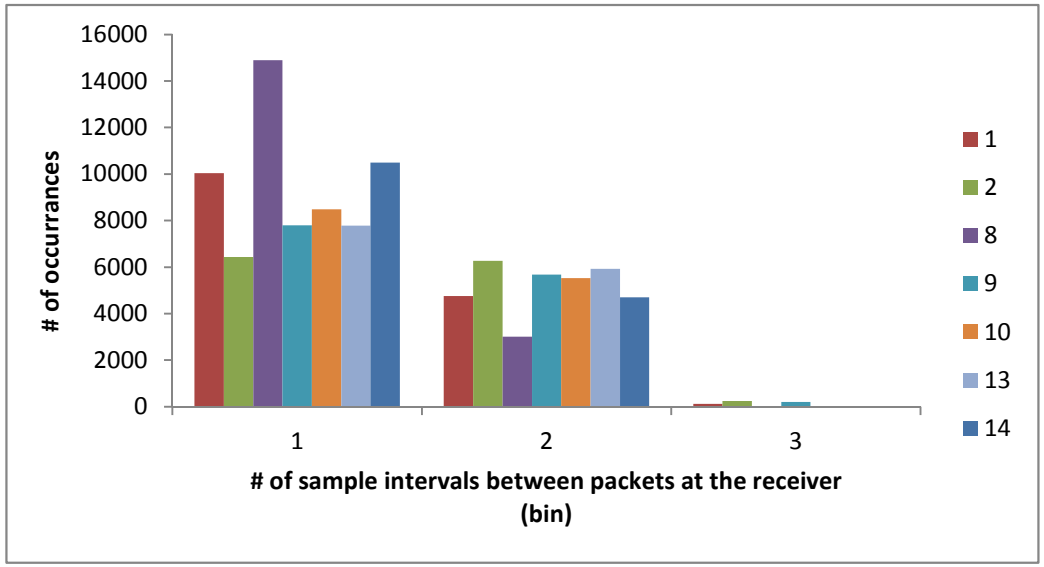
NETWORK PERFORMANCE TESTS: Packet loss rates with eight nodes sending one packet every second

Started: Nov 30, 2012 approx 5:30PM
Duration: 19820 **seconds or** 330.33 **minutes or** 5.51 **hours**
Tx Rate: 1 packet per node per minute

Packet success rates:

node ID	1	2	5	8	9	10	13	14
	75%	65%	43%	90%	69%	69%	69%	77%

Generally packet success rates are around 70%. One node (5) exhibited poor performance during a relatively short time period. For the other nodes losses were fairly evenly distributed in time. The nodes were arranged in various places in an office roughly 12x12 feet. During most of the measurement period nothing was moving in the space (see accompanying diagram).



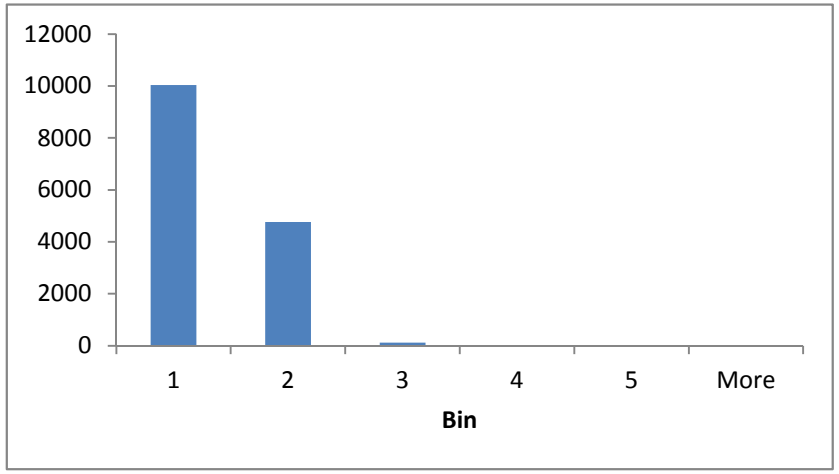
Missed packet histogram

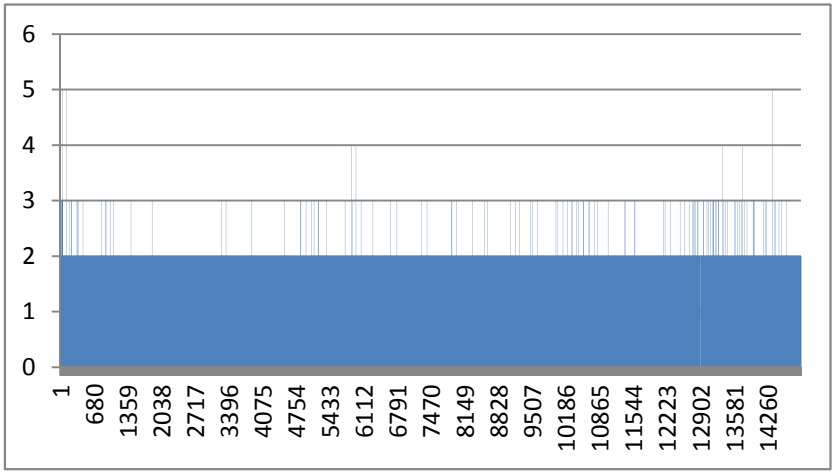
Bin 1 represents the number of times a packet arrived when it should have.
Bin 2 represents the number of times a packet was missed (2 sample intervals between packets).
And so on…
Ideally there will be no bars in bins > 1

Node 5 was not included because of poor performance during a short time period.

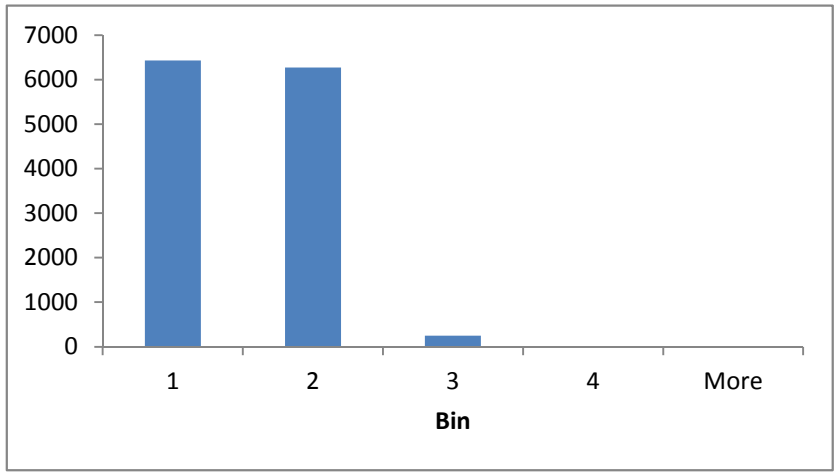
The following pages contain additional statistics for each device and a second graph that shows packet losses over time. Note that packet losses are fairly uniform except for node 5, which had a specific period where it went off-line. The X axis is seconds and the Y axis is number of packets between Rx at the access point. As can be seen from the histogram for each node roughly one-half to one-third of the time a packet is missed - the '1' bin is obscured by the '2' bin.

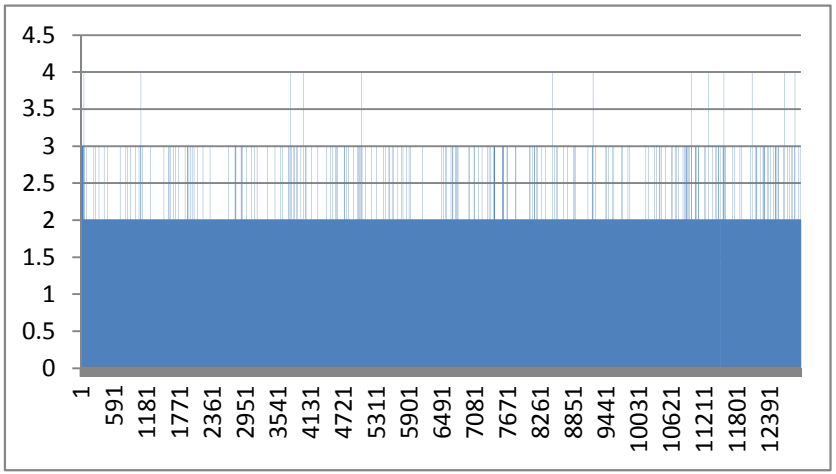
node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
1	75%	72.36	2.73	17.03
	25%	0.35	0.00	0.35



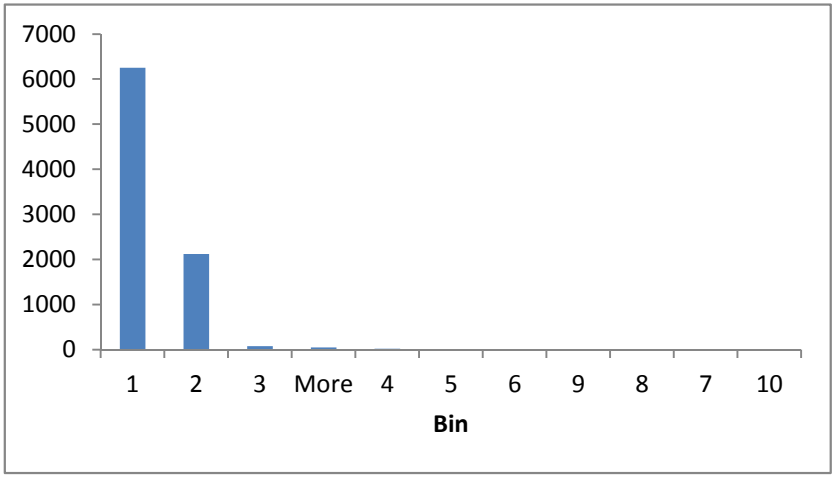


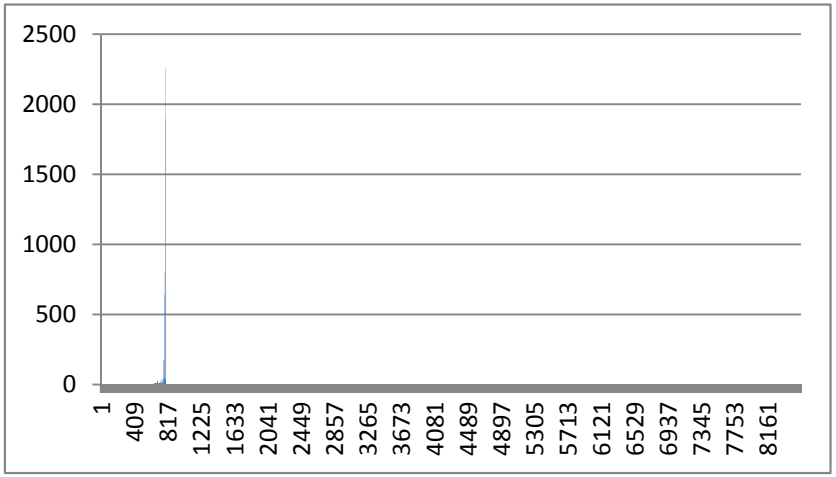
node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
2	65%	74.97	2.65	18.38
	35%	0.43	0.00	0.72



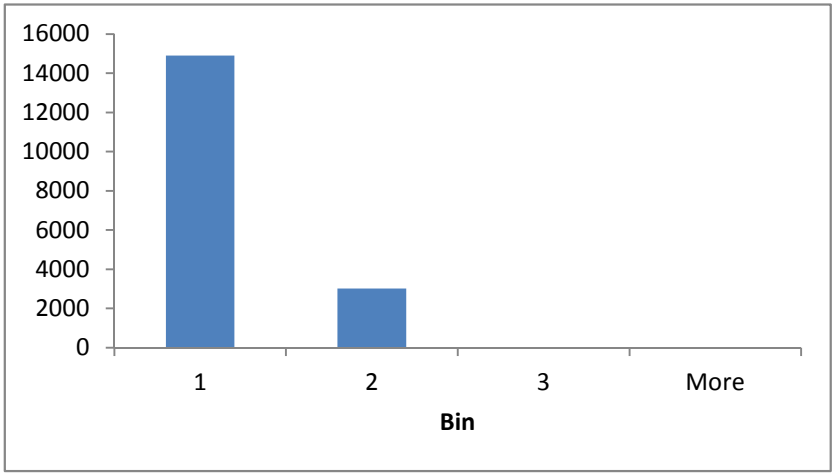


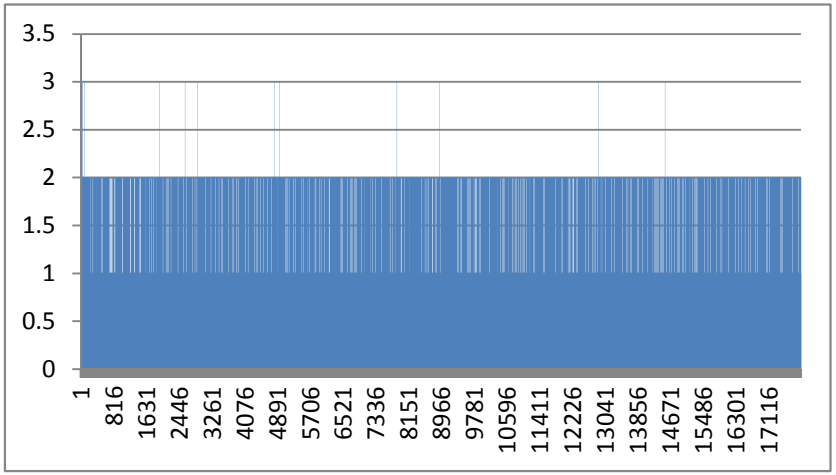
node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
5	43%	72.92	2.74	17.33
	57%	0.94	0.00	0.96



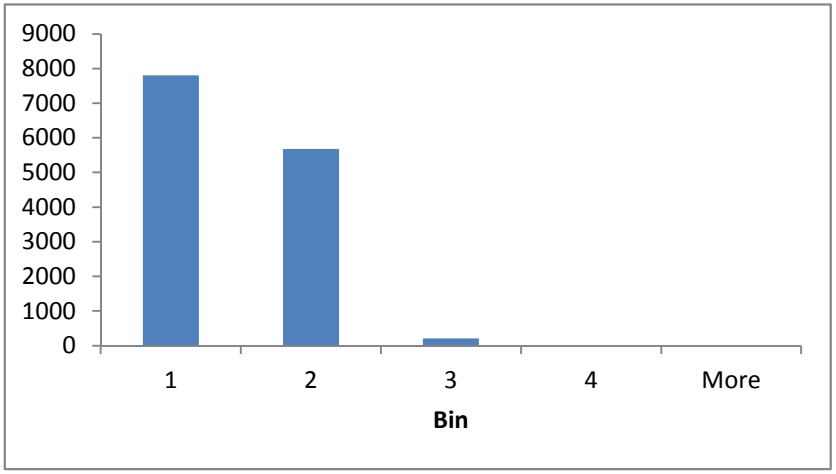


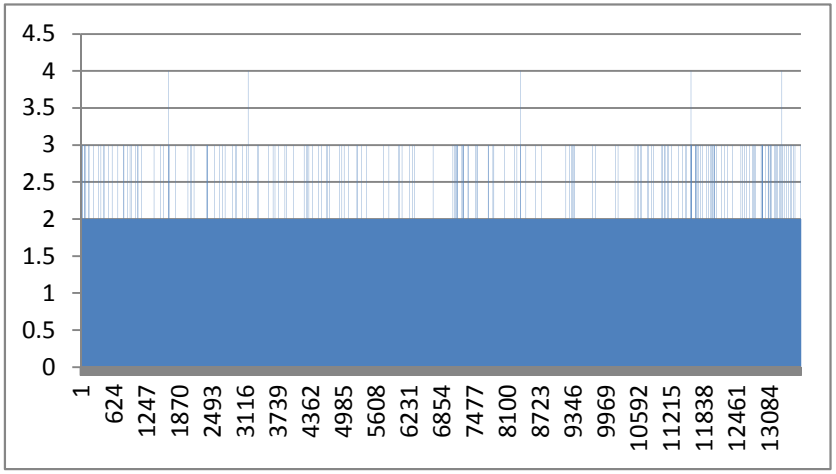
node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
8	90%	72.90	2.92	21.02
	10%	0.63	0.00	0.32



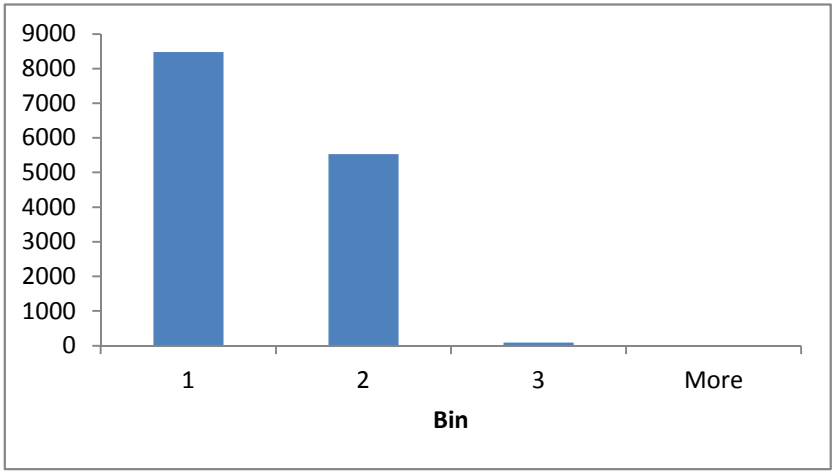


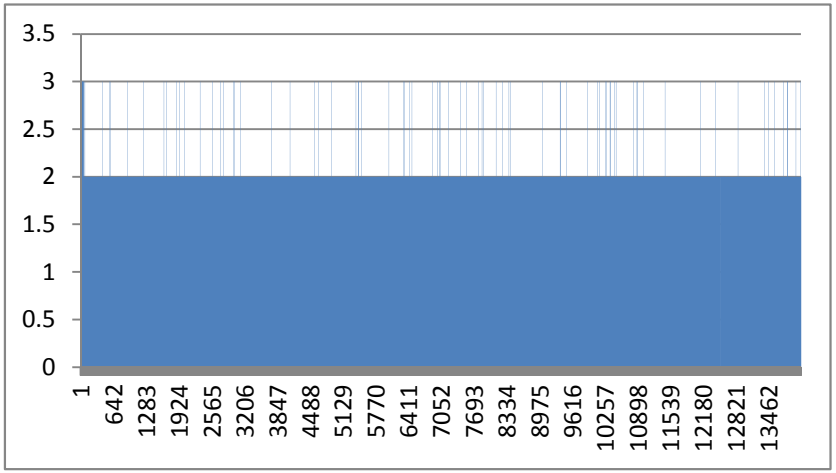
node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
9	69%	73.70	3.17	18.08
	31%	0.34	0.00	0.40



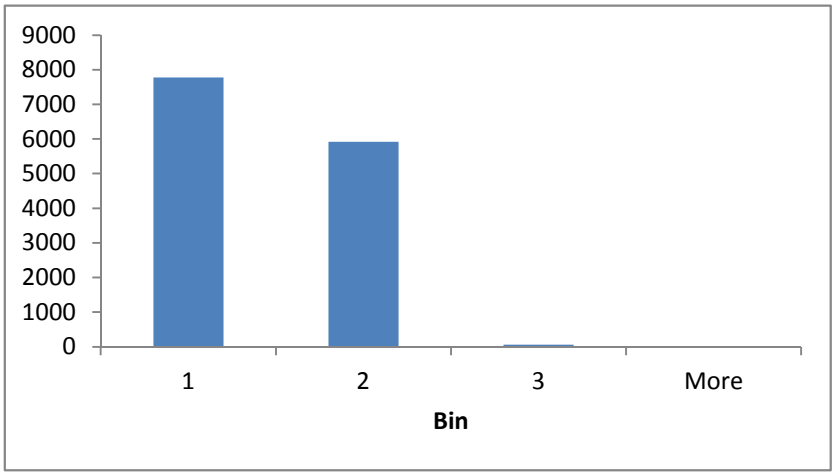


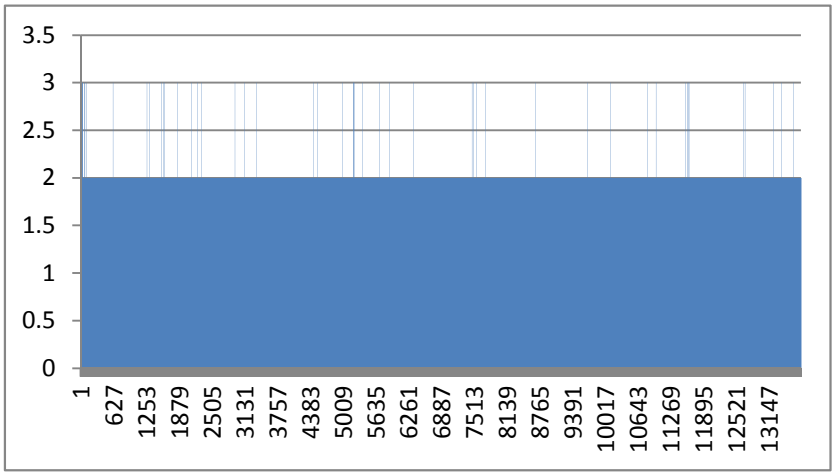
node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
10	71%	73.01	2.69	21.57
	29%	0.36	0.00	0.51





node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
13	69%	73.43	2.71	25.43
	31%	0.42	0.00	0.65





node ID	rcvd/lost	temp/stdv	volt/stdv	rssi/stdv
14	77%	74.98	2.92	27.38
	23%	0.40	0.00	0.68