SCaLE 21x

14-17 March 2024



 $\sqrt{1}$

/ I `



I remain very glad i was able to learn from and work closely with Dave for the past 30 years' time.



An old friend of mine annotated this and sent it to me.



This slide tells a bit about how Network Time Foundation came to be. I won't say more because it's in the online presentation slides.



Most people are at least aware of NTP. The LinuxPTP Project's goal is to be the best performing PTP software under the most recent Linux kernel. The libptpmgmt Project is a Type-Length-Value management and monitoring library for LinuxPTP in particular, and other PTP things as allowed. We're spinning up 3 SyncE projects. NTF is neutral and the 3 companies that are working on open source SyncE projects under NTF's umbrella are happy to play nice with each other. The Khronos Project's goal is the delivery of ongoing provable bounded time limits, to prevent time-shifting attacks.



Let's discuss Khronos first because it affects at NTP and PTP. The folks who are working on Khronos have good ideas on what the threats are, how to detect them, and how to mitigate them.

Other folks are concerned that some of the proposed detection and mitigation plans are unworkable.

We're confident that we can come up with solutions that will work for all involved.



ntp-4.2.8p18 fixes somewhere between 2 and 3 dozen bugs.

The NTP/TCP services effort is partially funded by a 2023 ARIN community grant.



We're actively identifying DDoS and abuse vectors involving NTP.







These projects are coming on-board and ramping up now. There will be more information on the website soon.



We get no government funding. The bulk of our funds comes from our institutional members.

Individual memberships and donations also help a lot. We use our funds to continue to improve and evolve all of our projects' security, support services, and documentation.

We hope that the more you learn about NTF the more you'll understand and appreciate the work we do.

The global user community relies on NTF's technology every minute of every day.



We invite everyone to follow us and share and submit posts that are of interest to the community.



Ruthie.

Margaret likes to joke that we use cat5 cables.





How does NTP work?

With a single volley, you can set your clock. If you send a volley, wait, and send another volley, you can see if your clock is running faster, slower, or at the same rate as the other clock. You can calculate the rate difference.

<u>\ | /</u>

NETWORK ______ TIME FOUNDATION

NETWORK ______ TIME FOUNDATION

1 /

How does NTP work?

With a single volley, you can set your clock. If you send a volley, wait, and send another volley, you can see if your clock is running faster, slower, or at the same rate as the other clock. You can calculate the rate difference.

Probably - did the remote clock change its time in the interim? Did yours?

