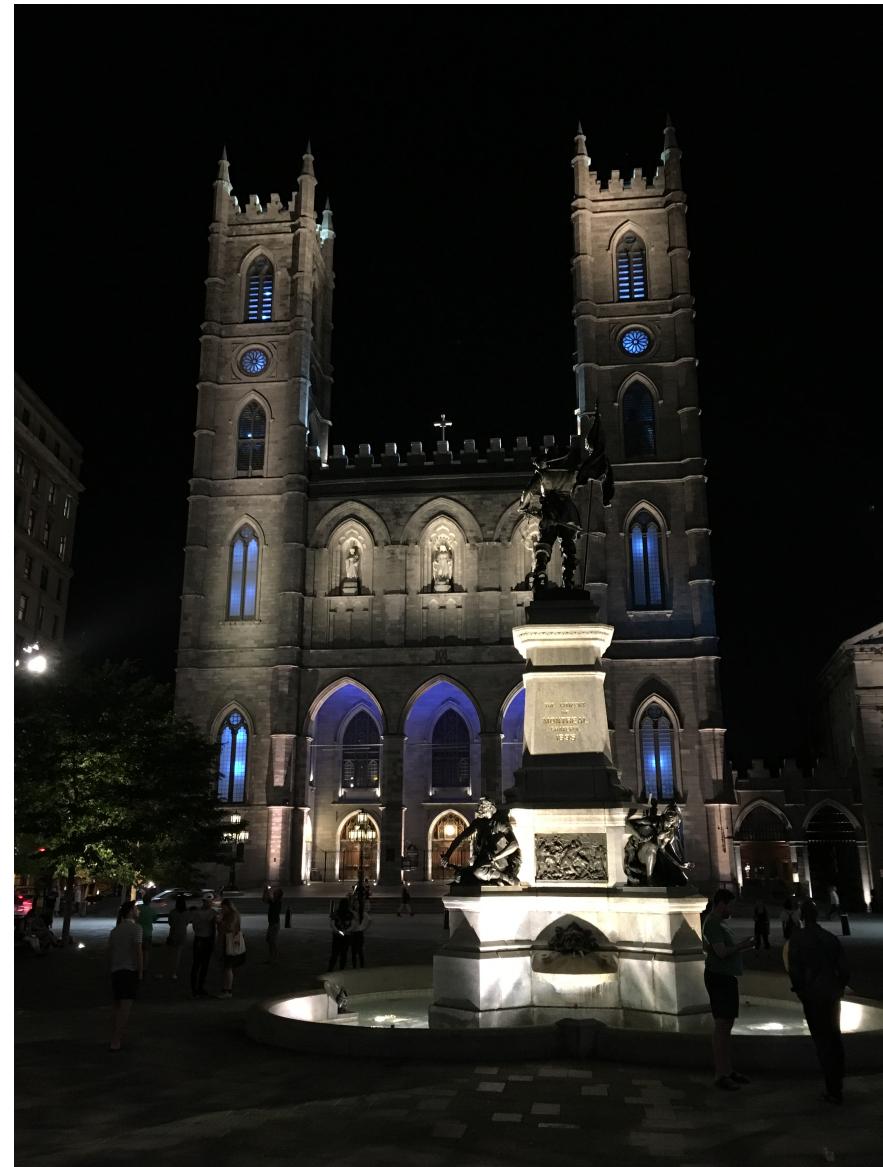


# IETF Hackathon: Network Time Security (NTS)

IETF 102  
14-15 July, 2018  
Montreal



# Hackathon Plan

- Integration of NTS with different NTP implementation
  - draft-ietf-ntp-using-nts-for-ntp-12
  - draft-dansarie-nts-00
- Verifying interoperability between various NTS implementations

# Team and Technology

## Team members:

- NTS-M (Martin) - draft-ietf-ntp-using-nts-for-ntp-11 (C++)
- NTS-D (Daniel) - draft-ietf-ntp-using-nts-for-ntp-11 (Python)
- NTS-S (Sweden) - Malmö team - draft-dansarie-nts-00 (golang)
- NTS-N (NTF - draft-ietf-ntp-using-nts-for-ntp-12) (NTPD)
- NTS-O (Jean-Philippe - draft-ietf-ntp-using-nts-for-ntp-12) (OpenNTPD)

NTP working group:

<https://datatracker.ietf.org/wg/ntp>

Involved documents:

[draft-ietf-ntp-using-nts-for-ntp-12](#)

[draft-dansarie-nts-00](#)

[RFC 5905 \(NTPv4\)](#)

[RFC 5297 \(AES-SIV\)](#)

[RFC 7822 \(NTP EF\)](#)

Git repositories:

<https://github.com/dfoxfranke/nts-hackathon>

<https://gitlab.com/MLanger/nts>

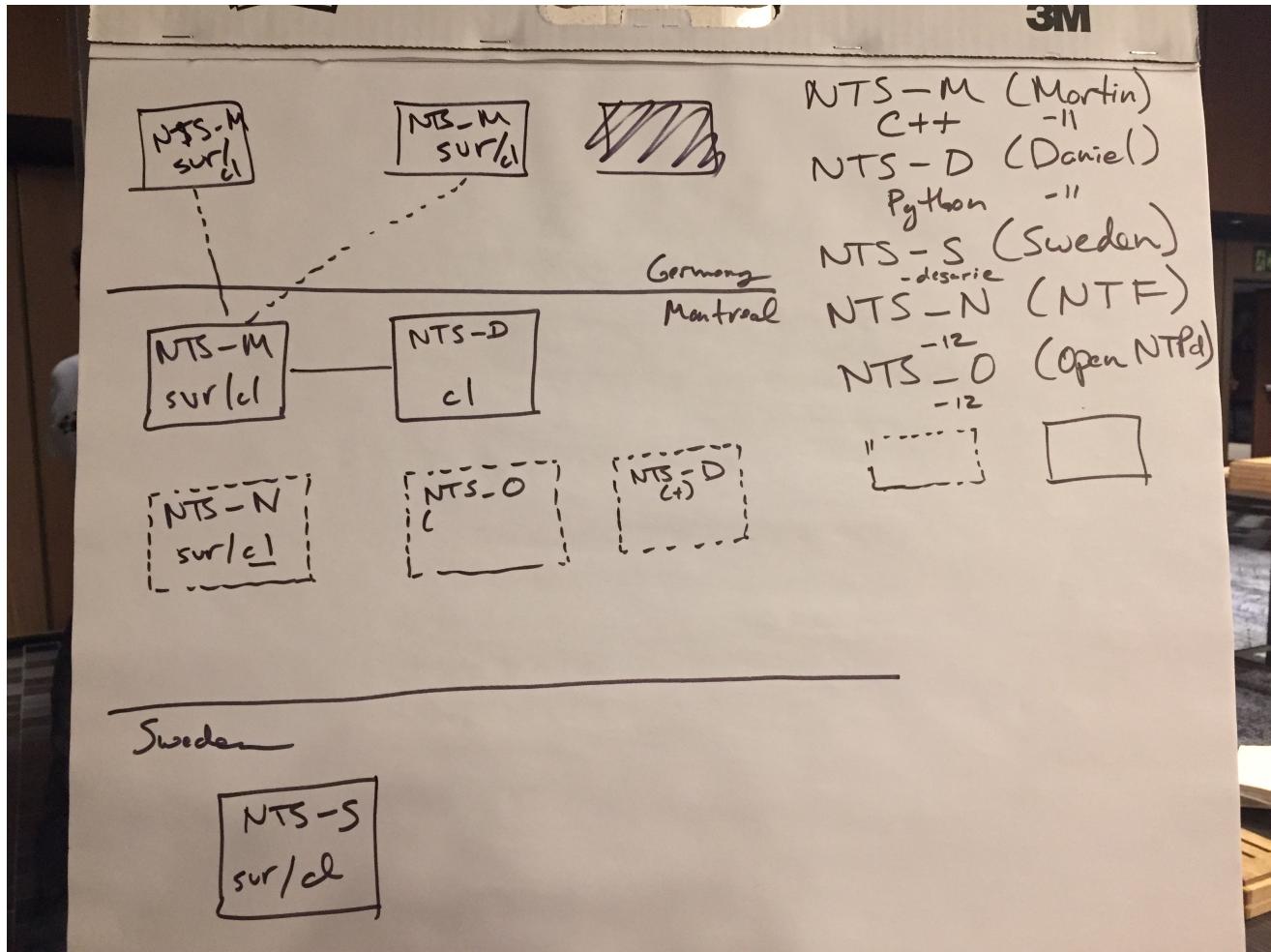
<https://gitlab.com/MLanger/ntp>

<https://github.com/beevik/ntp>

TLS 1.3

<https://github.com/bifurcation/mint>

<https://github.com/beevik/ntp>



IETF Hackathon – Network Time Security (NTS)

# What got done

Team	Draft	Language	Notes
Martin	draft-ietf-ntp-using-nts-for-ntp-11/12	C++	Continuation of hackathon 101
Daniel Lavinia Lee	draft-ietf-ntp-using-nts-for-ntp-11/12	Python	Continuation of hackathon 101
Team Sweden	draft-dansarie-nts-00	Golang	NTP in FPGA
Network Time Foundation	draft-ietf-ntp-using-nts-for-ntp-12	C	Start of NTS integration in NTP's reference implementation
Jean-Philippe Ouellet (openNTPD)	draft-ietf-ntp-using-nts-for-ntp-12		Start of implementation work

# What we did/learned

Client/server	Martin (Server)	Python (Server)	Team Sweden Server
Martin (Client)	Key and time exchange  Time exchange: drop of NTP mode 3 packets between Germany and Montreal	KE as demonstrated at 101 Hackathon	TLS 1.3 issues between golang package and openssl
Python (Client)	KE and TE demonstrated at 101 Hackathon		
Team Sweden Client	TLS 1.3 issues between golang package and openssl		Key and time exchange
NTF (Client)	First phase of KE		

# Wrap Up

- Interoperability tests are important
- The NOC is very helpful!
- Wireshark helps...