

Re: 802.11 RSSI value displayed from ifconfig(8)

Source: <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/stable/2006-09/msg00931.html>

- *From:* Sam Leffler <sam@xxxxxxxxx>
 - *Date:* Thu, 28 Sep 2006 08:52:12 -0700
-

Eduardo Meyer wrote:

Thank you Mr Leffler for this explanation. Honestly I did not know about those tools. Very interesting, useful and some curious (say, number of associations denied by wlan acl) information, which I believe I will be able to produce some logs of it with audit support.

But I did not find any "signal" information nor any value which looks like dBm

```
# athstats -i ath0
4 watchdog timeouts
549821 tx management frames
7 tx frames discarded prior to association
1744404 tx stopped 'cuz no xmit buffer
15 tx linearized to cluster
97625 tx failed 'cuz too many retries
9069518 long on-chip tx retries
422577 tx frames with no ack marked
62850632 tx frames with short preamble
1700110 tx frames with an alternate rate
24280171 rx failed 'cuz of bad CRC
1 rx failed 'cuz frame too large
62560031 rx failed 'cuz of PHY err
4211566 OFDM timing
101667 OFDM restart
58199442 CCK timing
47356 CCK restart
31931664 beacons transmitted
109058 periodic calibrations
rsi of last ack: 24
417831 switched default/rx antenna
Antenna profile:
[1] tx 31753038 rx 33886147
[2] tx 31594701 rx 33711543

# wlanstats -i ath0
1509703 rx discard 'cuz dup
335650 rx frame ssid mismatch
```

Re: 802.11 RSSI value displayed from ifconfig(8)

2314 rx deauthentication
377 rx disassociation
4959 rx discard 'cuz acl policy
1068 tx failed for no node
3 active scans started
142 nodes timed out inactivity

Note that I am acting in hostap mode.

Looks like you're not running HEAD or RELENG_6 or your system is not update recently.

Sam

On 9/27/06, Sam Leffler <sam@xxxxxxxxxx> wrote:

Eduardo Meyer wrote:

Hello, I would like to convert RSSI to dBm (in fact I would love if ifconfig could display SNR in dBm), so I would like to know if this formula is any right:

```
/* Calculate the RSSI Value */  
V_RSSI = 3.0 * (RSSI_VAL/1024);  
RSSI_dBM = (int8_t)((-50.0 * V_RSSI) - 45.5);
```

And if there are any other tools which can help me finding out signal strength, when I am acting as an access point.

ifconfig reports rssi as whatever the driver provided. The intent is that it be a signed value relative to the current noise floor (both in dBm). If you look at the output of wlanstats (tools/tools/net80211/wlanstats) or, for ath devices, athstats (tools/tools/ath/athstats) you will see the default displays show "signal" which is rssi+noise-floor in dBm. The main issue(s) right now are that the net80211-driver api does not pass noise floor up so it can be reported to user apps and drivers reports rssi+nf in varying units. athstats doesn't have that issue since it queries the driver directly (hence it's display has a reasonable noise floor).

It's on my todo list to push signal-related data up properly and fix ifconfig so it displays a proper signal strength in the normal status display. The issue of units is more difficult as converting data for some devices to dBm can be tricky.

Re: 802.11 RSSI value displayed from ifconfig(8)

Re: 802.11 RSSI value displayed from ifconfig(8)

Sam

freebsd-stable@xxxxxxxxxxx mailing list

<http://lists.freebsd.org/mailman/listinfo/freebsd-stable>

To unsubscribe, send any mail to "freebsd-stable-unsubscribe@xxxxxxxxxxx"