



14-17 April 2024

# **NTP TCP Services Daemon**

## **ARIN Community Grant: Interim Report**

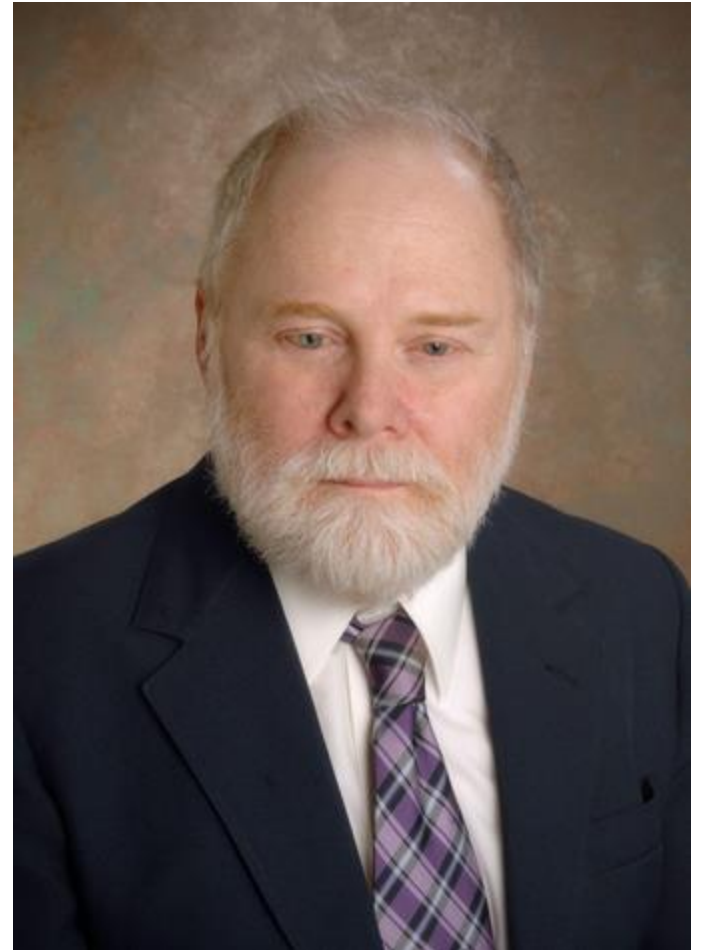


# David L. Mills

3 Jun 1938 - 17 Jan 2024



Mills first designed and implemented the Network Time Protocol in 1981, tackling the challenge of delivering synchronized time on networks.





# Background

NTP is a UDP-based protocol, and that includes its legacy monitoring and management framework.

A UDP-based monitoring and management framework is limiting, potentially fragile, and has the potential to be abused.

We have long contemplated use-cases for TCP services; the need for a TCP-based key exchange mechanism for NTS brings this to the fore.



# Design

We knew we wanted to use TCP for better monitoring and management of NTP.

Knowing we also needed to support NTS TCP Key Exchange and that we want to deploy a better ephemeral authentication mechanism than NTS, it makes sense to have a single, smaller daemon that can support multiple services on various ports and dispatch requests itself.



# Development Prep

NTP TCP Services Daemon development is done in our ntp-dev branch, as it will become part of the next major release of NTP.

Our first step is to get the ntp-dev branch sync'd with the ntp-stable branch, so bugs in ntp-stable can continue to be fixed while we develop the TCP Services Daemon code in the ntp-dev branch.

One more sync commit and this step is done.



# Development

Once our ntp-stable and ntp-dev branches are synced we'll be committing our ongoing development for the NTP TCP Services Daemon to the ntp-dev branch, for wider visibility and testing. We expect this to happen in April or May.

We are on-track with the implementation schedule.



# In conclusion...

We greatly appreciate receiving this  
ARIN Community Grant!  
It helps NTF, the NTP Project,  
and all who use our software.

This grant helps us take the next step to deploy  
NTS and improve the security of NTP traffic.

Find us at <https://nwtime.org>  
Questions? [info@nwtime.org](mailto:info@nwtime.org)