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John Loop's 9-5-2021 imonitor[g] newsletter. This project may never end....

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Dear imonitor[g] users, potential users, former users, and interested parties:

Summary for those of you new to this newsletter:

I am working on a project to perform Internet performance monitoring. I use a small device [raspberry pi], along with custom scripts to perform this service.

I have deployed this device to 23 "guinea pigs" across the country who help in the development. I initially targeted the service in 2018 to users in my mountain community in Jasper GA [windstream ISP] to assist in troubleshooting, but it is applicable universally, and I have "guinea pigs" across the country on Windstream, ATT, Ting, Spectrum, Comcast, CenturyLink, Tmobile and several other ISPs. It spans all access technologies from ADSL, VDSL, WADSL, cellular, cable and fiber. I also released a "generic" version which is completely standalone, and has no connection to my servers at all.

Let me know if you are interested. OR you can purchase a raspberry pi 3B or 3B+, burn a microSD image [You can get it from sourceforge or I can send you one], and insert the pi in your network! Nerds might be interested in this alternative. You will get LOTS of info about your network!! Here is a 3B+ pi you can order: -just get a microSD image from sourceforge or from me, and you are in business. This pkg contains a microUSB caddy you can use to burn an image.

https://www.amazon.com/gp/product/B07BLRSKBV/ref=ppx_yo_dt_b_asin_title_o00_s00?ie=UTF8&psc=1 <https://www.amazon.com/gp/product/B07BLRSKBV/ref=ppx_yo_dt_b_asin_title_o00_s00?ie=UTF8&psc=1>

Here is where you get the "generic" images: <https://sourceforge.net/projects/imonitorg/>

You can use 7-zip to uncompress [or normal linux tools] and Win32diskimager on windows to burn the microSD <https://sourceforge.net/projects/win32diskimager/>

Here are instructions to get a gmail key to use to config the email: <https://imonitorg.com/gmailRelayInstructions.txt>

As usual, to my "guinea pigs" **I am extremely grateful for the use of your ISP connection and your help to develop this service across many ISPs.** It has been invaluable, much fun, and the excuse for much discourse amongst old friends.

As always, you can refer to the main information page at <https://imonitorg.com> There are images of the web site, email, plots, etc.

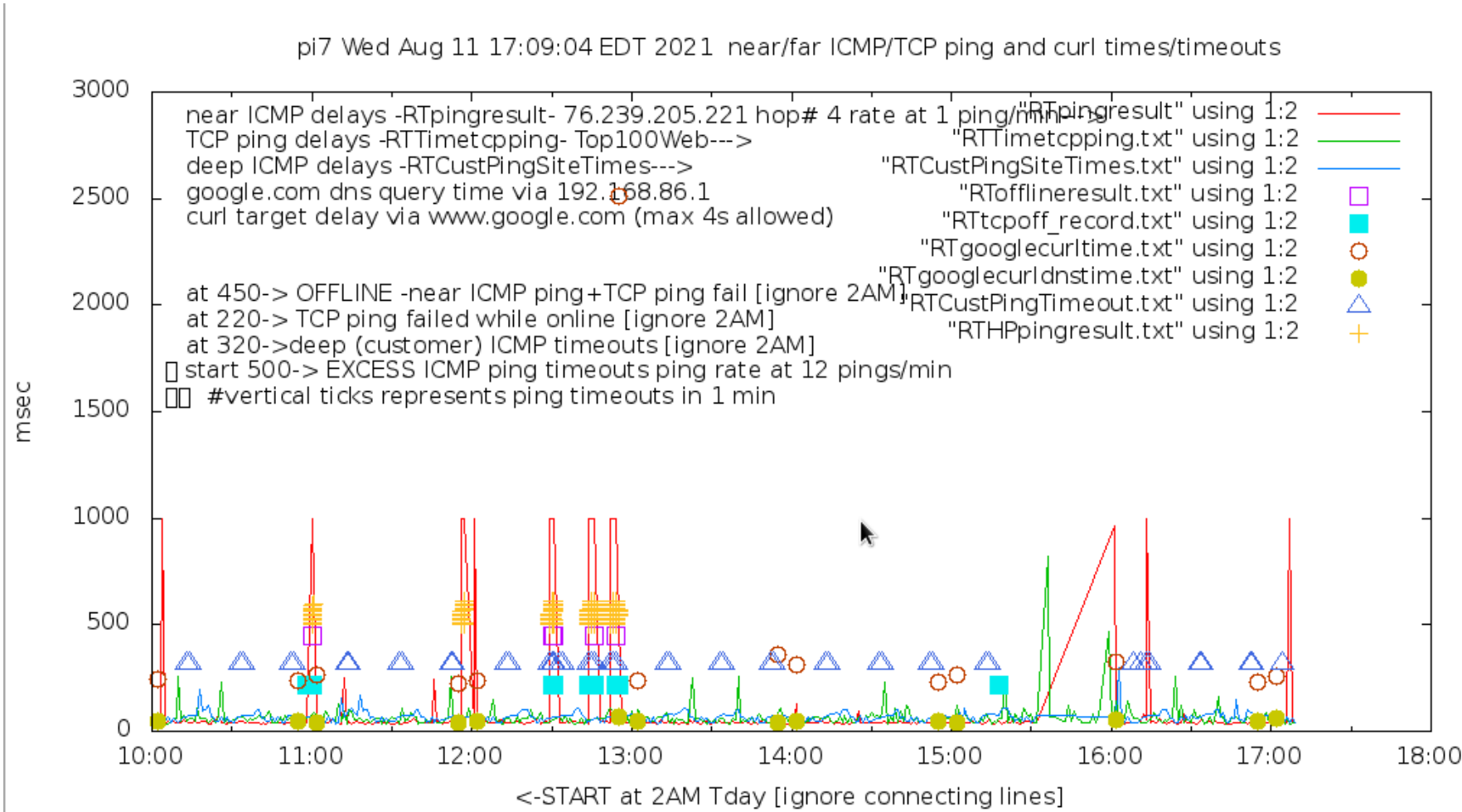
There is a "quick intro" doc at <https://imonitorg.com/QuickManual.pdf> [there is a QuickManualG.pdf for the generic version as well]

Last month Newsletter: <https://imonitorg.com/newsletter5-10-2021.pdf>

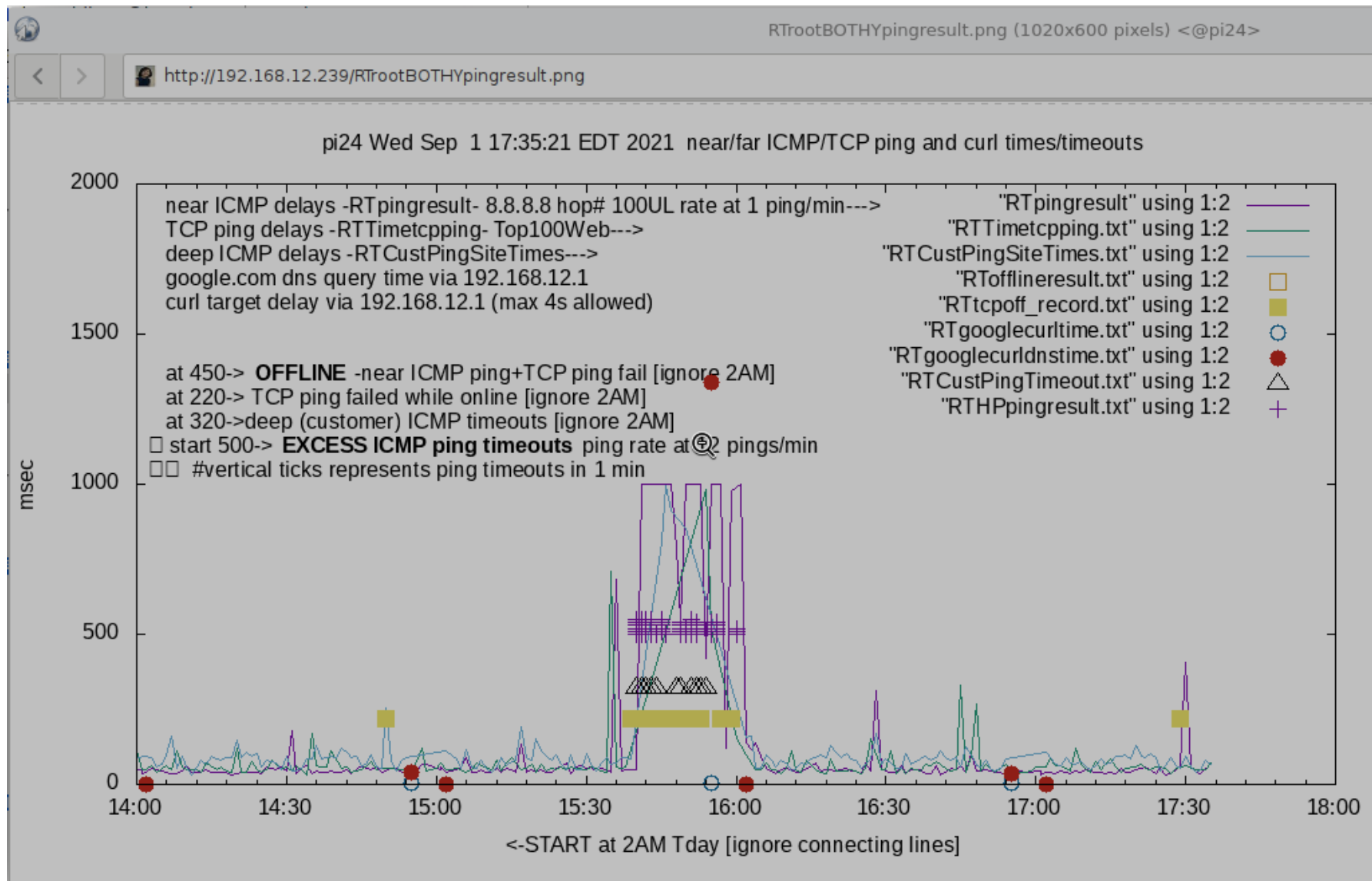
Newsletter 9-1-2021 topics

1. New raspberry pi 3B (jessie) and 3B+ (stretch) generic images are posted at sourceforge: <https://sourceforge.net/projects/imonitorg/> These are **completely standalone** with no Internet contact for management. They will come up running on your network. Management and access to statistics is via a web page on the rpi accessible on your home network. Manual: <https://imonitorg.com/QuickManualG.pdf> Otherwise, if you want join our "guinea pig" club, contact me directly.

2. A "hyperping" capability has been added to the plotting. When an ICMP timeout (once per minute ping) is detected, a more intense 1 minute period of 6 pings/minute is initiated **to probe the Intensity of the timeout**. These are indicated by vertical "ticks" on the plot. This greatly increases the performance monitoring indications. Here is a sample plot: This is Phil's "mancave" rpi, wifi, which has a lot of problems with network connectivity back there in his mancave! Most of his timeouts [the spikes to 1000 msec] are pretty heavy, as indicated by the vertical ticks. Some timeouts are transient [not ticks on the spikes].



Here is another plot of pi24 showing more detail on a network interruption [and using a start time of 1400]:



3. The real time plot called from the rpi web page **can specify the start time**, thus narrowing the scope of the plot, as shown by the start time of 10AM and 1400PM above.

4. The "findhosts" capability is being vastly expanded. This algorithm is still under development. It attempts to ID "persistent" hosts on your network -those who appear in 10 of 12 scans. "Gone" and "New" hosts are ID'd as before. In addition, the names associated with the hosts, if any, are listed. **This scan is also callable, real time from the rpi web page.** We are really living in unknown times with all the IOT devices on our networks checking into servers around the world [and potentially hackable]!! Learn about them. Isolate them on your guest network. Put the rpi on that network to discover them [or use a second rpi].

UPDATE: "findhosts" is broken on generic pis [on sourceforge] 9-4-2021. I can tell you how to make it work: Login as user pi, then "cd tests/hosts; ./init_repeat_oldhosts"

5. As a side project, I have also developed a special raspberry pi0w image [which is a wifi only small raspberry pi -costs about \$10] which has a wifi APN. It allows you to discover it on your network, browse to it, and input your wifi credentials, reboot, and come up on your network [no KVM is needed]. **It also enables a vncserver and a gmail relay capability.** -It will send you an email when it boots! I hope to transition the performance monitoring capabilities to the pi0w. Its image is available at the sourceforge link.

The last newsletter: <https://imonitorg.com/newsletter5-10-2021.pdf>

Again, I am eternally grateful to my "guinea pig" club for providing a wide range of ISP environments to develop and test these scripts. We have had great fun discussing interesting things that arise on our connections.

John

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<https://imonitorg.com>