



John Loop <pccitizen@gmail.com>

Imonitorg Internet monitoring -great example plot, "sales pitch" for imonitorg

John Loop <jdloop@imonitorg.com>

Sun, Apr 10, 2022 at 1:32 PM

To: "pccitizen@gmail.com" <pccitizen@gmail.com>

Dear imonitorg friends, users and interested parties

Consider this an interim newsletter. Wonderful example plot showing problems.

My friend Tom in North CO uses Front Range Internet, a small wireless ISP in Ft Collins? Tom is located to the east some miles. "Wireless" means "wireless ADSL" not cellular. He has an antenna pointed at their server to his west and has to worry about things like birds camped out on his antenna! They have been having terrible problems with their service the past couple weeks. On Saturday, the imonitorg plot shows some very interesting information. I think it is a great example of how useful a monitor service like this can be to gauge Internet/local network performance.

As a summary, the performance plots generated by the imonitorg scripts running on the pi3B[+] all show 8 things:

---beware, the colors may differ from what the attached plot shows.

1. "near" ICMP ping response times [IP address] -results of once/min ping -purple? first line typically 5 hops or less, tho Tom has his nailed to the first hop. "1000 ms" is declared a timeout -these are the spikes to 1000 ms [1 sec].

--in addition, if there is a near ICMP ping timeout, 6 ADDITIONAL [hyper]pings are attempted WITHIN that minute to gauge "time-depth" of the near ICMP timeout -these are the vertical ticks [crosses] which appear on the spikes, starting at 500ms and going to 620ms if all 6 timeout.

2. tcp half open SYN responses [SYN, wait for SYN/ACK and then send FIN] using top 100 web sites [this usually goes to the nearest CDN, "content display network" -prob in Denver] -green? second line

3. "far" ICMP ping response times [near ICMP targets of other trial members -about 20 addresses spread around country between diff ISPs] -blue? third line -MANY hops away.

4. tcp timeouts [when 2 above shows a timeout] - yellow? solid boxes at 220ms

5. far ICMP timeouts [when 3 above shows a timeout] -blk? triangles at 320ms

6. DNS query using local router -red solid dots [using local router as DNS cache/proxy] - no response within "1000 ms" is declared a DNS query timeout

7. Curl of Internet website [www.google.com in this case] -clear dots [simulated web page draw] -no response within "1000 ms" is declared a curl timeout

8. HARD "Offlines" -which uses an algorithm of near ICMP timeout+tcp timeout -red? clear boxes at 450ms

The HARD "offline" is a judgement call, using my own algorithm. In reality of course, any INSTANT of time could be an Internet offline. I am declaring it to be a simultaneous instance of a near ICMP failure which crosses a tcp failure in a one minute interval, and each msmt having a timeout declared as "no response in 1 minute". You can see the "offline" declared around 10AM and around 12PM. Completely arbitrary definition of "offline," but which hopefully may represent what the user "sees."

This is a daily plot, generated at 1AM Sunday morning for the previous day [actually 2AM yesterday until 1AM today -Sunday]. Tom receives an email of this plot, along with a lot of additional network information. This information is also accessible via a web page running on the raspberry pi at any time.

Looking at the plot, which is suggestive of a lot of problems, you can see that it is "stable from 2AM to 9AM, has some problems around 10AM and 12-2PM, and then "settles down" about 2PM [1400], as if they have the right network

