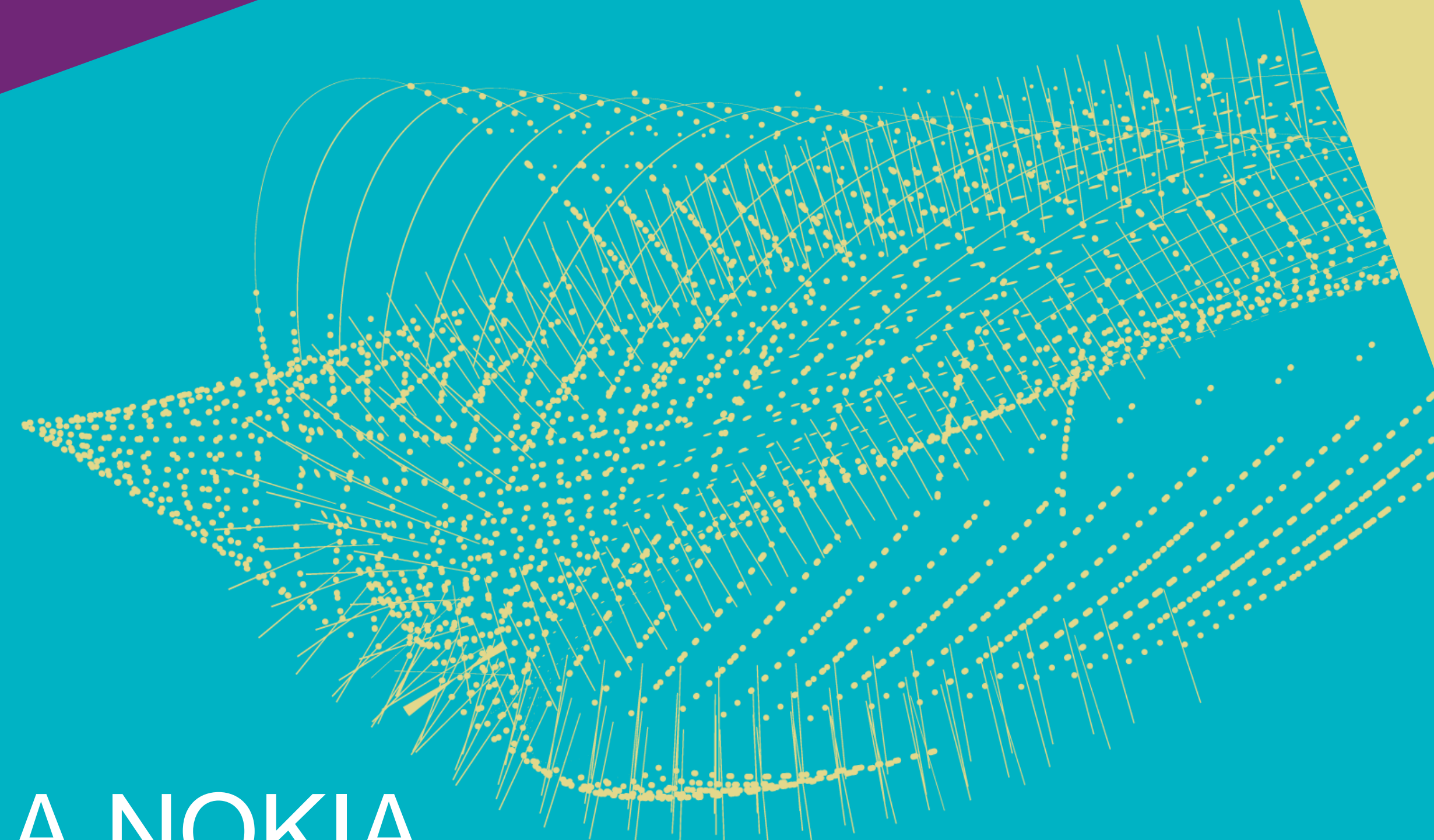




HEPIX AUTUMN 2023

OUR NEW ROUTER IS A NOKIA,
BUT CAN IT PLAY SNAKE?

Bart van der Wal



OVERVIEW

- The people involved
- Campus challenge
- Changing needs
- The search
- Our Nokia
- The result
- Capirca
- Experiences so far
- The future

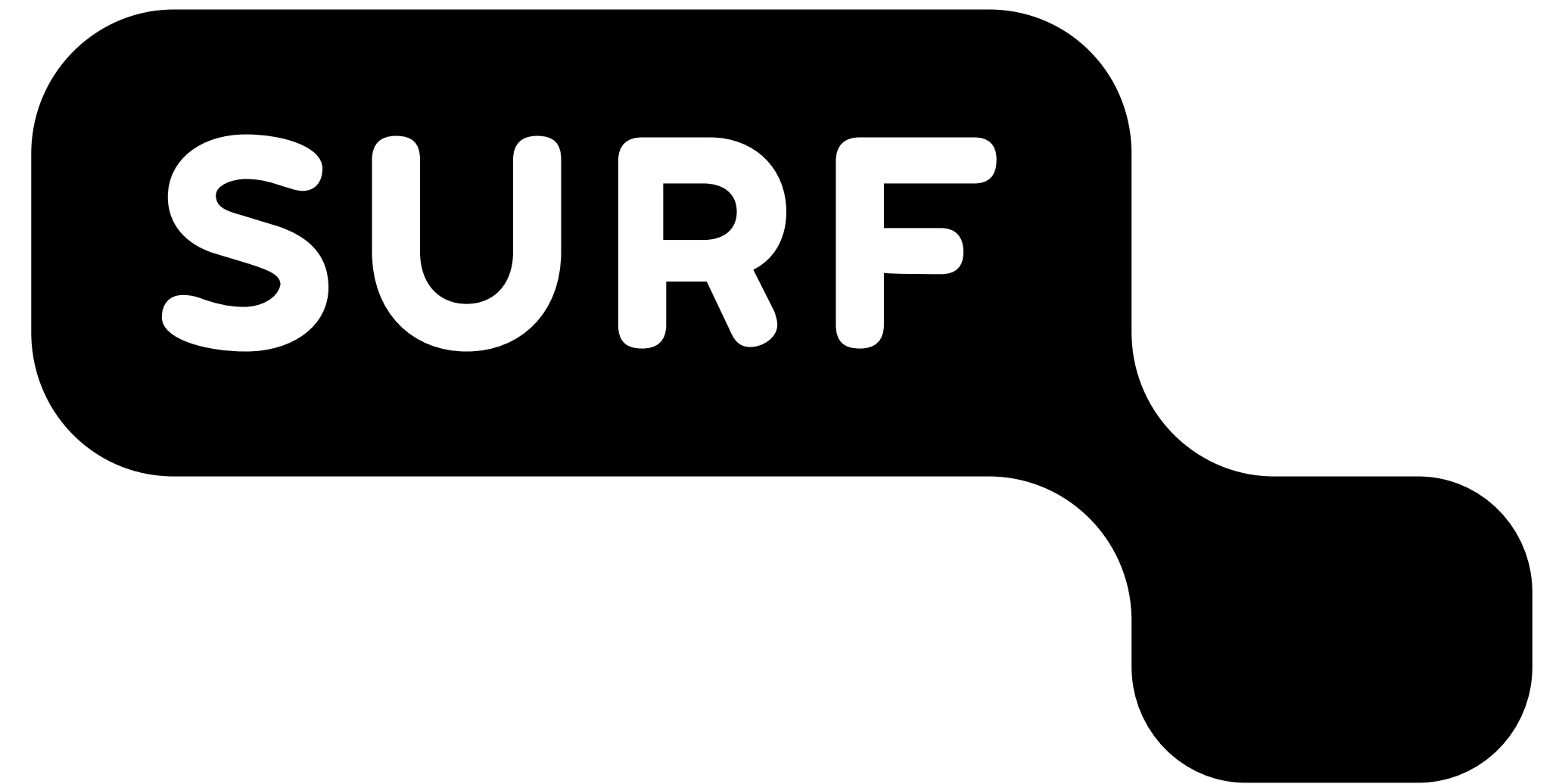
THE PEOPLE

- Tristan Suerink
- Erik Kooistra
- Wilco Baan Hofman
- David Groep
- Bart van der Wal

Nik|hef

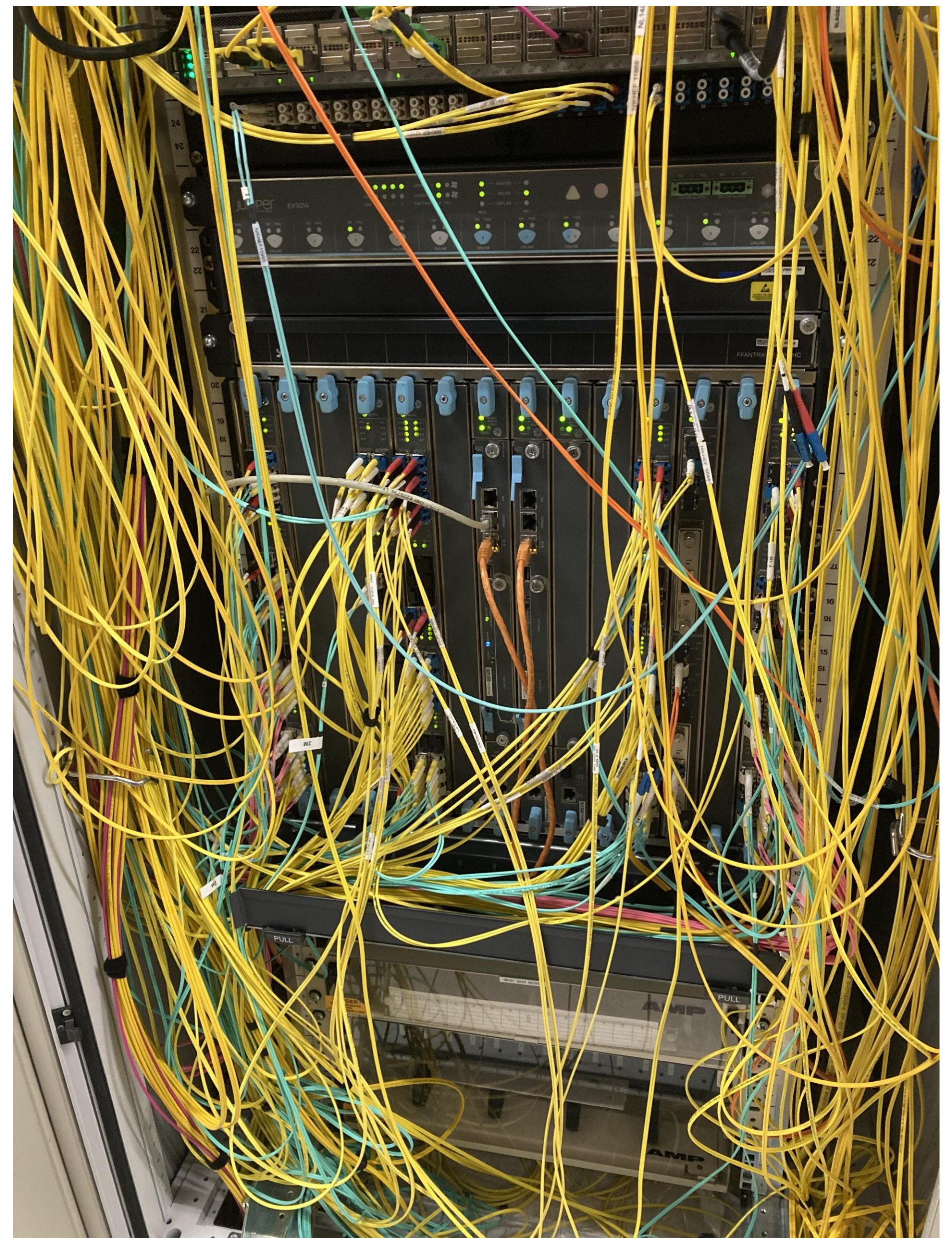
THE CAMPUS CHALLENGE

- Amolf, CWI and Nikhef
- Shared storage
- Hitachi
- Wifi (Eduroam roaming)
- Amolf, CWI, Nikhef and UvA
- Network (shared router)
- Juniper EX9214 (Parkwachter)
- Separate Router for Grid
- Juniper QFX10008 (DeelQFX)



CHANGING NEEDS

- Storage
- Different needs vm, data, homefolder?
- Network
- Also different needs.
- Nikhef has far higher requirements
- Sharing Surfnet line is nice though
- Wifi
- Is a success and will remain
- Shared controllers



WTCW-LAN 4.0

- WTCW-LAN 4.0 layer 2 network
- Sharing Surfnet uplink
- Connection for WiFi roaming

- Each institute their own router

THE REQUIREMENTS

- 10Gbit to 400Gbit
- 800Gbit capabel preferred
- Interoperable with Juniper QFX10008
- And much more

CANDIDATES

- Juniper
- Arista
- Nokia
- Others were not relevant for us

NOKIA

JUNIPER
NETWORKS

ARISTA

WHY NOKIA

- Great offer → 2 routers
- Met and exceeded our requirements
- European company
- Telecom background so focus on stability and reliability
- Interesting future roadmap
- “Feels like Juniper 10 year ago” (Tristan)

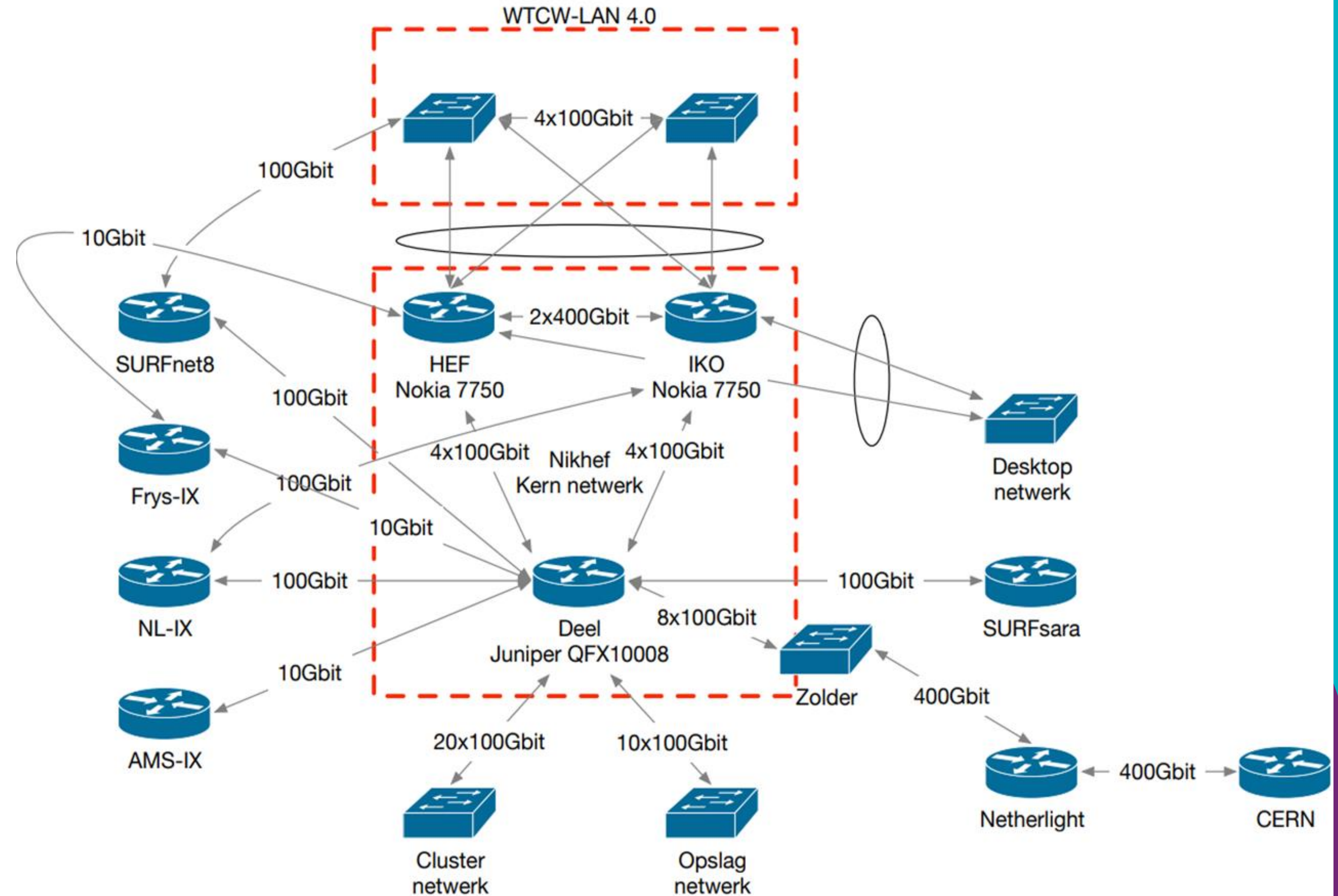
OUR NOKIA

- Two Nokia 7750-SR 1 routers
- New FP5 processor
- 800Gbit capable
- 19,2 Tbit/s of connections
- 6 Tbit/s of throughput each



THE RESULT

- EVPN/MPLS
- SHARED ACL'S
- REDUNDANT



CAPIRCA

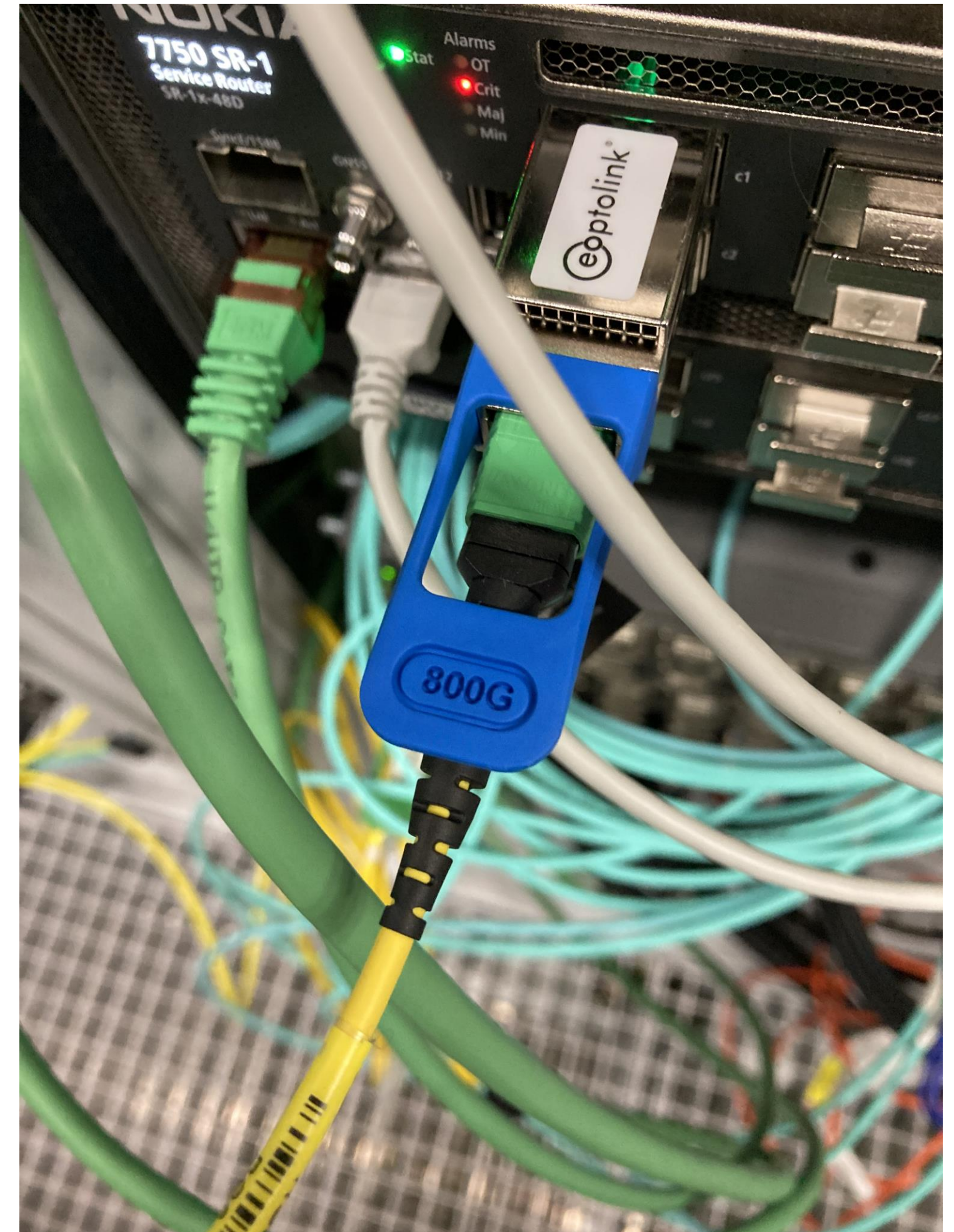
- Multi platform ACL generation system
- Network, Services and policy definitions
- Nokia was not yet supported
- However Wilco wrote extension
- Auto generation from GIT

EXPERIENCES SO FAR

- Get used to service based instead of port based
- No major bug's
- Quick response to issue's
- Implementation when smoothly
- Capirca works well

THE FUTURE

- +/- 1Tbit/s to Cern for HL-LHC
- Testing with 800Gbit/s with NL-IX and Surf
- Can't wait for 1,6Tbit standard



SNAKE?

- Not yet...
- Nokia promised they are working on it.
- Questions?

