

NAISS Storage

National Storage

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A Historic Flashback

- Activity within SNIC since 2007
- Created from the first(?) national strategy for storage within SNIC
- Written by Sven Stafström and Niclas Andersson
- "Bioinformatik har ett växande lagringsbehov som väntas nå upp mot 100 TB"
- "Class 1, temporary storage"
- "Class 2, Project storage"
- "Class 3, Mass storage"
- 10 recommendations

Some recommendations from the 2007 strategy

- All SNIC centra should invest in Class 1 disk storage.
- All SNIC centra should offer class 2 storage.
- The three national centra (NSC, PDC, HPC2N) should offer larger disk and tape storage systems.
- SNIC should establish contact with DISC and Svensk Nationell Datatjänst (soon to be started).
- SNIC should invest in technology and user support that enables swedish participation in a Nordic Tier1 within the WLCG projektet. This will be the biggest user of national storage in the foreseeable future.

NAISS Storage – 2014

	Centerstorage (TB)	dCache /iRods(TB)	Tapestorage(TB)
HPC2N	100	350	1 000
UPPMAX	-	420	
PDC	696	240	710
NSC	400	600	1 020
C3SE	188	670	
LUNARC	75	263	
Total	1 459	2 543	2 730

Disk: 410 SEK/TB/year (dCache/iRods)

Tape: 366 SEK/TB/year

SweStore today

- Niklas Edmundsson has taken over as coordinator from Jens Larsson
- Tape Storage at NSC, PDC, HPC2N
 - Offloading disk storage – not really used within NAISS
 - Mostly for backup
 - Cross site backups
- National available disk storage
 - iRods no longer available (was only available for a few years)
 - **dCache** at LUNARC, C3SE, NSC and HPC2N – the primary national available storage.
 - Access using x509 certificates **or** username+password
 - Recommended tools: Rsync/Rclone and/or WebDAV

dCache usage within NAISS

- Today:
 - 5.2 PiB site-redundant storage (two copies of the data at different sites)
 - 2.9 PiB allocated
 - 2.2 PiB used
- EOL 2024: 2.9 PiB (no more site redundancy!!!)
- EOL 2025: Head nodes and almost all of the storage
- Investments needed **now** to keep current status
- Estimated cost: 800 kkr/PiB

NAISS Storage – SweStore - in the future

- Investigation of the future of NAISS Storage
 - High demand of local, national (and international) storage
 - What are our ambitions?
 - Sensitive data?
 - Data handling? FAIR?
 - Archiving/Long term storage?
 - Cost modell?
- Risk analysis
 - Putting everything in one physical place
 - Backup/Multiple copies on different places
- Long term strategic plan (no more one year agreements)