Network Time Foundation-Status Update
The NTP, LinuxPTP, libptpmgmt, 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 libptpmgmt 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
libptpmgmt 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://libptpmgmt.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?