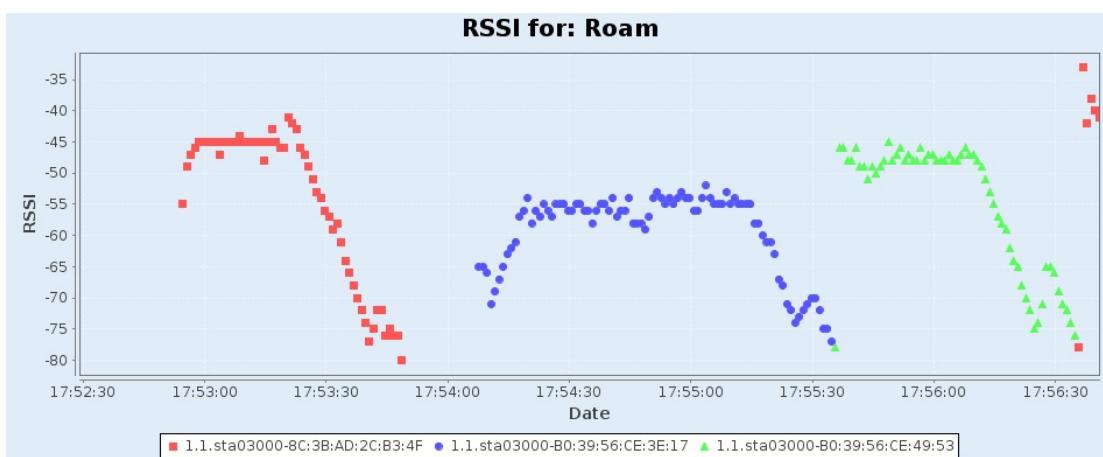
Realtime Throughput for: Roam



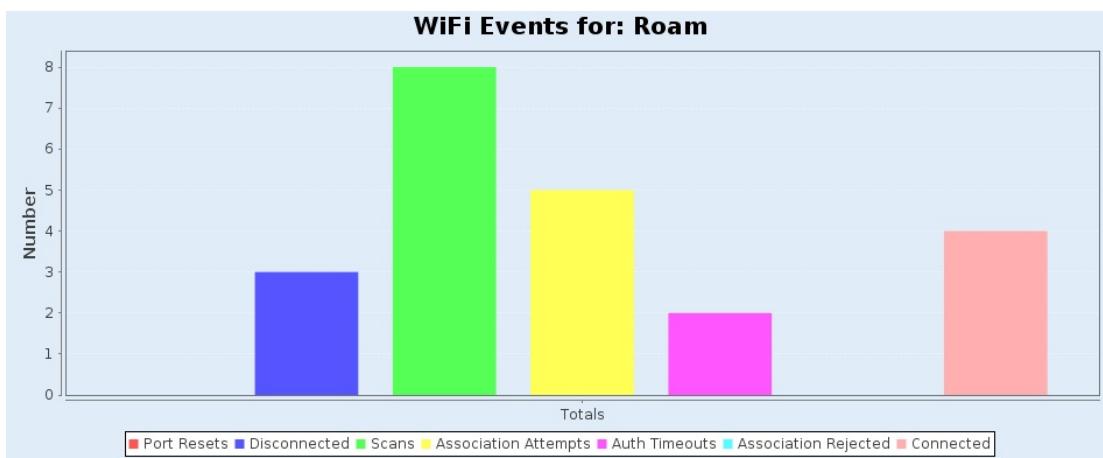
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



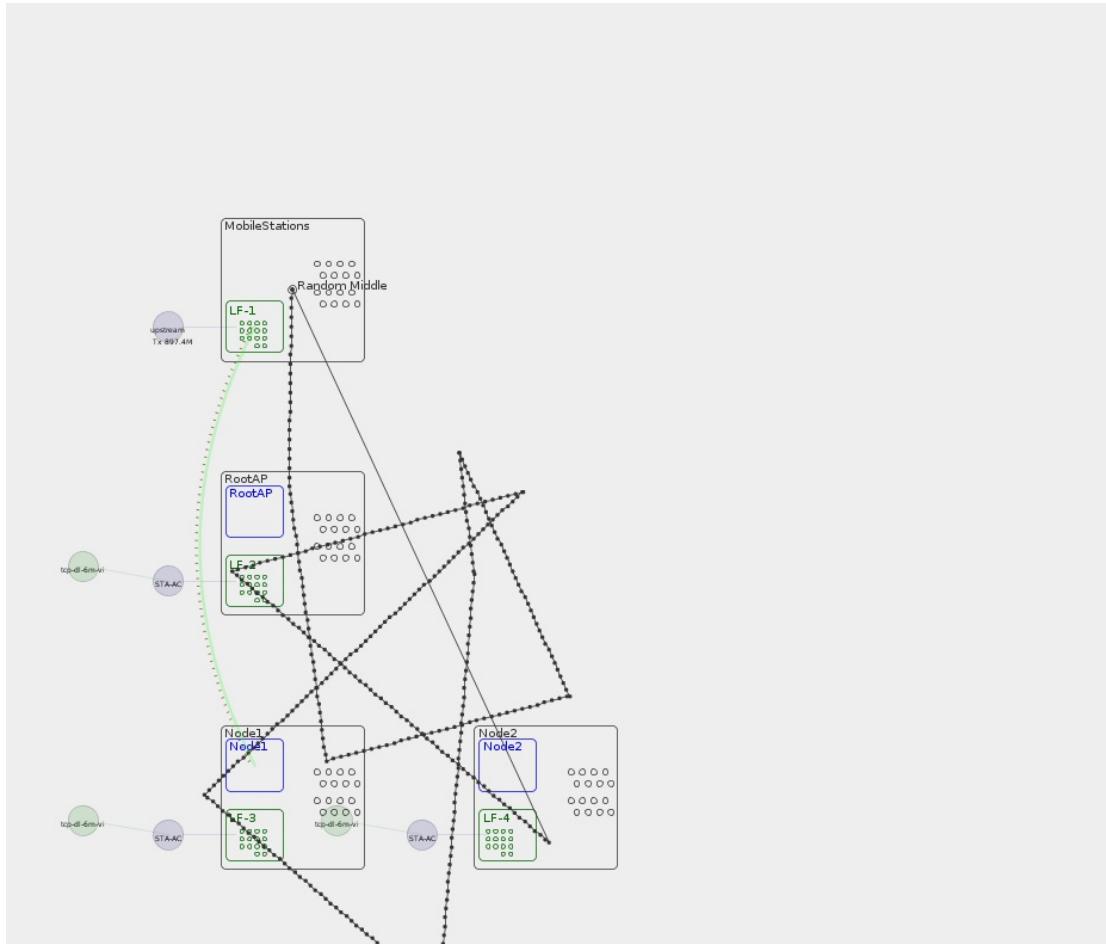
### STA:Close Root AP-Random Middle UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	246 bps	282.68 Mbps	1.24	351 Mbps	650 Mbps	802.11an- AC	48	54	-66	B0:39:56:CE:49:53	192.168.1.70	04:f0:21:3e:f1:09

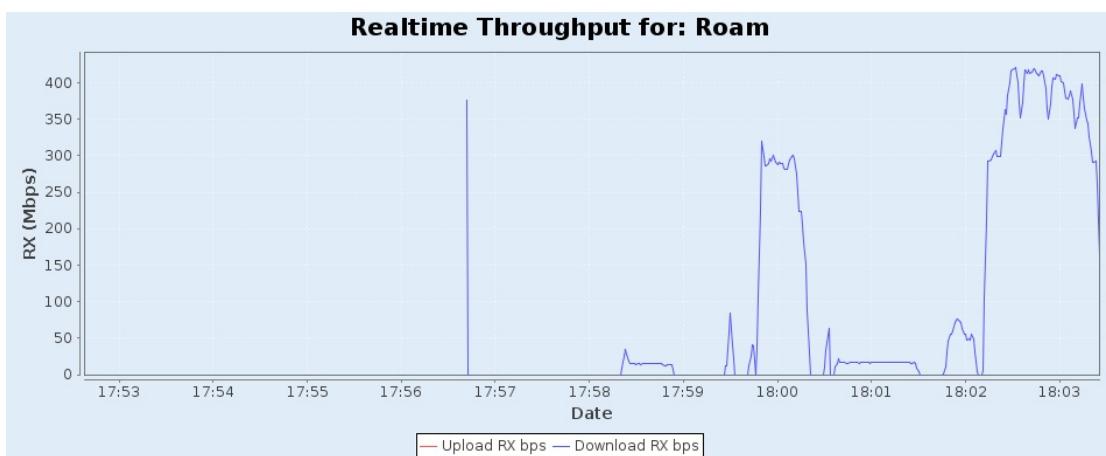
Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	855.337 Mbps	325 bps	1 Gbps	192.168.1.50	00:03:2d:3b:a1:29

Endpoint	Tx-Bps 1m	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	368.933 Mbps	141	141	0	88.839
cv_udp-1.1-1.sta03000--1.0.0-B	883.286 Mbps	0 bps	0	141	0	0

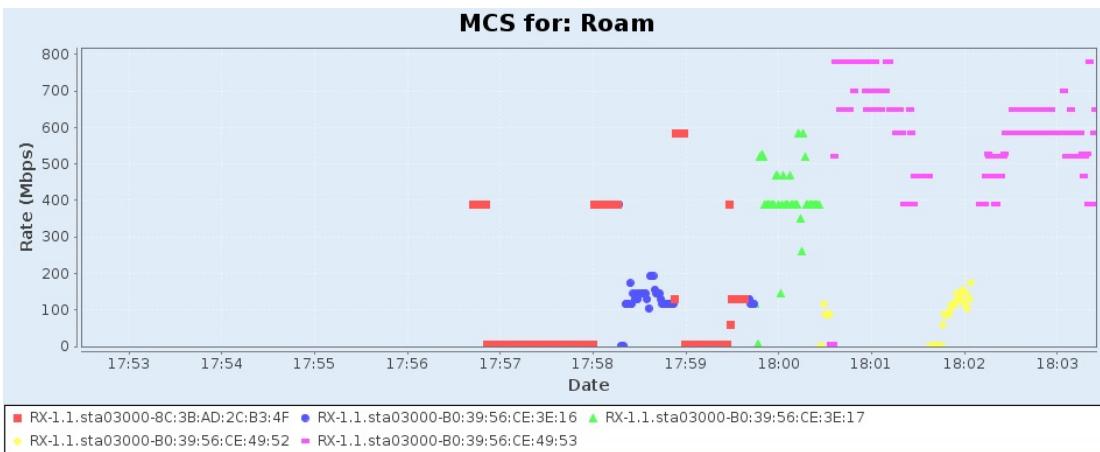
Chamber Layout for this iteration: Roam Chamber Loc: ABC STA Loc: Close Root AP STA:Close Root AP-Random Middle



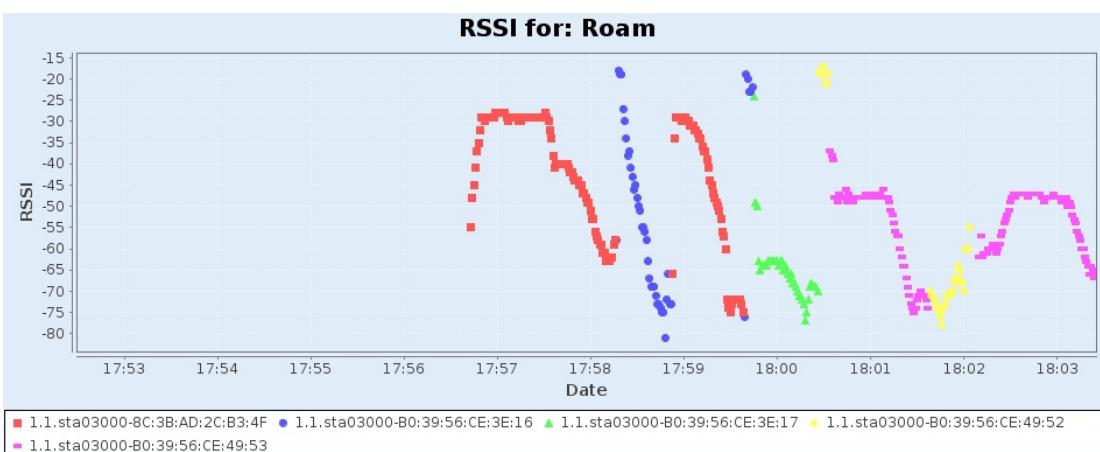
Realtime Throughput for: Roam



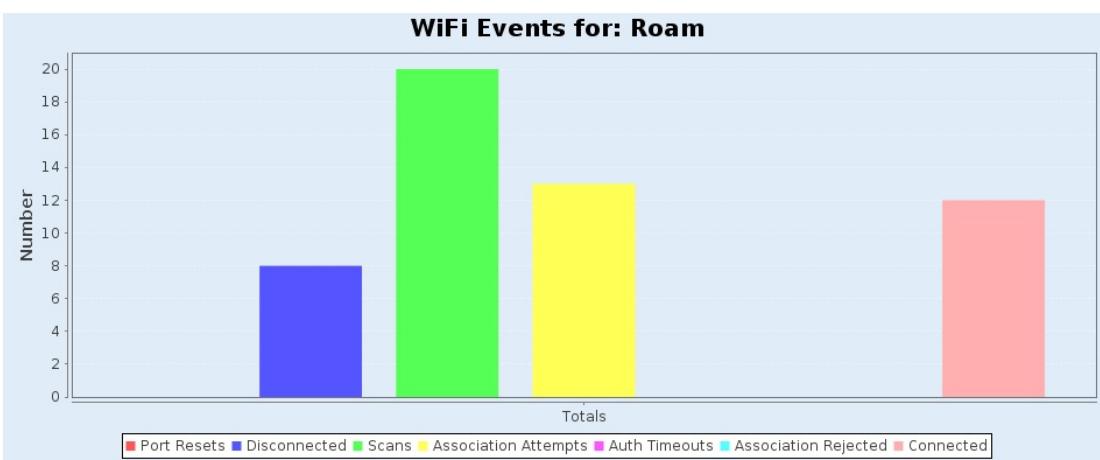
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



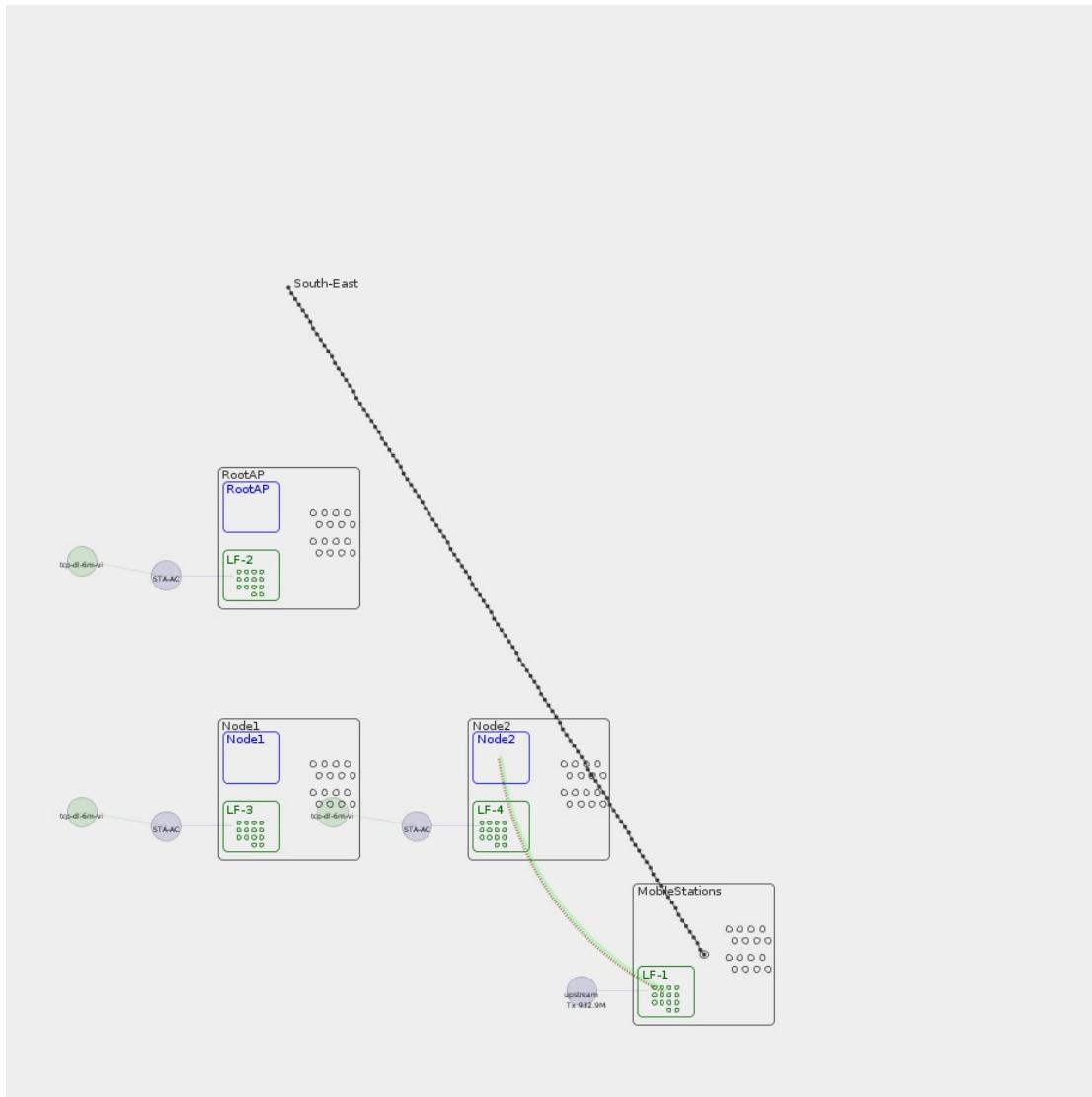
### STA:Close Root AP-South-East UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	417 bps	100.833 Mbps	2.878	234 Mbps	390 Mbps	802.11an-AC	48	33	-67	B0:39:56:CE:3E:17	192.168.1.70	04:f0:21:3e:f1:09

Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	846.368 Mbps	541 bps	1 Gbps	192.168.1.50	00:03:2d:3b:a1:29

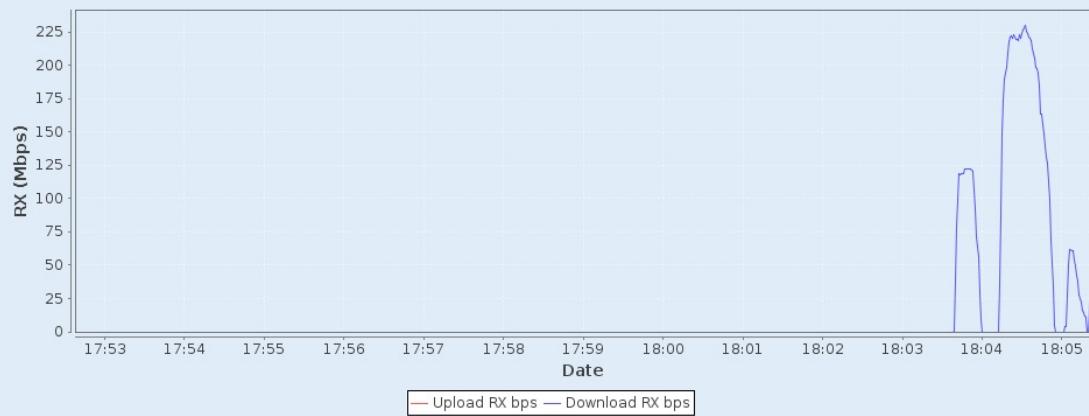
Endpoint	Tx-Bps 1m	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	1.313 Mbps	1,141	1,141	0	89.428
cv_udp-1.1-1.sta03000--1.0.0-B	14.987 Mbps	0 bps	0	1,141	0	0

Chamber Layout for this iteration: Roam Chamber Loc: ABC STA Loc: Close Root AP STA:Close Root AP-South-East



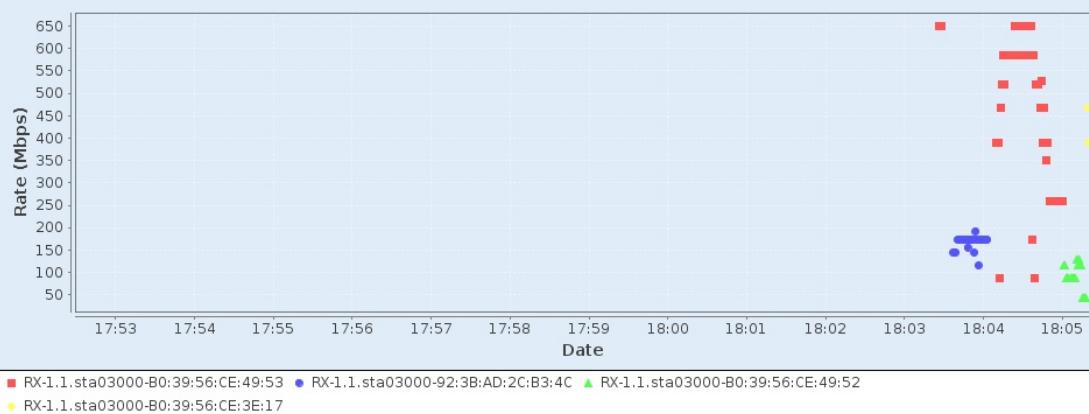
Realtime Throughput for: Roam

### Realtime Throughput for: Roam



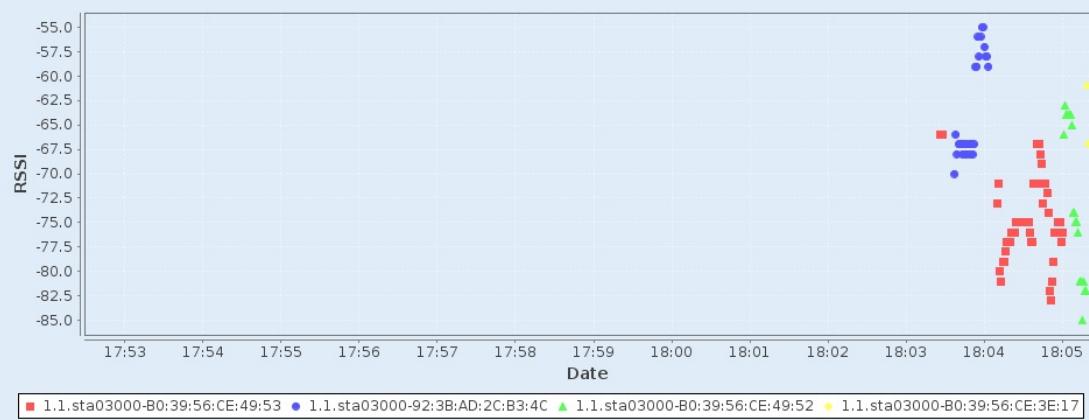
MCS for: Roam

### MCS for: Roam

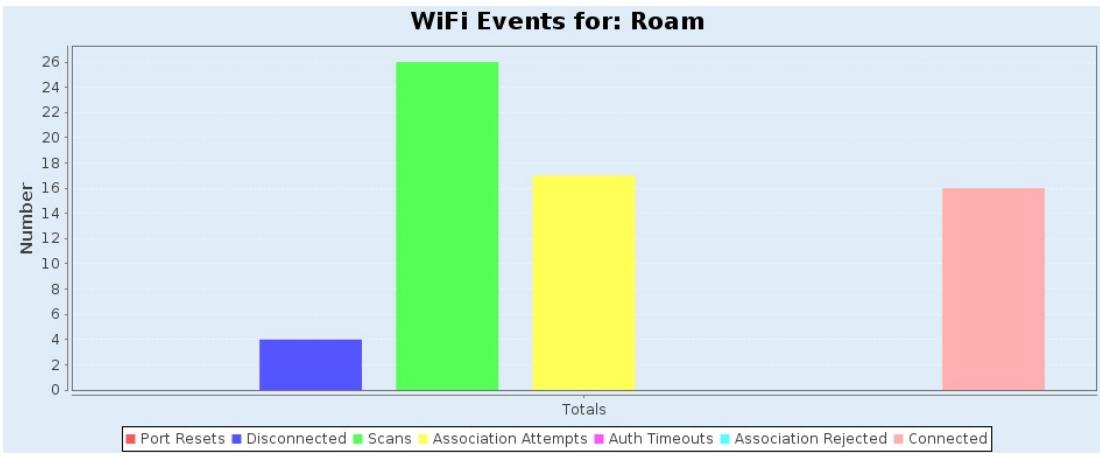


RSSI for: Roam

### RSSI for: Roam



WiFi Events for: Roam



## Roam

### Summary

Traffic on each AP in the test.

## Roam

### Chamber Loc: A-B-C

### STA Loc: Close Root AP Results

Type	Result	Notes
AP Chamber Position		A-B-C
Station Chamber Position		Close Root AP
STA-Orbit Near UDP DL MobileStations	Result	Node Throughput: 179.73 Mbps Avg-Rt-Lat: 219ms
STA-Orbit Near UDP DL Path: Orbit Near	Result	Sum Throughput: 179.73 Mbps Avg-Rt-Lat: 219ms
STA-Random Middle UDP DL MobileStations	Result	Node Throughput: 157.19 Mbps Avg-Rt-Lat: 139ms
STA-Random Middle UDP DL Path: Random Middle	Result	Sum Throughput: 157.19 Mbps Avg-Rt-Lat: 139ms
STA-South-East UDP DL MobileStations	Result	Node Throughput: 192.58 Mbps Avg-Rt-Lat: 599ms
STA-South-East UDP DL Path: South-East	Result	Sum Throughput: 192.58 Mbps Avg-Rt-Lat: 599ms

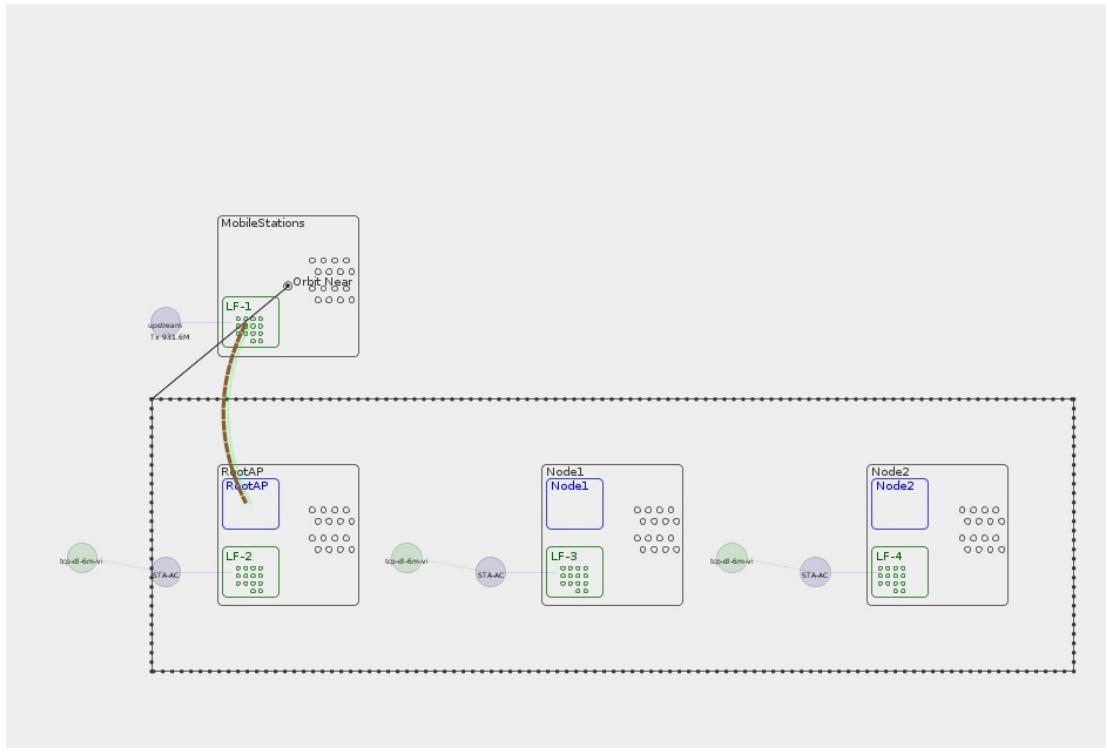
### STA:Close Root AP-Orbit Near UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	281 bps	179.466 Mbps	0	234 Mbps	390 Mbps	802.11an-AC	48	149	-63	8C:3B:AD:2C:B3:4F	192.168.1.26	04:f0:21:3e:ee:09

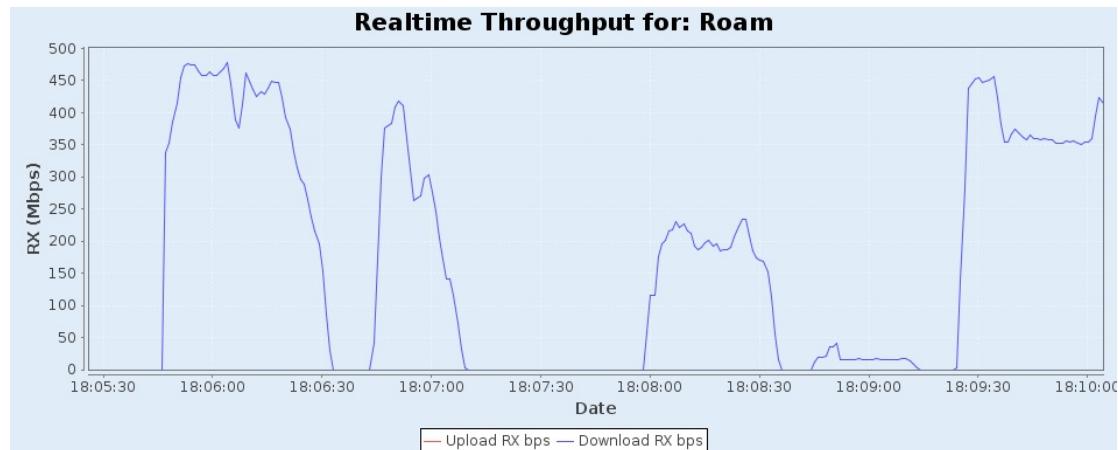
Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	864.373 Mbps	223 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

Endpoint	Tx-Bps 1m	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	263.884 Mbps	219	219	0	75.262
cv_udp-1.1-1.sta03000--1.0.0-B	604.653 Mbps	0 bps	0	219	0	0

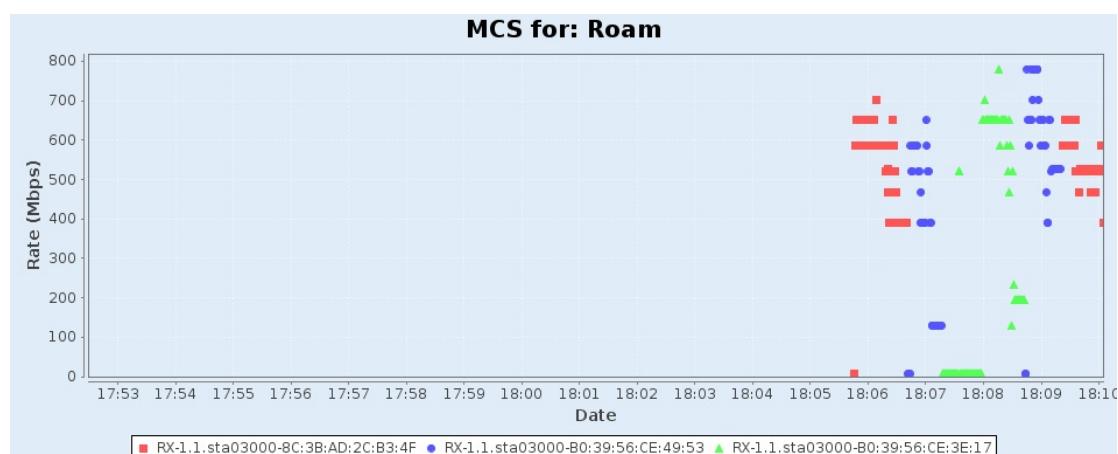
Chamber Layout for this iteration: Roam Chamber Loc: A-B-C STA Loc: Close Root AP STA:Close Root AP-Orbit Near



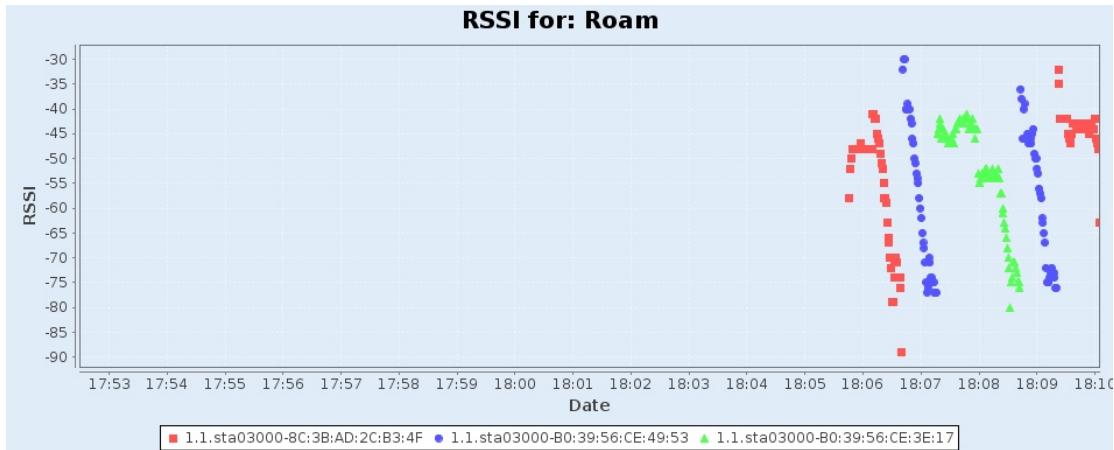
Realtime Throughput for: Roam



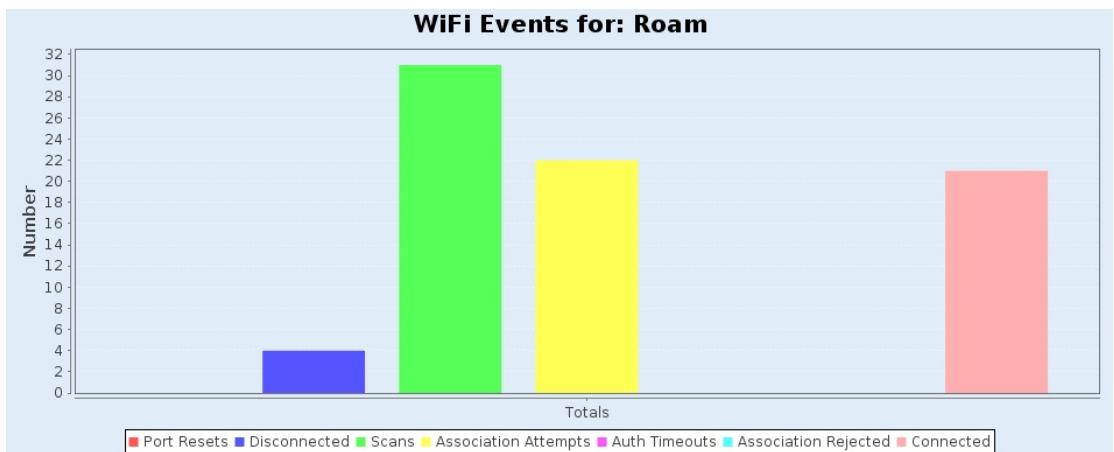
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



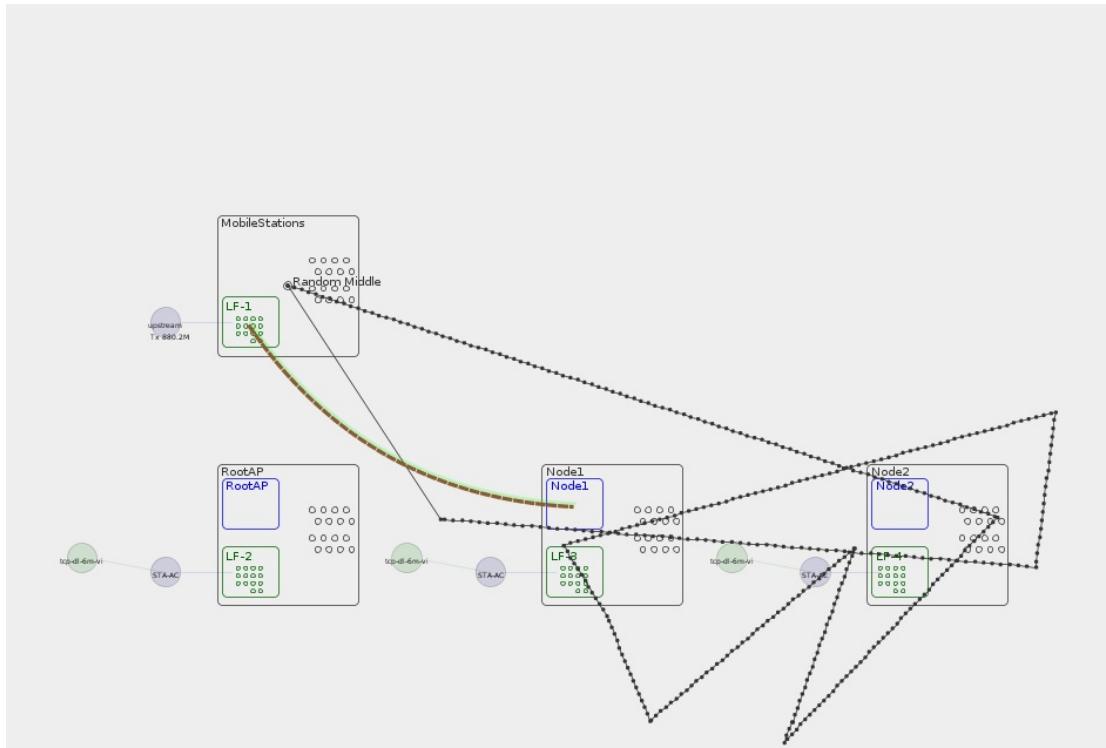
## STA:Close Root AP-Random Middle UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	232 bps	101.577 Mbps	3.805	351 Mbps	702 Mbps	802.11an- AC	48	64	-48	B0:39:56:CE:49:53	192.168.1.26	04:f0:21:3e:ee:09

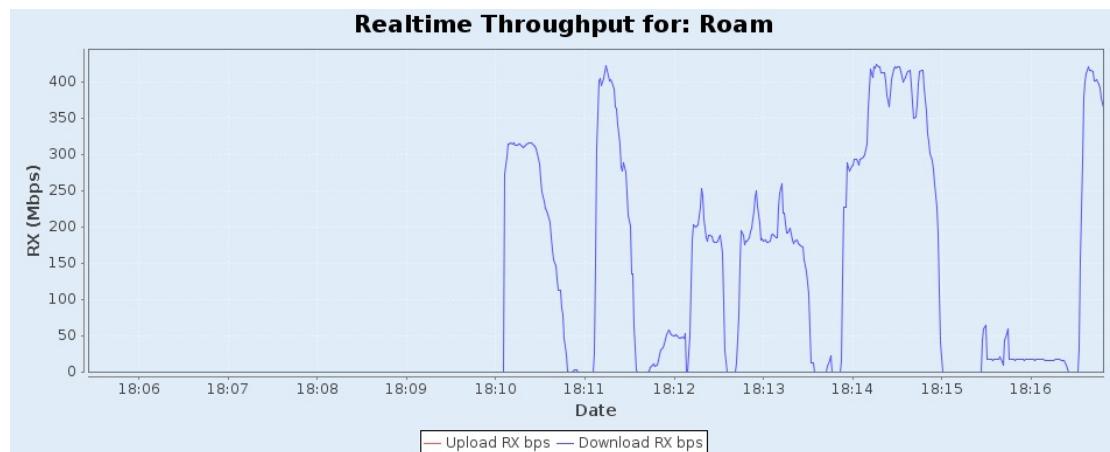
Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	856.523 Mbps	350 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

Endpoint	Tx-Bps 1m	RxBps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	109.491 Mbps	139	139	0	81.587
cv_udp-1.1-1.sta03000--1.0.0-B	249.975 Mbps	0 bps	0	139	0	0

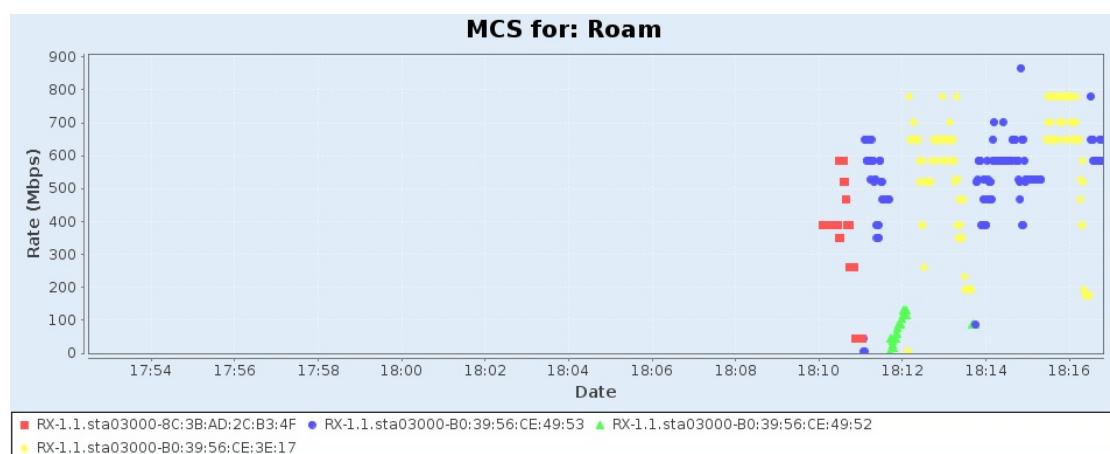
Chamber Layout for this iteration: Roam Chamber Loc: A-B-C STA Loc: Close Root AP STA:Close Root AP-Random Middle



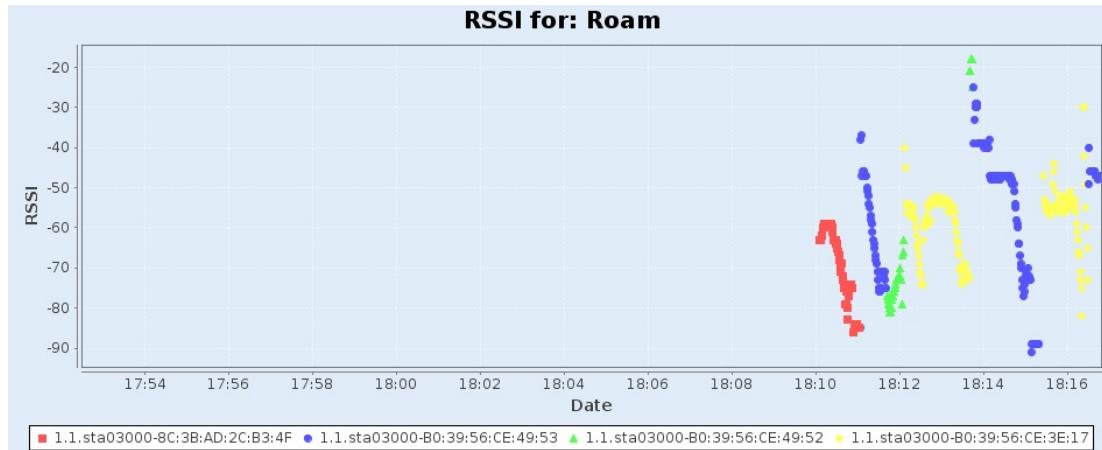
Realtime Throughput for: Roam



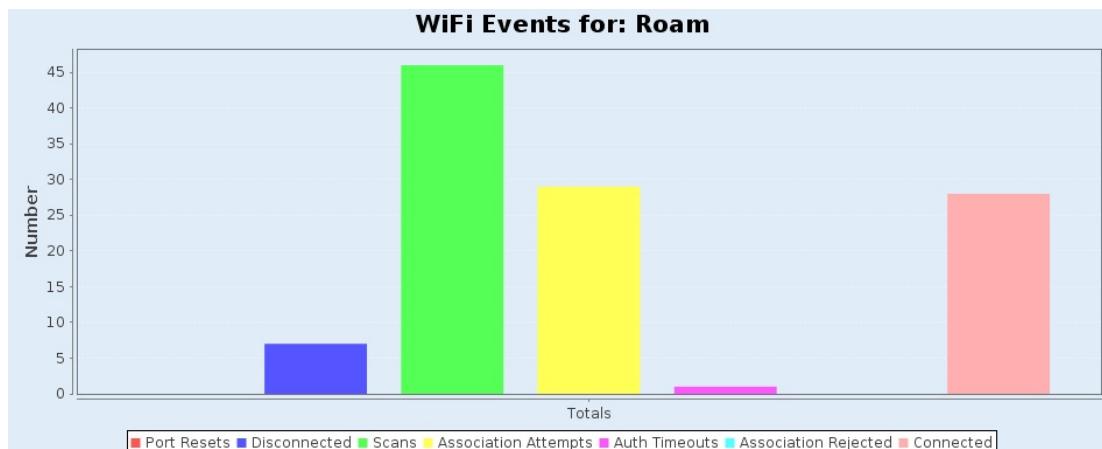
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



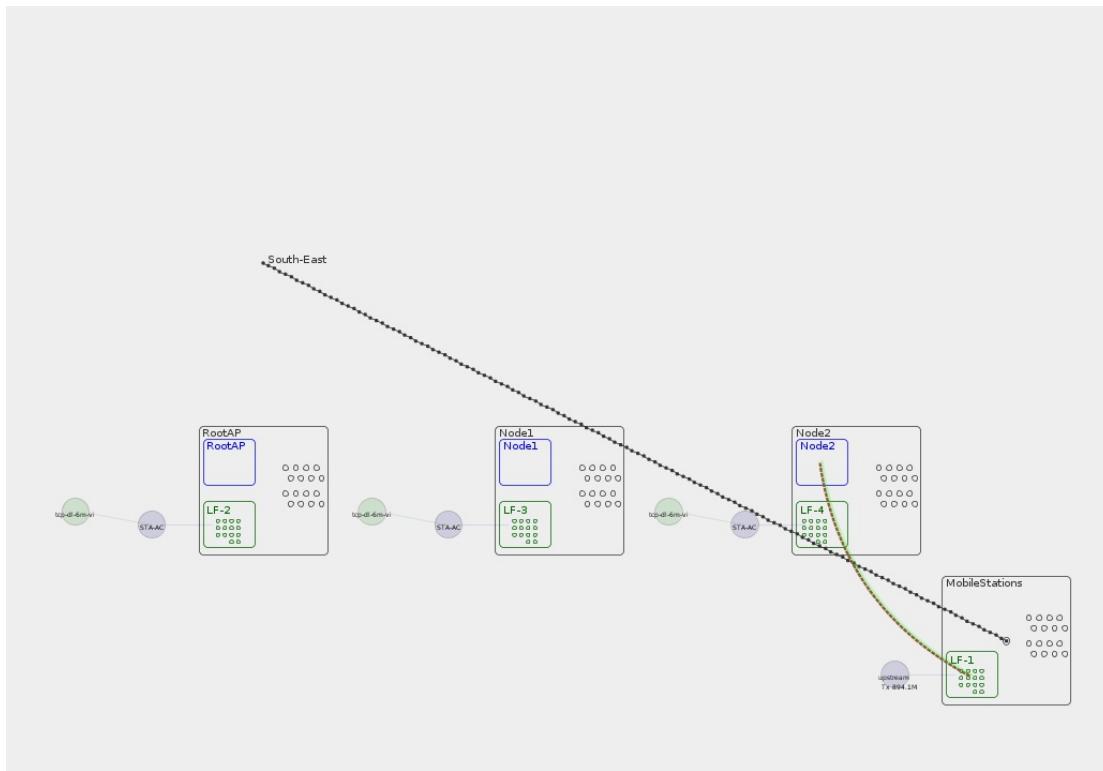
## STA:Close Root AP-South-East UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	148 bps	246.1 Mbps	5.159	39 Mbps	192.2 Mbps	802.11bgn- AC	8	53	-49	B0:39:56:CE:3E:16	192.168.1.26	04:f0:21:3e:ee:09

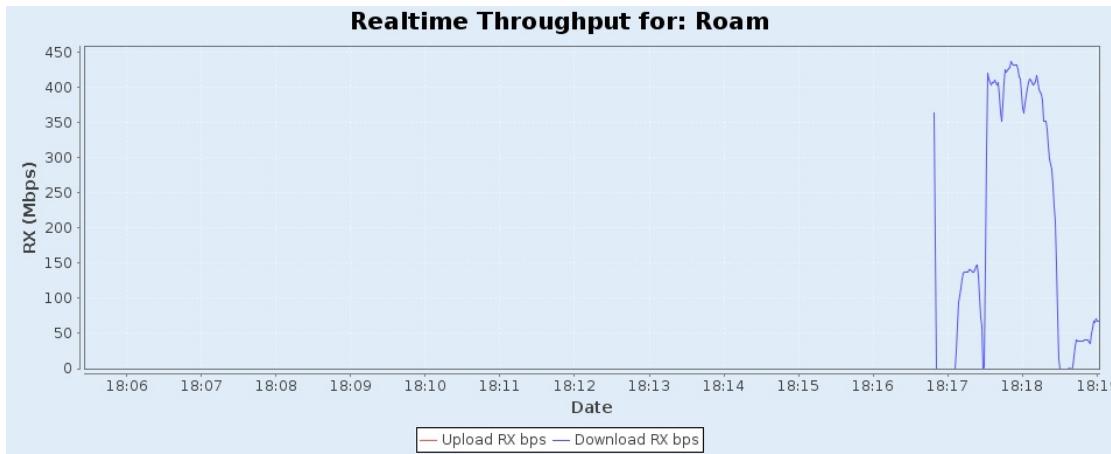
Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	860.722 Mbps	183 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

Endpoint	Tx-Bps 1m	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	17.812 Mbps	599	599	0	77.203
cv_udp-1.1-1.sta03000--1.0.0-B	303.649 Mbps	0 bps	0	599	0	0

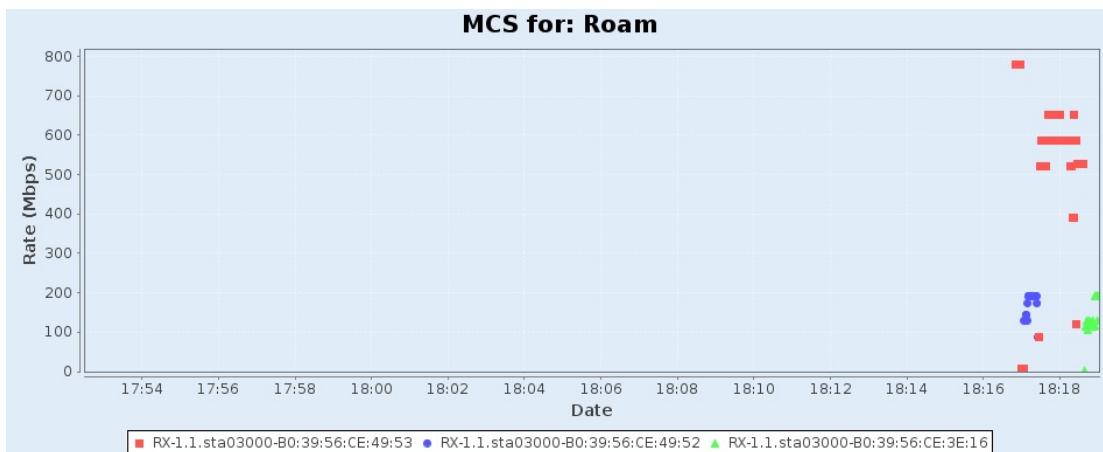
Chamber Layout for this iteration: Roam Chamber Loc: A-B-C STA Loc: Close Root AP STA:Close Root AP-South-East



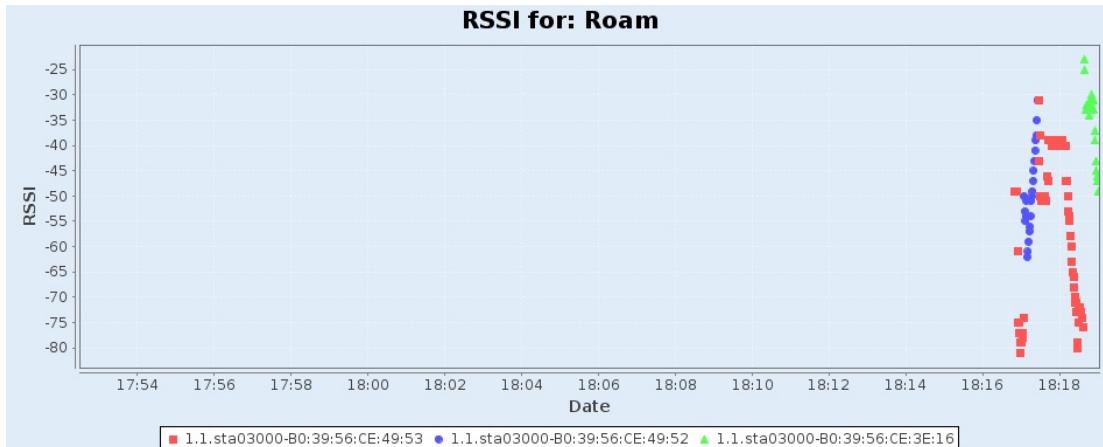
Realtime Throughput for: Roam



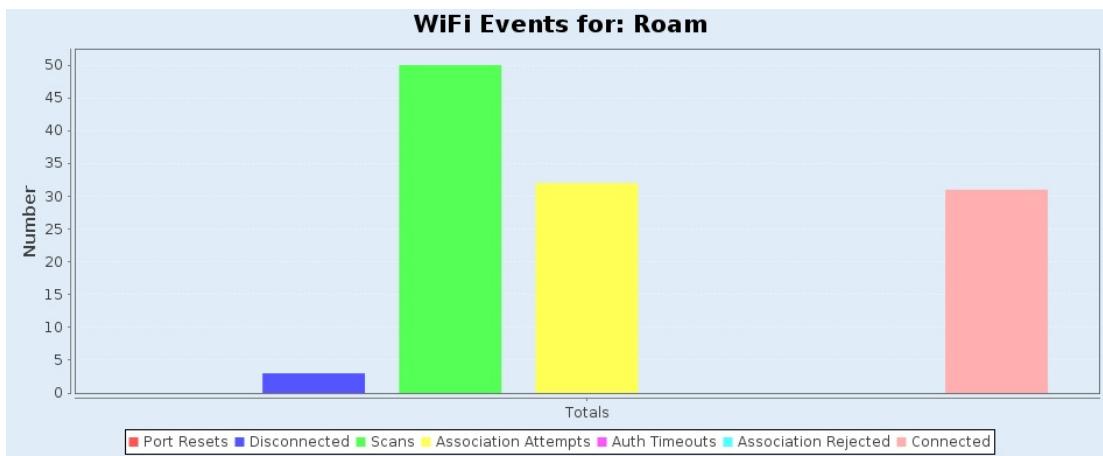
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



## Roam

### Summary

Traffic on each AP in the test.

## Roam

### Chamber Loc: Random

### STA Loc: Close Root AP Results

Type	Result	Notes
AP Chamber Position		Random
Station Chamber Position		Close Root AP
STA-Orbit Near UDP DL MobileStations	Result	Node Throughput: 102.67 Mbps Avg-Rt-Lat: 218ms
STA-Orbit Near UDP DL Path: Orbit Near	Result	Sum Throughput: 102.67 Mbps Avg-Rt-Lat: 218ms
STA-Random Middle UDP DL MobileStations	Result	Node Throughput: 121.94 Mbps Avg-Rt-Lat: 189ms
STA-Random Middle UDP DL Path: Random Middle	Result	Sum Throughput: 121.94 Mbps Avg-Rt-Lat: 189ms
STA-South-East UDP DL MobileStations	Result	Node Throughput: 37.31 Mbps Avg-Rt-Lat: 1071ms

STA-South-East UDP DL Path: South-East

Result | Sum Throughput: 37.31 Mbps Avg-Rt-Lat: 1071ms |

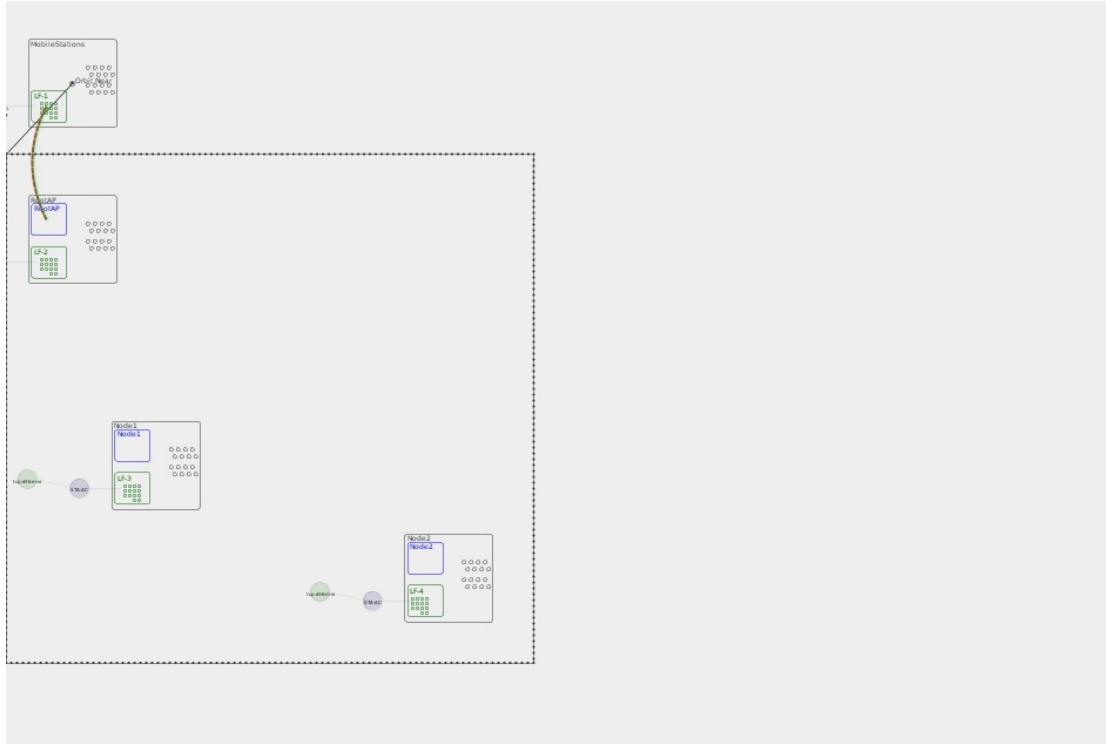
## STA:Close Root AP-Orbit Near UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000 bps	232	274.872	29.947	351	390	802.11an-AC	48	287	-62	8C:3B:AD:2C:B3:4F	192.168.1.42	04:f0:21:3e:e9:09

Port	Tx-Bps 1m	Rx-Bps 1m	Link-Rate	IP	MAC
1.1.1 eth1	870.956 Mbps	364 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

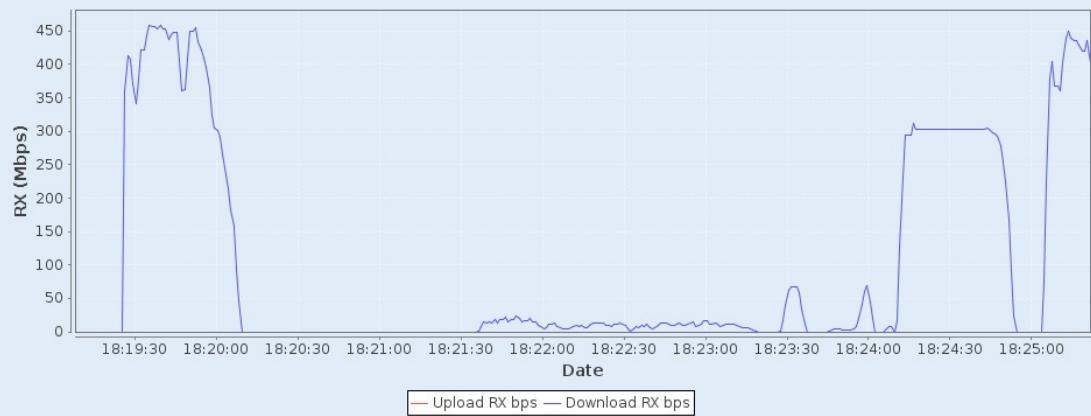
Endpoint	Tx-Bps 1m	Rx-Bps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	123.955 Mbps	218	218	0	89.073
cv_udp-1.1-1.sta03000--1.0.0-B	249.667 Mbps	0 bps	0	218	0	0

Chamber Layout for this iteration: Roam Chamber Loc: Random STA Loc: Close Root AP STA:Close Root AP-Orbit Near

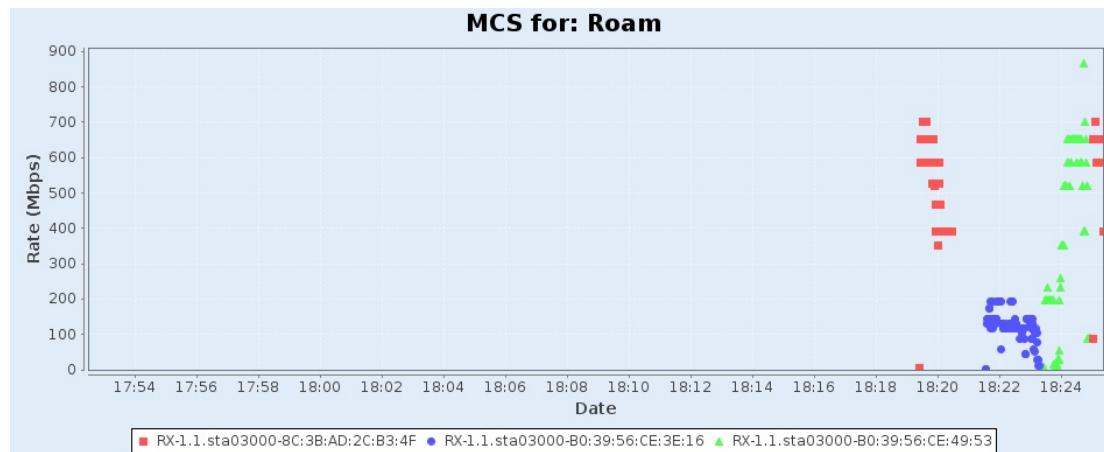


Realtime Throughput for: Roam

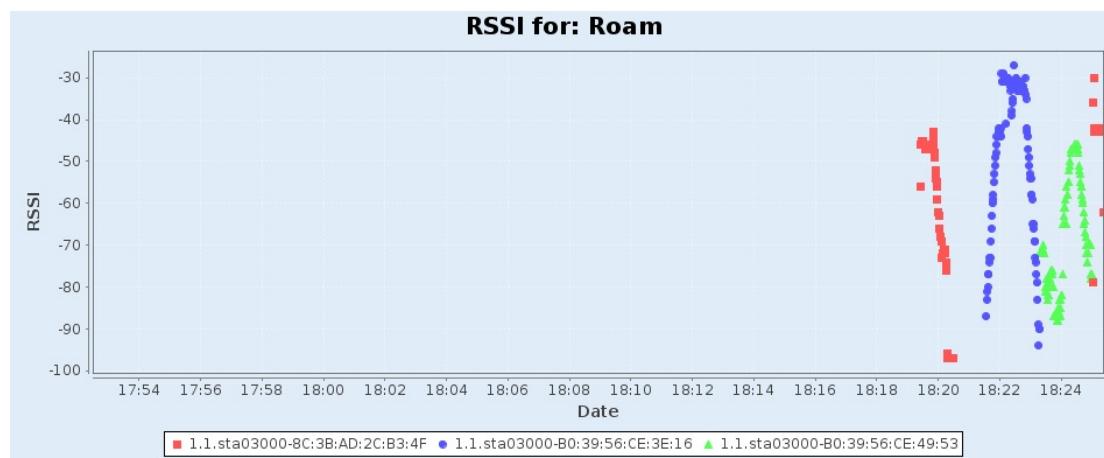
### Realtime Throughput for: Roam



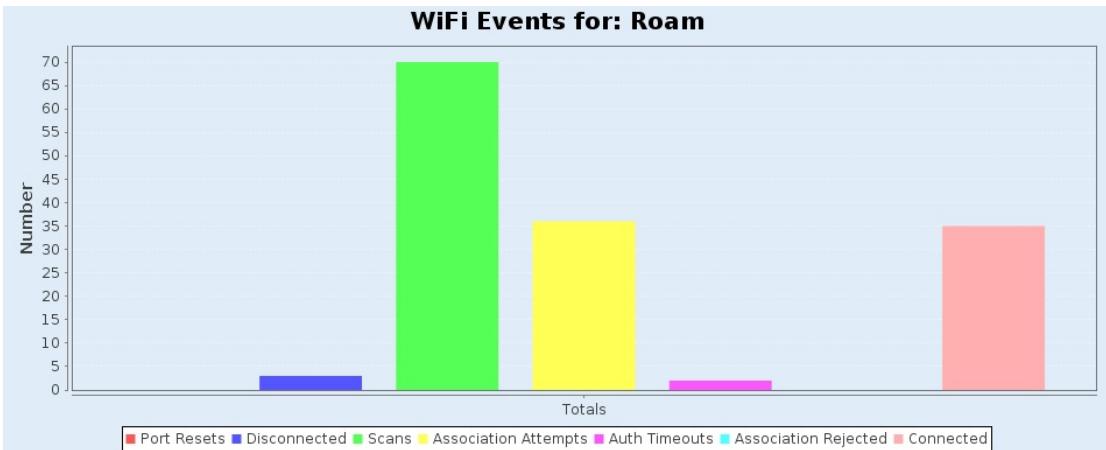
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



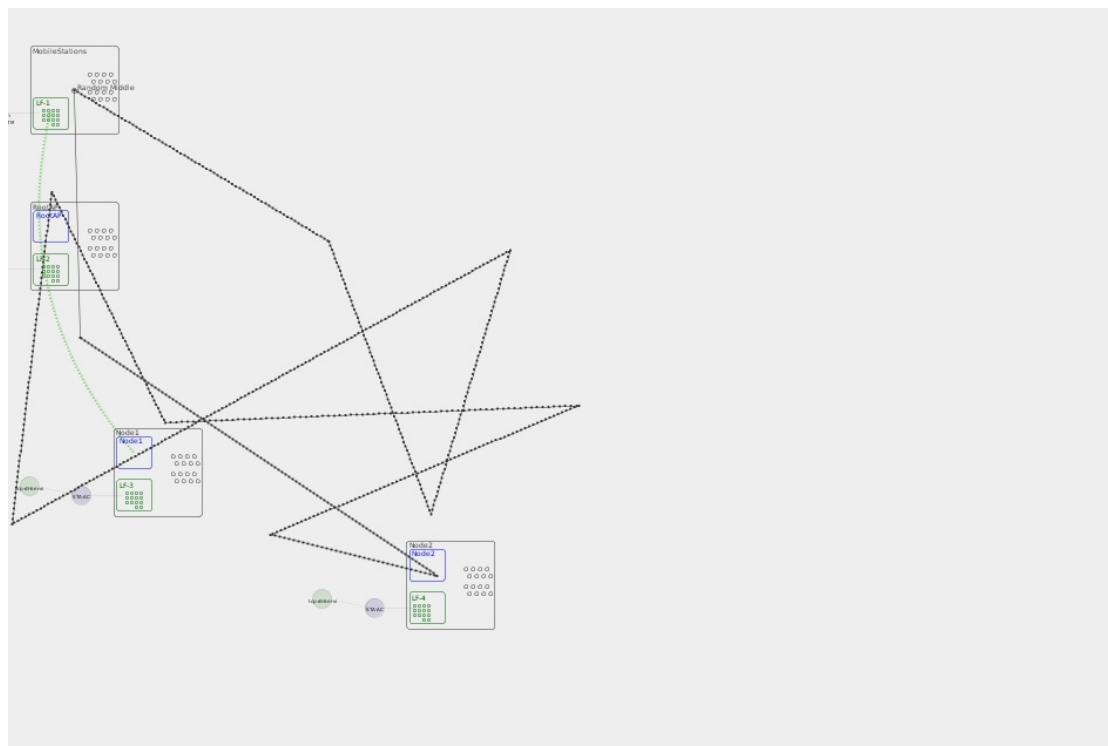
### STA:Close Root AP-Random Middle UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	221 bps	178.723 Mbps	12.782	468 Mbps	650 Mbps	802.11an-AC	48	34	-67	B0:39:56:CE:49:53	192.168.1.42	04:f0:21:3e:e9:09

Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	846.142 Mbps	226 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

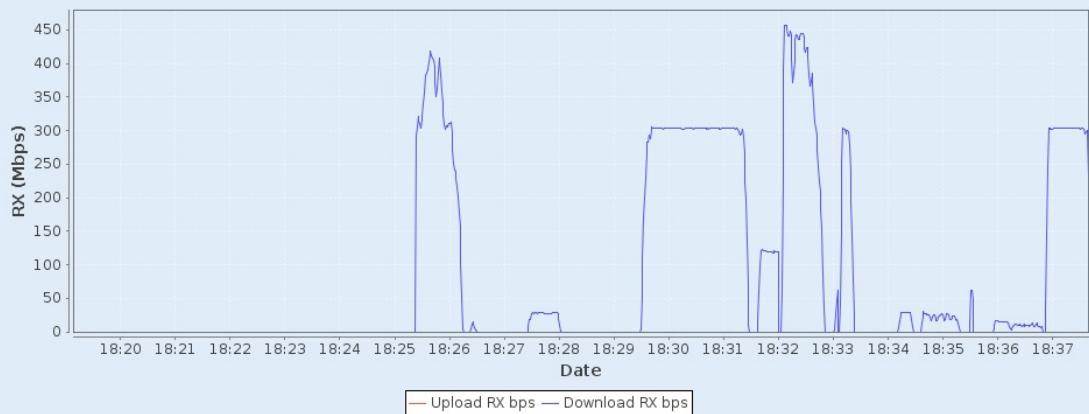
Endpoint	Tx-Bps 1m	RxBps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	231.714 Mbps	189	189	0	86.524
cv_udp-1.1-1.sta03000--1.0.0-B	711.671 Mbps	0 bps	0	189	0	0

Chamber Layout for this iteration: Roam Chamber Loc: Random STA Loc: Close Root AP STA:Close Root AP-Random Middle



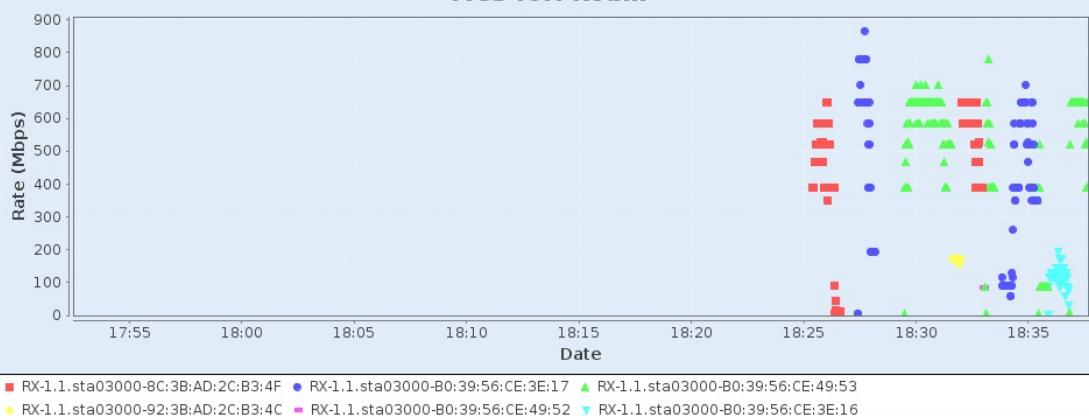
Realtime Throughput for: Roam

### Realtime Throughput for: Roam



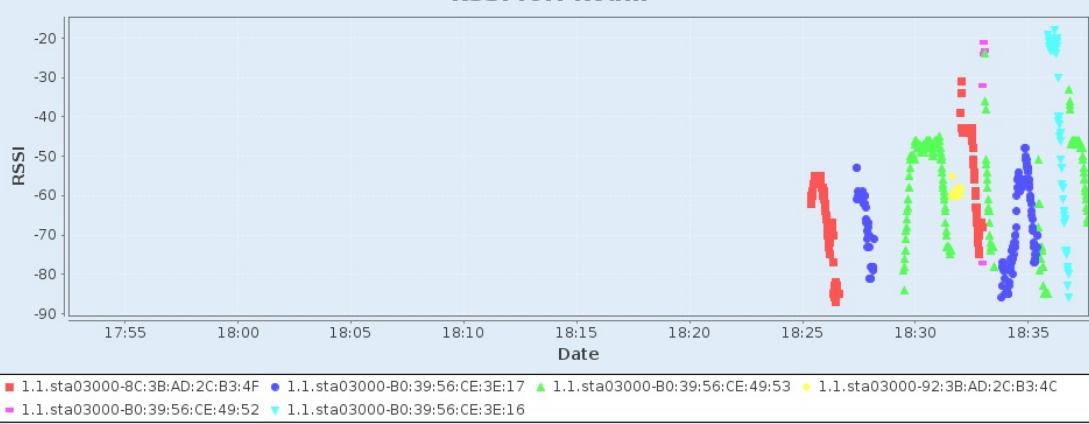
MCS for: Roam

### MCS for: Roam

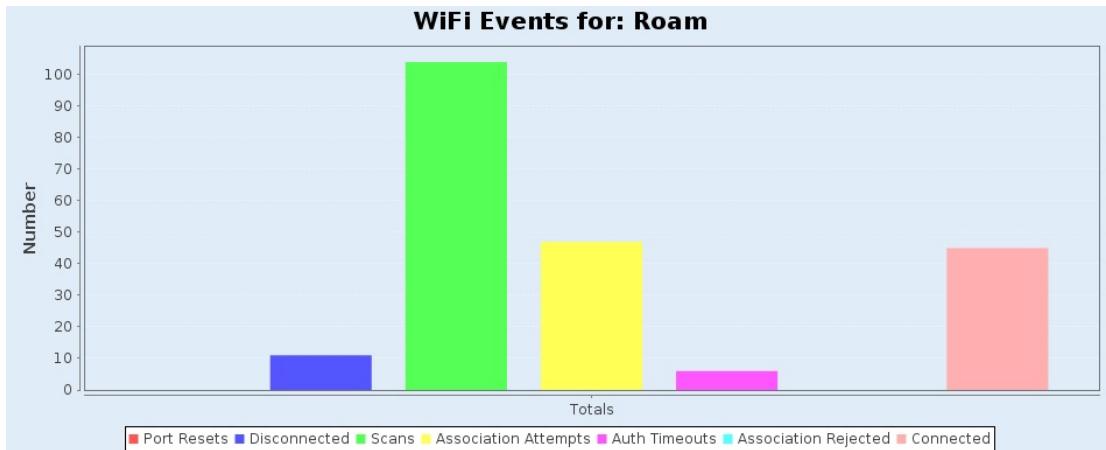


RSSI for: Roam

### RSSI for: Roam



WiFi Events for: Roam



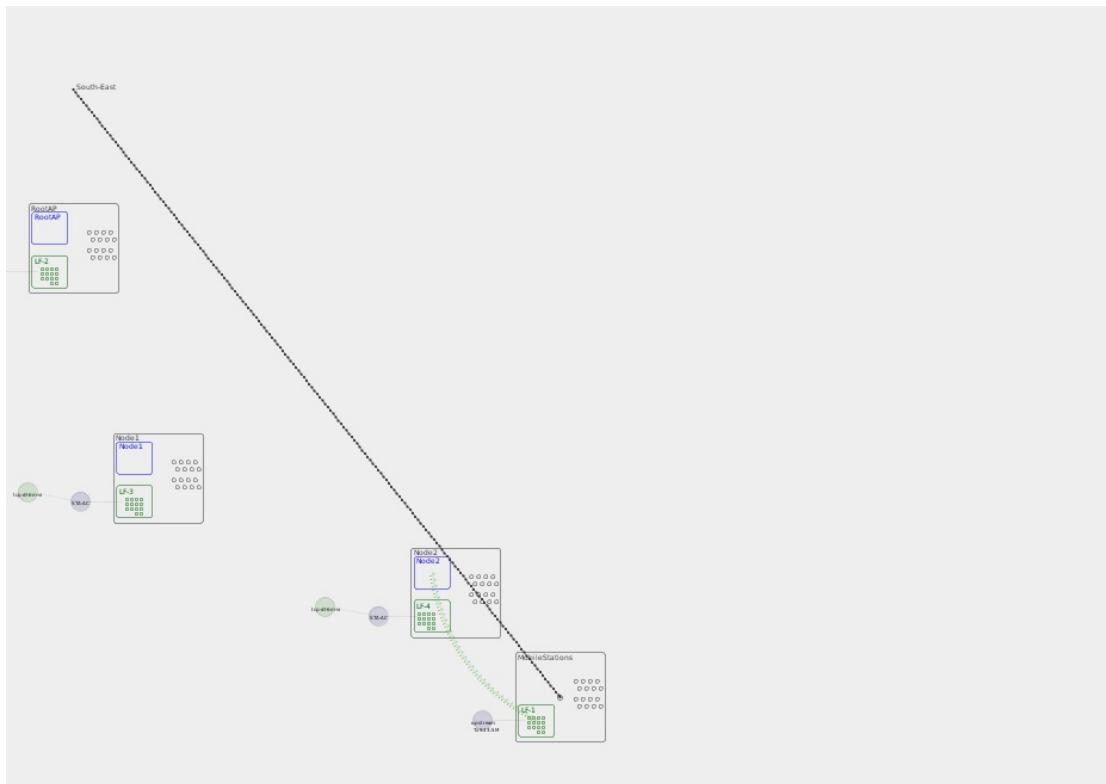
### STA:Close Root AP-South-East UDP DL Snapshot

Port	Tx-Bps 1m	RxBps 1m	Tx-Fail %	Tx-Link-Rate	Rx-Link-Rate	Mode	Channel	Last CX-Time(ms)	RSSI (dBm)	AP	IP	MAC
1.1.7 sta03000	158 bps	22.184 Mbps	12.802	234 Mbps	390 Mbps	802.11an-AC	48	51	-67	B0:39:56:CE:3E:17	192.168.1.42	04:f0:21:3e:e9:09

Port	Tx-Bps 1m	RxBps 1m	Link-Rate	IP	MAC
1.1.1 eth1	862.977 Mbps	276 bps	1 Gbps	192.168.1.5	00:03:2d:3b:a1:29

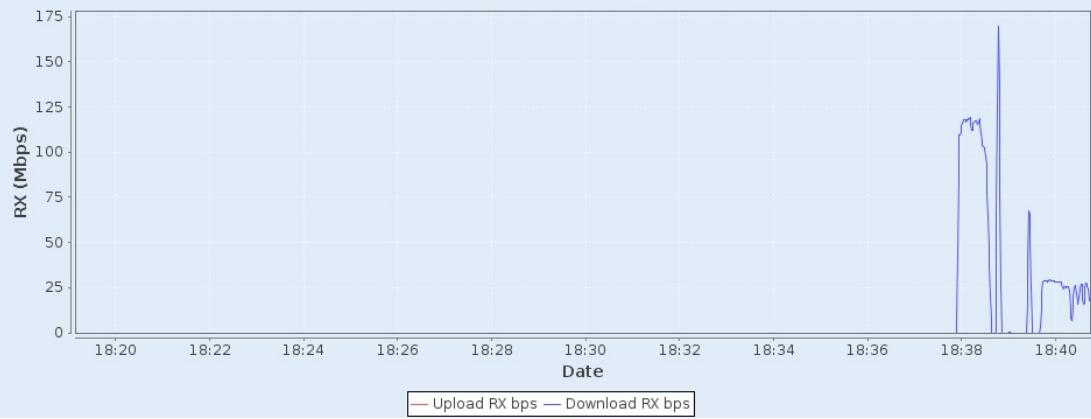
Endpoint	Tx-Bps 1m	RxBps 1m	RX Latency(ms)	Round-Trip Latency(ms)	Jitter	Rx Packet Loss %
cv_udp-1.1-1.sta03000--1.0.0-A	0 bps	24.083 Mbps	1,071	1,071	0	95.699
cv_udp-1.1-1.sta03000--1.0.0-B	897.883 Mbps	0 bps	0	1,071	0	0

Chamber Layout for this iteration: Roam Chamber Loc: Random STA Loc: Close Root AP STA:Close Root AP-South-East

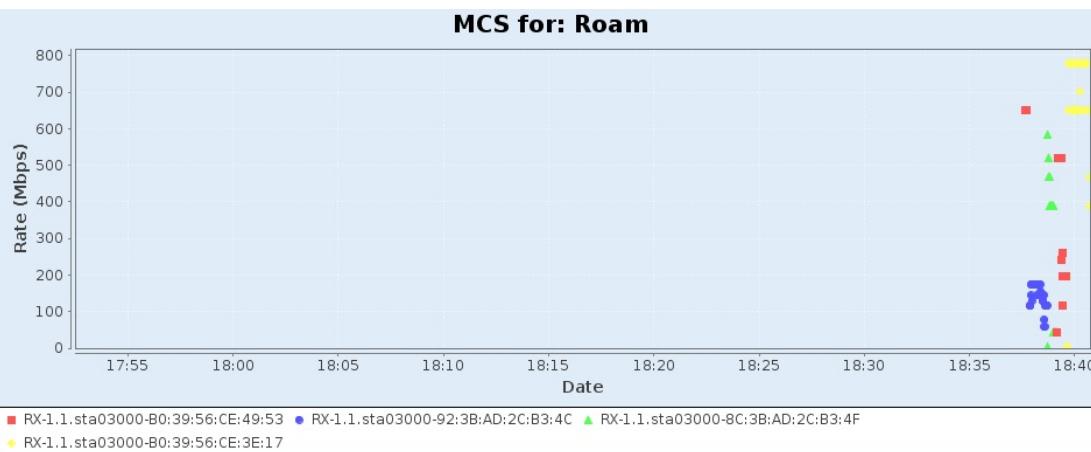


Realtime Throughput for: Roam

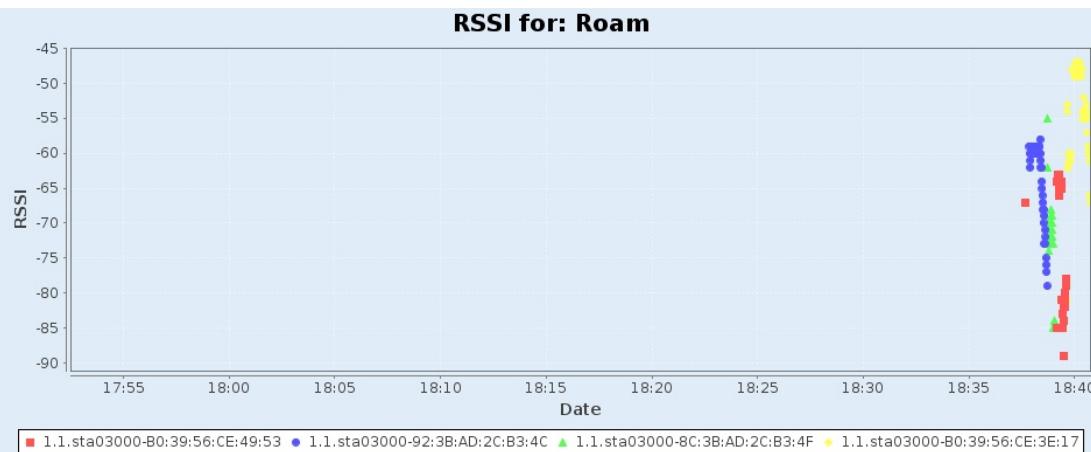
### Realtime Throughput for: Roam



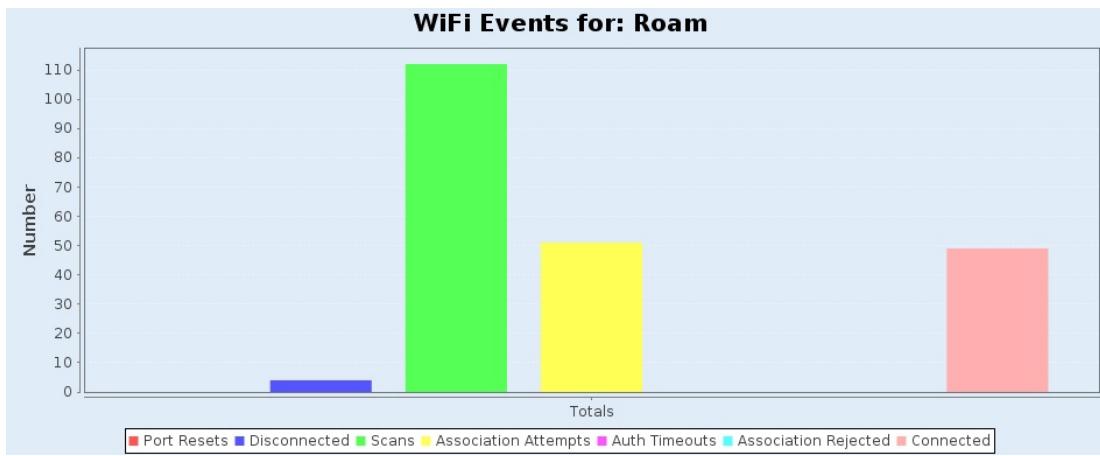
MCS for: Roam



RSSI for: Roam



WiFi Events for: Roam



Test configuration and LANforge software version	
Show TX MCS Graph	false
Show RX MCS Graph	true
Skip 2.4Ghz Tests	true
Skip 5Ghz Tests	false
Duration	20
Duration	20
Multi-Conn	5
ToS	0
Chamber [0]	RootAP
Chamber [1]	Node1
Chamber [2]	Node2
Chamber [3]	MobileStations
STA Count [0]	
STA Count [1]	
STA Count [2]	
STA Count [3]	1
AP Arrangements	ABC, A-B-C, Random
STA Positions	Close Root AP
Traffic Types	UDP
Traffic Directions	Download
Tests	Roam
Node Combinations	STA
Requested Speed	100%
Requested Velocity	100
Background Scan Module	simple
Background Short Interval	15
Background Long Interval	300
Background RSSI Threshold	-60
WiFi Radio [0][3]	1.2.2 wiphy0 Firmware: 10.1-ct-8x-__xTH-022-b8a7ba1b Resource: RootAP
WiFi Radio [1][3]	1.3.3 wiphy0 Firmware: 10.1-ct-8x-__xTH-022-b8a7ba1b Resource: Node1
WiFi Radio [2][3]	1.4.2 wiphy0 Firmware: 10.1-ct-8x-__xTH-022-b8a7ba1b Resource: Node2
WiFi Radio [3][3]	1.1.2 wiphy0 Firmware: 10.1-ct-8x-__xTH-022-b8a7ba1b Resource: MobileStations
Add STA Traffic	false
Show Events	true
Build Date	Fri Jan 24 16:00:06 PST 2020
Build Version	5.4.2
Git Version	

