

Lab testing of sensors and data system

We have all the sensors and the data system running in the staging area. We've added one Licor 7500 to what was last on the tower, for a total of 4 Licors. The data cables, and Licor power cables are different however, since the originals were left on the tower.

After setting it up, I increased the 4 Licor 7500s from 10 samples/sec at 9600 baud to 20 samples/sec at 19200 baud.

The spurious interrupts are happening, sometimes spiking to above 100:

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Jun 28 21:27:02 manitou kernel: viper_irq_handler: irq=2 spurious= 326001, #/sec=102
Jun 28 21:27:21 manitou kernel: viper_irq_handler: irq=2 spurious= 328001, #/sec=109
Jun 28 21:29:06 manitou kernel: viper_irq_handler: irq=2 spurious= 338001, #/sec=102
Jun 28 21:29:46 manitou kernel: viper_irq_handler: irq=2 spurious= 342001, #/sec=106
Jun 28 21:29:56 manitou kernel: viper_irq_handler: irq=2 spurious= 343001, #/sec=102
Jun 28 21:30:38 manitou kernel: viper_irq_handler: irq=2 spurious= 347001, #/sec=103
Jun 28 21:30:48 manitou kernel: viper_irq_handler: irq=2 spurious= 348001, #
/sec=101
Jun 28 21:31:28 manitou kernel: viper_irq_handler: irq=2 spurious= 352001, #/sec=111
Jun 28 21:31:58 manitou kernel: viper_irq_handler: irq=2 spurious= 355001, #/sec=104

root@manitou root# uptime
21:44:36 up 1:43, 1 user, load average: 0.16, 0.11, 0.09
```

The kernel issues a "spurious" message when they occur more often than 100/sec. The system came up at 21:44 - 1:43 = 20:01. At the time of the last message above, the system had been up for 1 hour 31 minutes. 355001 interrupts in 1 hour 31 minutes averages to 65/sec.

The above test is with the same kernel (2.6.16.28-arcom1-2-viper #1 PREEMPT Wed Sep 16 17:04:19 MDT 2009) and CPU (viper 4) as was deployed on the tower.

manitou:/dev/ttyS9 1.043 19 19	1	20	14	2012	06	28	23:13:12.975	06	28	23:13:26.005	1.00	0.938
manitou:/var/tmp/gps_pty0 0.882 72 73	1	30	29	2012	06	28	23:13:12.574	06	28	23:13:26.574	2.00	0.154
manitou:/dev/ttyS1 0.054 12 12	1	100	285	2012	06	28	23:13:12.624	06	28	23:13:26.820	20.01	0.046
manitou:/dev/ttyS5 0.979 30 30	1	120	15	2012	06	28	23:13:12.893	06	28	23:13:26.489	1.03	0.965
manitou:/dev/ttyS6 0.058 12 12	1	200	285	2012	06	28	23:13:12.654	06	28	23:13:26.852	20.00	0.044
manitou:/dev/ttyS7 0.059 56 56	1	210	285	2012	06	28	23:13:12.619	06	28	23:13:26.814	20.01	0.042
manitou:/dev/ttyS8 0.986 29 29	1	220	14	2012	06	28	23:13:13.516	06	28	23:13:26.256	1.02	0.974
manitou:/dev/ttyS10 0.061 12 12	1	300	285	2012	06	28	23:13:12.652	06	28	23:13:26.854	20.00	0.041
manitou:/dev/ttyS11 0.056 49 49	1	310	285	2012	06	28	23:13:12.621	06	28	23:13:26.825	19.99	0.045
manitou:/dev/ttyS12 0.986 29 29	1	320	15	2012	06	28	23:13:13.098	06	28	23:13:26.775	1.02	0.971
manitou:/dev/ttyS19 5.002 56 56	1	330	3	2012	06	28	23:13:10.785	06	28	23:13:20.787	0.20	5.000
manitou:/dev/ttyS13 0.054 12 12	1	400	285	2012	06	28	23:13:12.658	06	28	23:13:26.858	20.00	0.046
manitou:/dev/ttyS14 0.052 49 49	1	410	286	2012	06	28	23:13:12.593	06	28	23:13:26.845	20.00	0.047
manitou:/dev/ttyS15 0.980 30 30	1	420	14	2012	06	28	23:13:13.374	06	28	23:13:26.024	1.03	0.969
manitou:/dev/ttyS20 0.053 12 12	1	500	286	2012	06	28	23:13:12.622	06	28	23:13:26.869	20.00	0.047
manitou:/dev/ttyS17 0.058 49 49	1	510	285	2012	06	28	23:13:12.619	06	28	23:13:26.824	19.99	0.042
manitou:/dev/ttyS18 0.984 30 30	1	520	14	2012	06	28	23:13:13.284	06	28	23:13:25.990	1.02	0.970