Operations in NDGF/NeIC (and SE-SNIC-T2)

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Nordic e-Science Infrastructure Collaboration / CSC – IT center for Science

NDGF: Background

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- In addition to the NDGF-T1, there's a few T2:s
  - FI-HIP-T2 for CMS
  - NO-NORGRID-T2 for Atlas
  - SE-SNIC-T2 for ALICE and Atlas
    - Sometimes hard to distinguish from NDGF-T1

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- Lots of people have left NDGF/NeIC during the last 6 months.
  - No ARC developer at the moment
  - No dCache developer at the moment
  - ...

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NORDIC DATAGRID FACILITY

CSC

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- 50 % of swedish CPU hours contributed to NDGF-T1, 50 % contributed to SE-SNIC-T2.

Sites: CSC

- Owned by Helsinki Institute of Physics (HIP), hosted by CSC

- Geographical location: Espoo (almost Helsinki), Finland

- Backend: SGE
  - Big array jobs have been problematic

- 768 cores
  - Shared with local ALICE users, and CMS
  - Number of ALICE grid jobs limited by batch queue system to 150 $\Rightarrow$ underutilization of the cluster.
  - 1190 HEPSPEC06 CPUs on average 2011

Sites: PDC

- Parallell Data Centrum, Royal Technical University

- Geographical location: Stockholm, Sweden

- Backend: ARC

- Has been broken lately

- 712 cores
  - Shared with Atlas and lots of other stuff
  - 943 HEPSPEC06 CPUs on average 2011

Sites: NSC

- National Supercomputer Center, Linköping, Sweden

- Backend: PBS / Torque

- Oscillating job numbers

- 512 cores
    - Shared with Atlas and lots of other stuff
    - 1912 HEPSPEC06 CPUs on average 2011

Sites: LUNARC

- Center for scientific and technical computing for research at Lund University, Lund, Sweden

- Backend: PBS / Torque

- Oscillating job numbers

- 512 cores
    - Shared with Atlas and lots of other stuff
    - 1248 HEPSPEC06 CPUs on average 2011

Sites: DCSC/KU

- Danish Center for Scientific Computing / Københavns Universitet

- Geographical location: Copenhagen, Denmark

- Backend: ARC

- 5080 Cores in total
  - $\sim$ 800 CPUs shared with Atlas and lots of other stuff
  - 1675 HEPSPEC06 CPUs on average 2011

- Broken Fairsharing $\Rightarrow$ ALICE suppressed by Atlas $\Rightarrow$ expired proxies.

- "Solution": Max job number per project: 750.

Sites: UiB

- Universitet i Bergen

- Geographical location: Bergen, Norway

- Backend: PBS

- 372 Cores
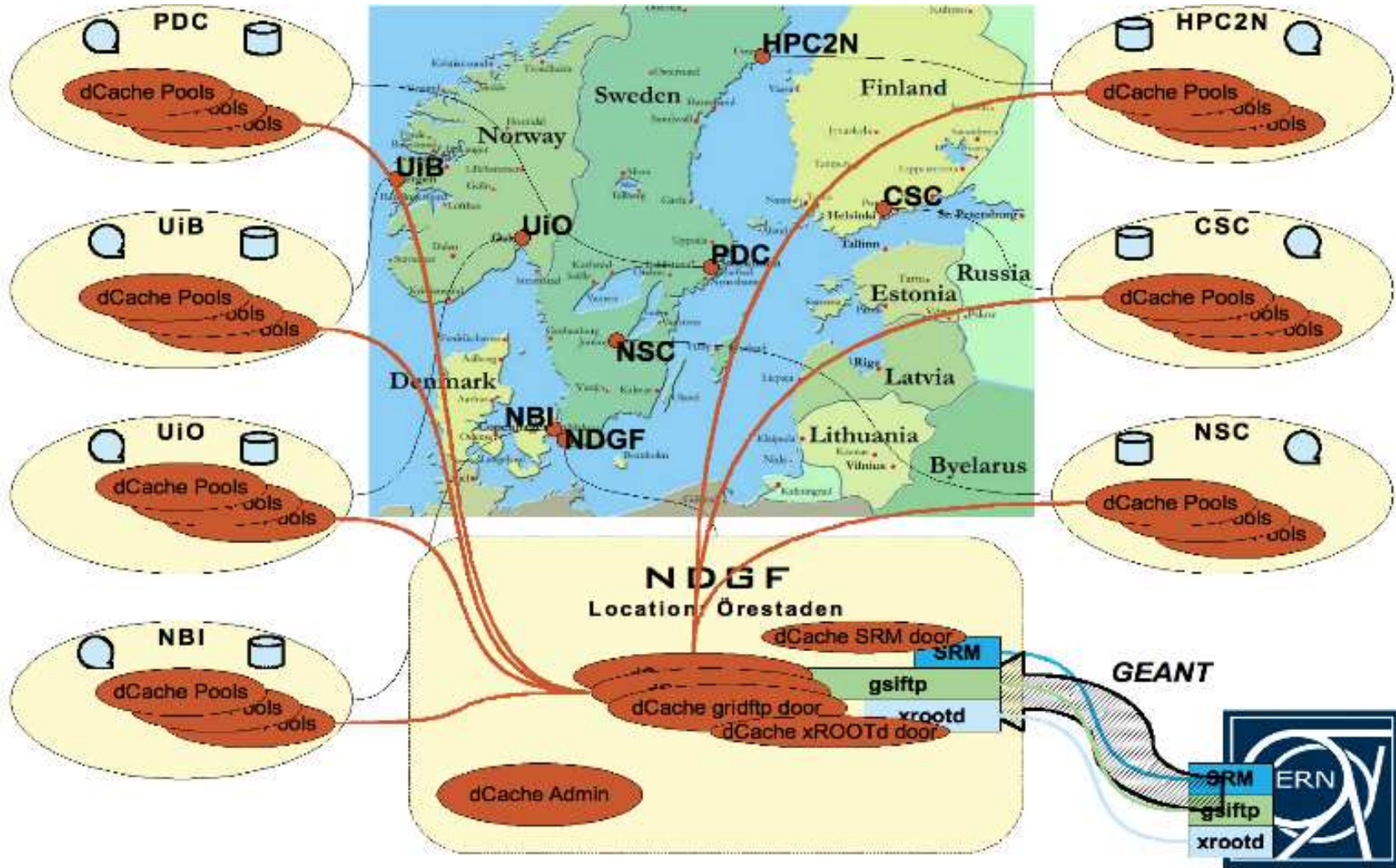 - $\sim$ 1738.5 HEPSPEC06 CPUs on average 2011
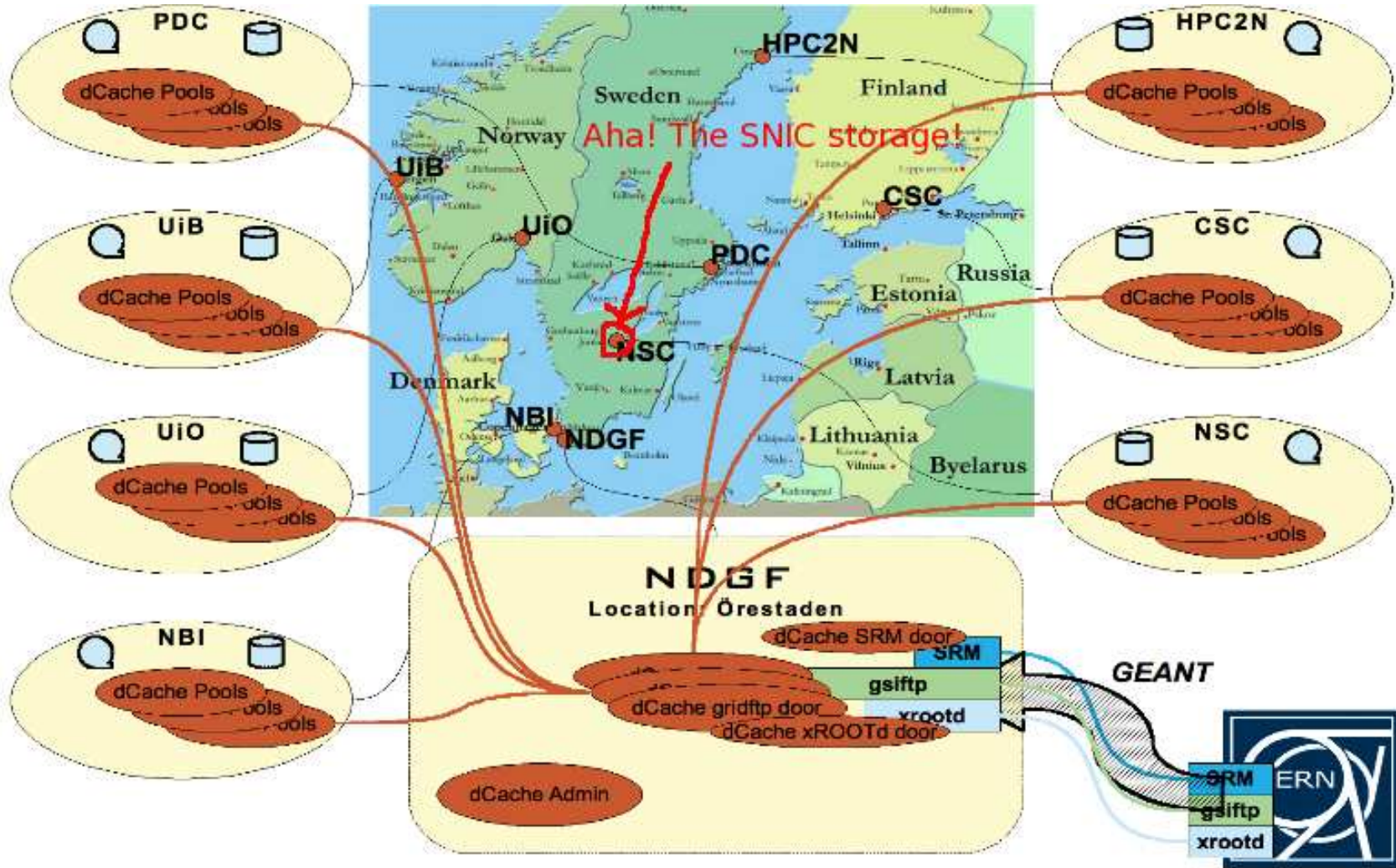
CPU summary

- 8707 HEPSPEC06 CPUs on average 2011

- 6883 (NDGF) + 2820 (SNIC) = 9703 was pledged for 2011

- We will try to be better in the future

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- Disk: 590 TB (NDGF) + 400 TB (SNIC) + Finland has order more. $\Rightarrow$ We will soon have what we pledged for 2011.

- Tape: Pledged 1761 TB (2012); available: 2.4 PB of which $\sim$ 100 TB in use