

Roaming delay report

April 12, 2006
18:08:34

Device Tested:
AP Model:
AP SW Version:
WLAN Switch Model:
WLAN Switch Version:



Overview

The VeriWave roaming test simulates the behavior of a large number of real clients moving about within a wireless network. All simulated clients roam independently of each other. Test data traffic injected into a wired port of the DUT is used to measure the roaming delay and packet loss.

Result Summary

The summary results show the number of roams, failed roams, min/max/avg roamingdelays and the number of lost packets per roam for each wireless network in the test

Network	Total Number of Roams	Failed Roams	Typical Roam Delay	Min,Max,Avg Roam Delay(msecs)	Lost Pkts/Roam
Test	99	0	15-25 ms	15.0, 32.0, 21.1	842

Test Configuration

Client Group	Network	Num of Ports	Num of Clients	Dwell Time	Time Dist	Client Dist	Security	Data Traffic
Group_1	Test	2	10	5	even time	even across ports	Open	256Byte UDP 100pps

Methodology

The following key metrics are measured:

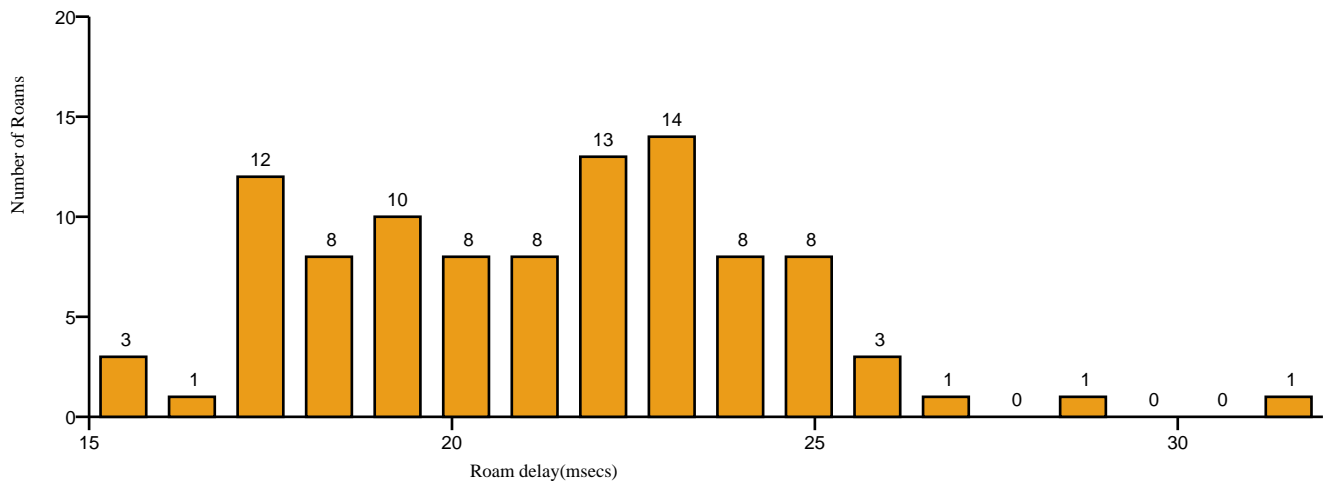
- 1)Roam delay: The time actually taken to perform the roam in milliseconds
- 2)Failed roams: The number of client roam attempts that did not complete
- 3)Lost packets: The number of data packets sent to a roaming client that were dropped by the SUT.

Roaming delay is measured starting from the point where the client makes the roaming decision (i.e., moves away from the current AP) to when the first data packet is received from the new AP. If packets are lost from the data stream directed to the roaming client from the wired side, these are counted in the lost packets.

Detailed Results

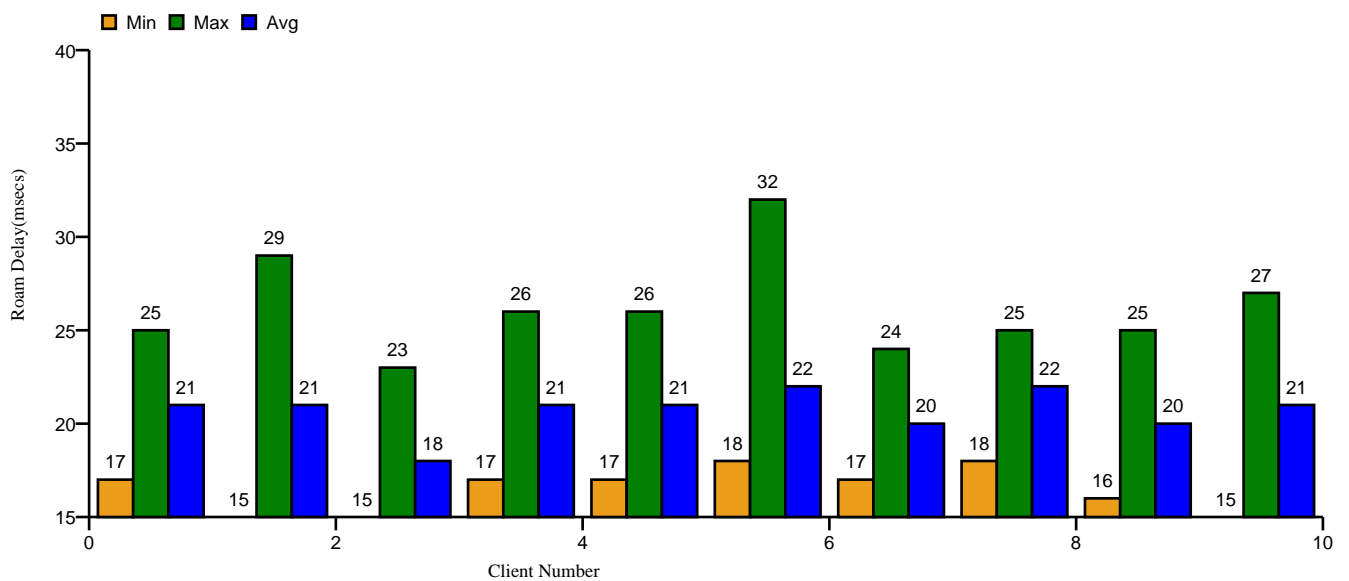
The roaming delay distribution graph shows the distribution of roaming delays measured during the test. Ideally the distribution should be a single peak centered about the average roaming. Outliers towards larger numbers are indicative of anomalies and should be investigated.

Roaming Delay Distribution



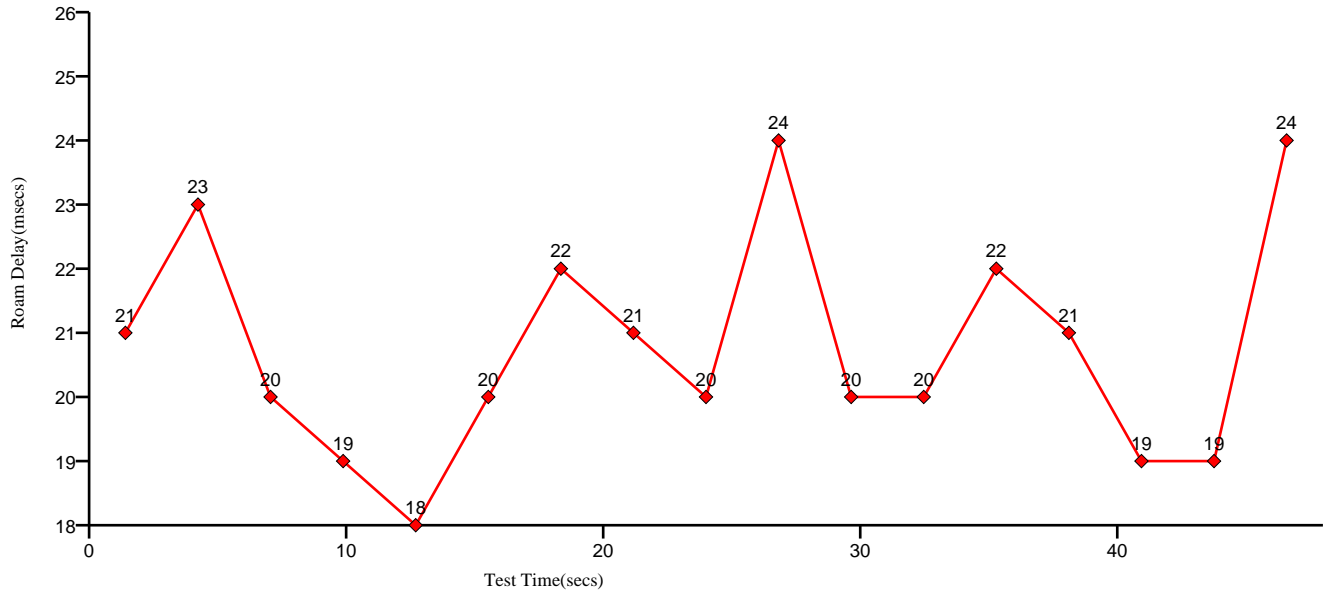
The min/max/average roaming delay chart shows the minimum, maximum and average roaming delays for each one of the emulated clients in the test.

Min/Max/Average Roaming delays for Clients



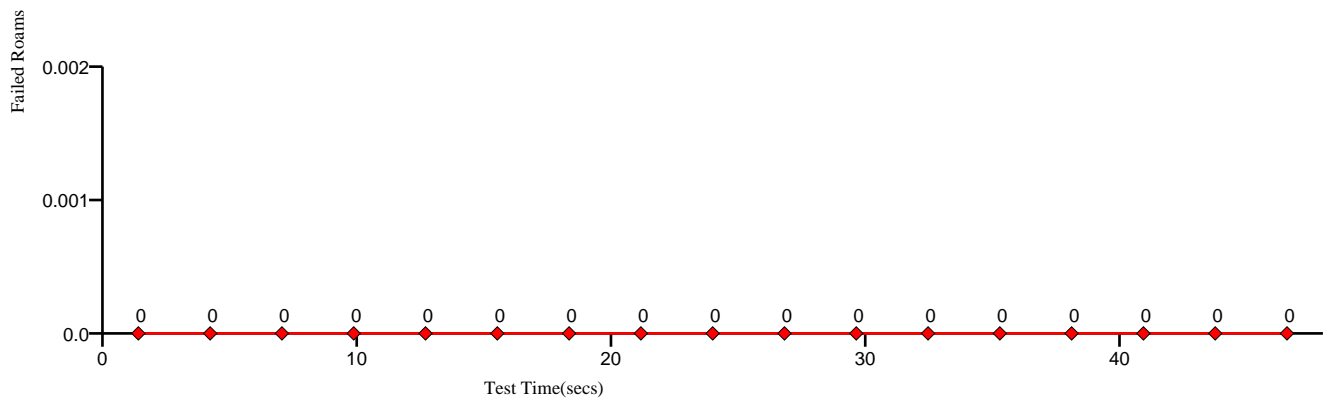
The profile of aggregate roaming delay over time (i.e., a trend analysis) is shown in the next chart. Ideally, roaming delays should remain constant over time when using a uniform roaming pattern. Variations in delay indicate periods of congestion that should be investigated.

Roaming Delay Vs Test Time



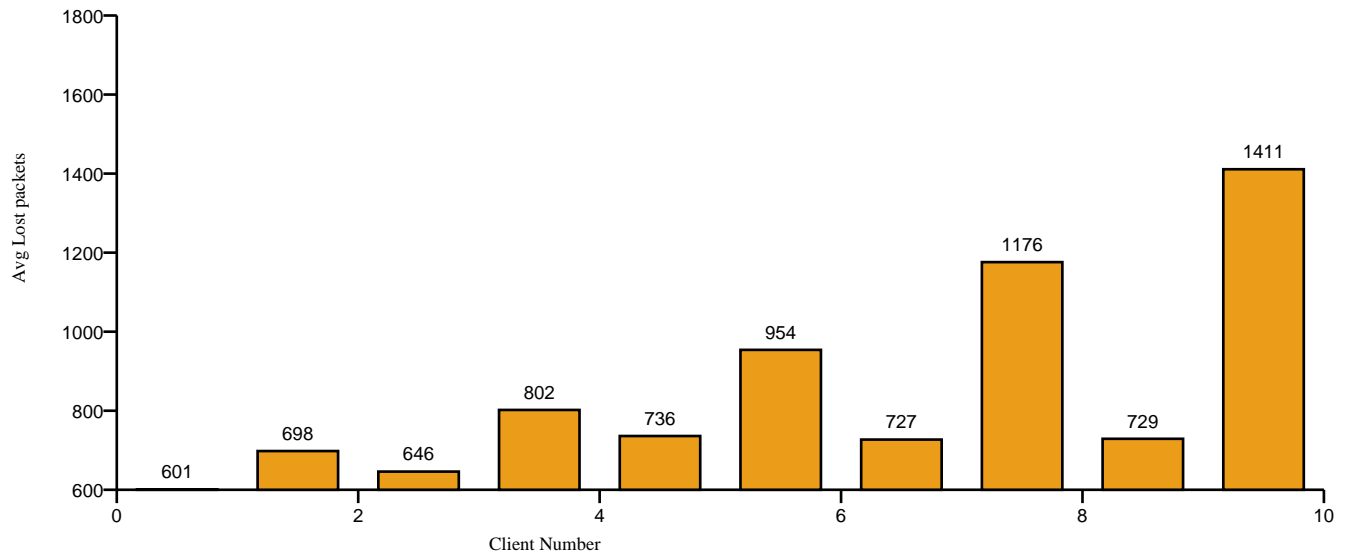
The profile (trend analysis) of failed roams over time is shown in the next chart. The X axis represents the time in seconds from the start of the test, while the Y axis is the number of roam attempts that failed at that time.

Failed Roams Vs Test Time



The next chart shows the average number of packets lost each client over the whole duration of the test

Avg Lost Pkts/Client



Tabular Results

The table below shows the min/max/average roaming delay and lost packets per roam for each client involved in the test.

CLIENT NUMBER	Min Roam Delay	Max Roam Delay	Avg Roam Delay	Avg Lost pkts/client
1.0	17	25	21	601
2.0	15	29	21	698
3.0	15	23	18	646
4.0	17	26	21	802
5.0	17	26	21	736
6.0	18	32	22	954
7.0	17	24	20	727
8.0	18	25	22	1176
9.0	16	25	20	729
10.0	15	27	21	1411

The table below shows the roaming delay and failed roams Vs Test Time

TIME(secs)	Roam Delay	Failed Roams
< 0.0001	21	0
3.0	23	0
6.0	20	0
9.0	19	0
12.0	18	0
15.0	20	0
18.0	22	0
21.0	21	0
24.0	20	0
27.0	24	0
30.0	20	0
33.0	20	0
36.0	22	0
39.0	21	0
42.0	19	0
45.0	19	0
48.0	24	0

The table below shows the roam delay distribution values

ROAM DELAY(msecs)	Number of Roams
0 - 15	3
15 - 16	1
16 - 17	12
17 - 18	8
18 - 19	10
19 - 20	8
20 - 21	8
21 - 22	13
22 - 23	14
23 - 24	8
24 - 25	8
25 - 26	3
26 - 27	1
27 - 28	0
28 - 29	1
29 - 30	0
30 - 31	0
31 - 32	1

 Other Info