

Nordics

NeIC NT1 Manager
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Science Interests

- LHC Experiments
 - ATLAS and ALICE in multiple countries with a distributed tier-1
 - CMS in Finland (and Estonia) with local tier-2s
 - LHCb group starting up in Sweden, computing scale unknown
- Onsala Observatory has SKA interest
 - A regional data center might (will?) be built
- For national scientific computing facilities
 - Majority of CPU-hours in physics and chemistry simulation
 - Majority of papers in biology and medicine
 - Average research group $O(10)$ people



Organization, scientific computing

- National infrastructures for HPC
 - Supports the largest HPC researchers (possibly with EuroHPC resources)
 - Are more or less attuned to small or odd (by HPC standards) researchers
- University local resources
 - For all the other researchers with needs larger than their laptop
 - Probably responsible for long-term data preservation, but scarce on data repositories for large volumes
- Big research infrastructures with their own resources
 - WLCG, ESS, EISCAT, etc
 - Sometimes collaborating with the above



Organization Nordic Tier-1

NeIC NT1 central operations

- Staff on NeIC contracts
- Distributed team at partner institutes
- Lead by NT1 manager

• Site operations

- 6 Nordic sites and 2 non-Nordic federation additions
- Owns and runs the hardware
- Provides managed services (batch systems, tape archives, etc)

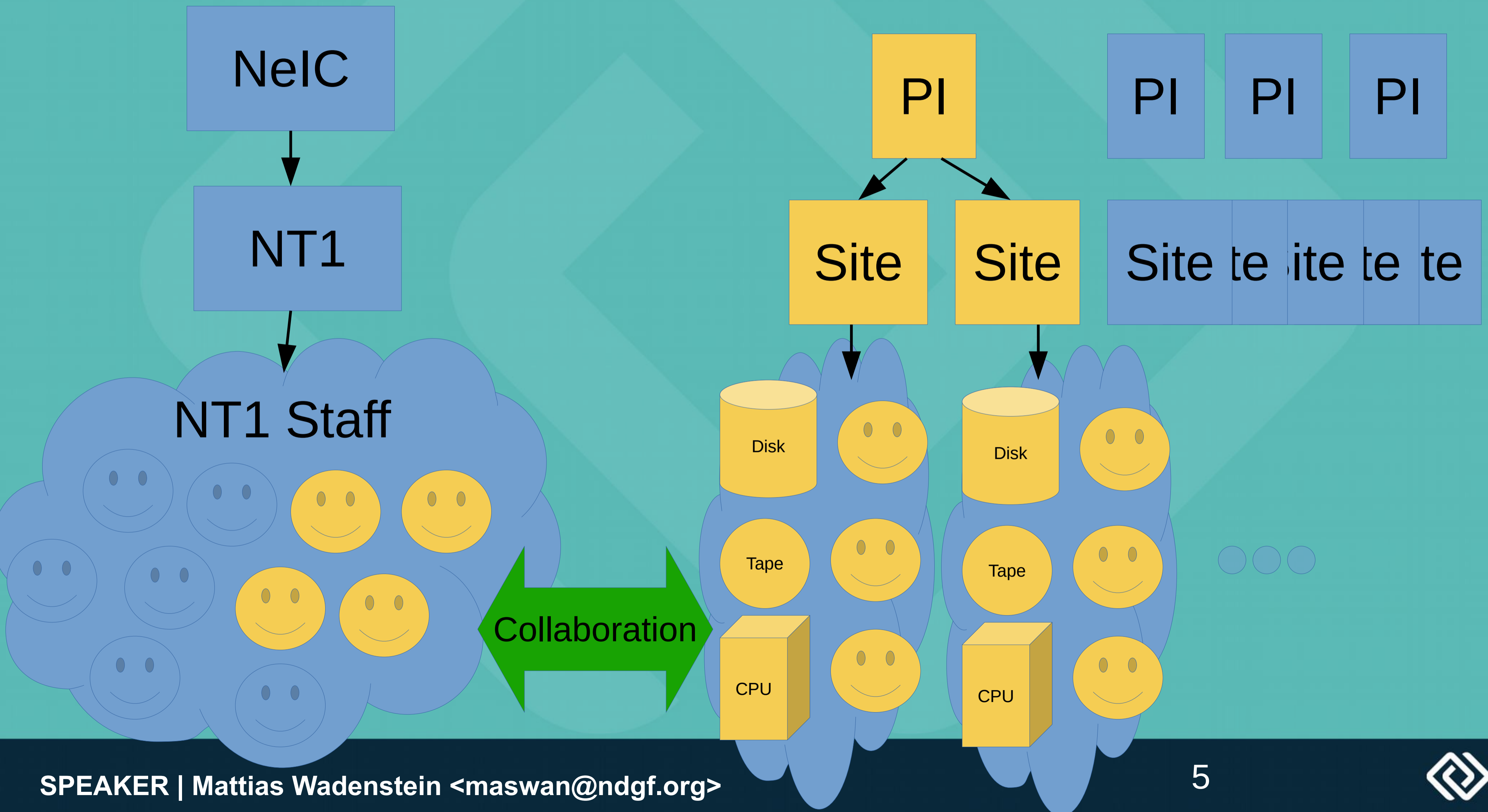
• Plus external services, like networking

• Federating sites into one distributed storage

- See “Nordic Data Lakes Success Story” from CHEP 2023



Organization



Funding

- NeIC Tier-1 funding from many directions
 - Our funding agencies like to have competitive calls ever 4/5 years, NeIC has 6 of them (4 relevant for tier-1 central operations)
 - In addition to central NeIC funding, hardware and site local operations also applies to same or different calls
- National infrastructures with varied ambition levels
 - Usually with long-term funding from national funding agencies, but upheavals happen
- University local resources even more varied



Challenges

- Building long-term infrastructures on short-term funding
 - Especially data storage with 30+ year timeline
- Software funding coming in short project bursts
 - Often conflicts with fancy goals for a final report vs useful code for production infrastructures
- “We paid lots of money for this HPC resource, so you must use it”
 - Instead of “How should an HPC resource be designed to be useful for you?”

