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Network Time Foundation-Status Update

The NTP, LinuxPTP, libptpmanagement, Khronos, and SyncE Projects



NTF Introduction

- I've actively worked on the NTP Project since the mid 90s. Soon became its PM.
- The NTP Project needed the support and backing of a legal entity.
- I felt an "NTP Foundation" would have insufficient scope.
- Network Time Foundation seemed "right".
- NTF became a California Public Benefit corporation and certified as an IRS 501(c)(3) in 2011.



NTF Hosted Projects

- The NTP Project - the only Reference Implementation of NTP. The Original.
- The LinuxPTP Project.
- The libptpnmgmt Project - PTP TLV management library.
- Several SyncE projects.
- The Khronos Project - ongoing provable bounded time limits.



Khronos Project

- Provable bounds on time accuracy
- Generally 200ms or better
- Secures time in the face of fairly powerful MitM attacks, with negligible probability of a successful time-shifting attack
- Protocol independent
- Low computational and communication overhead
- <https://khronos.nwtime.org>



NTP Project Status

- ntp-4.2.8p18 is about to be released
- Upcoming ntp-4.4 release:
 - NTS
 - New Extension Fields
- Upcoming plans:
 - NTP TCP Services
 - Khronos support
 - DDoS mitigation



NTP DDoS Mitigation

DDoS Mitigation:

- Under discussion for almost a year
- Realtime reporting of attacks
- Near-realtime tracking of IPs that are being attacked
- Looking for funding and initial partners
- Once this project is moving, we'll share our results (including pretty graphs, *in color*), at an upcoming NANOG



LinuxPTP Project

- Supported profiles: default, automotive, enterprise, telecom G.8265.1, G.8275.1, and G.8275.2
- Updated documentation, including examples and common configurations
- Latest release: 4.1
- 4.2 release scheduled for 5 December
- <https://linuxptp.nwtime.org>



libptpmanagement Project

IEEE 1588-2019 Management TLV library.

Beyond this, supports LinuxPTP-specific TLVs. LGPL 3.0.

- Current Release: 1.1
- Every class and file is documented
- <https://libptpmanagement.nwtime.org>



SyncE Projects

SyncE is an ITU-T standard that facilitates the transference of traceable clock signals over the Ethernet physical layer.

- `synced` from Renesas
- `SyncESMC` from SyncMonk
- `???` from Intel
- <https://sync-e.nwtime.org>



Other NTF Topics

Looking for:

- \$ (Anybody surprised? Won't say more.)
- Volunteers
 - sysadmin
 - coding (developers, QA)
 - documentation
 - fundraising
- More related/fun/interesting projects



In Closing...

- Want anything different in future presentations like this? Please tell me!
- Any questions?