

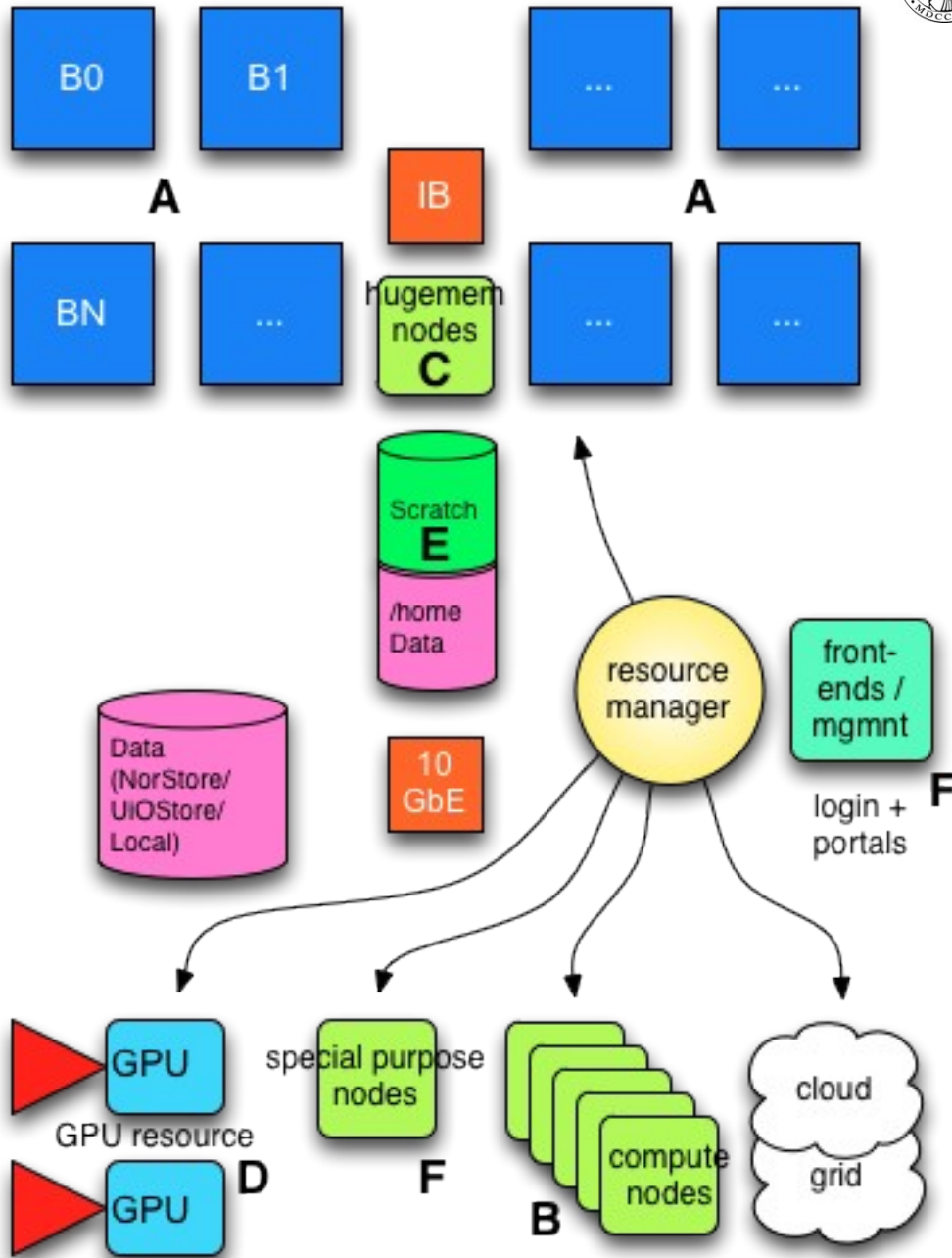


The Abel supercomputer and NorStore storage facility

Abel hardware overview



Overview



Installed compute hardware

630 Supermicro nodes

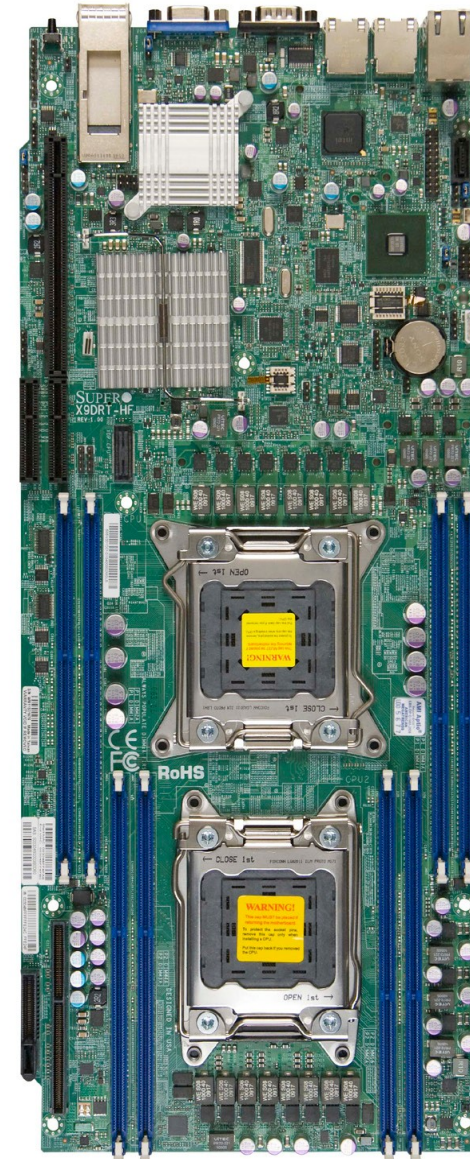
Two socket

Intel E5-2670

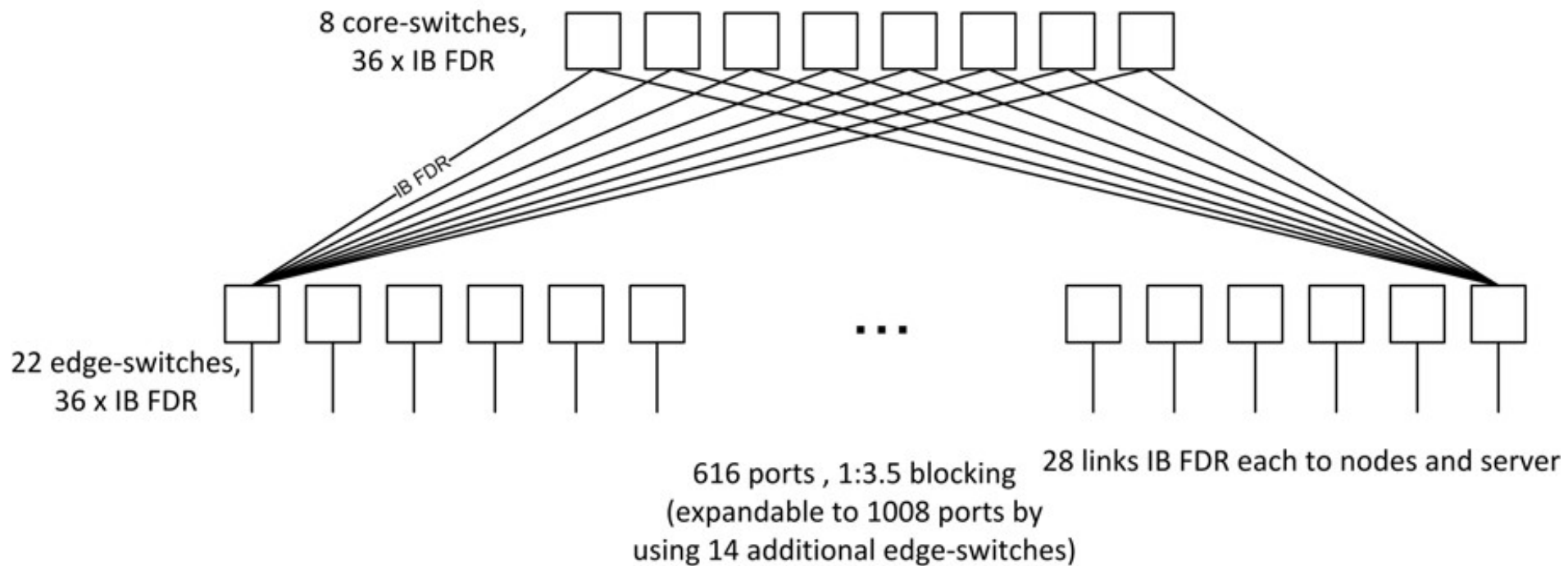
2.6 GHz octa core

64 GiB memory

FDR InfiniBand



All nodes have InfiniBand





Top 500 no. 96 when new

- June 2012
 - 178.6 Tflops/s
 - No. 96 on the top500 list

- November 2014
 - No. 368



Local storage

/work

Common scratch area

Size 339 TiB



/cluster

Cluster wide storage for programs, libraries, home etc.

Size 279 TiB

Local storage

Storage – Supermicro / LSI / Toshiba



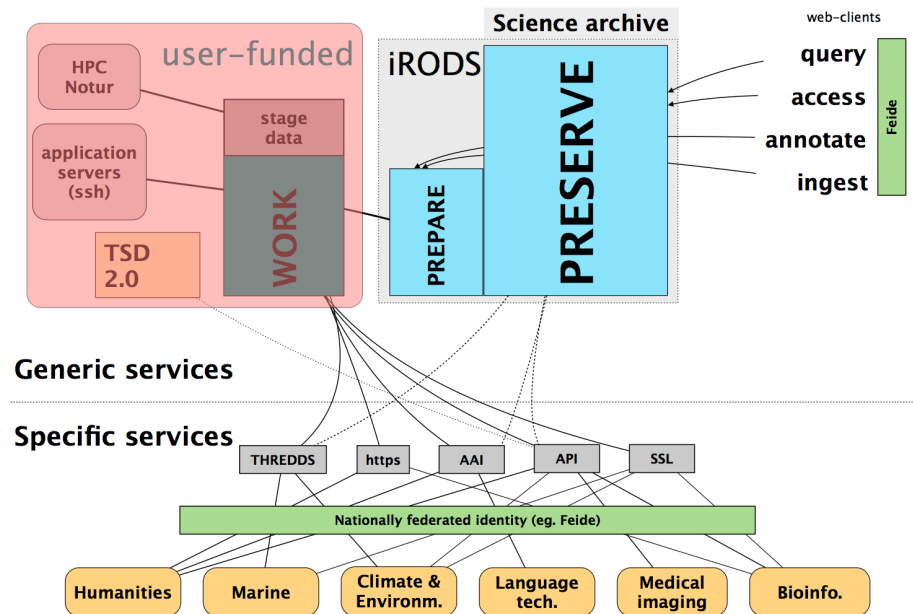
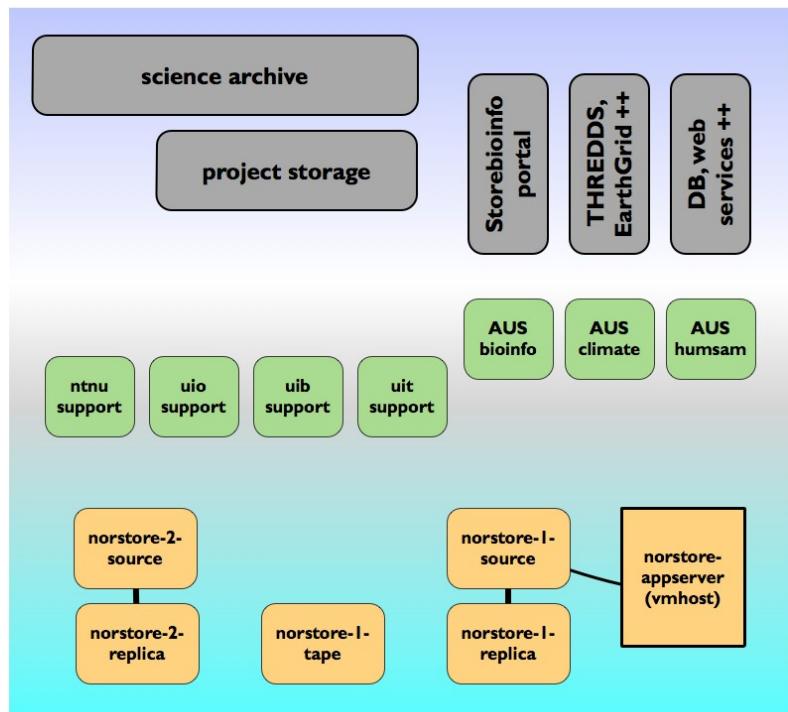
14 IO nodes dual socket Intel E5-2609, 64 GiB memory,
dual LSI-9265-8i controller, 33 Toshiba SAS 2TB disks
3 RAID 6 (8+2) sets + 3 hot spare
2 redundant meta data servers, SSD for meta data

BeeFS global parallel file system

All nodes connected via FDR InfiniBand



Norstore

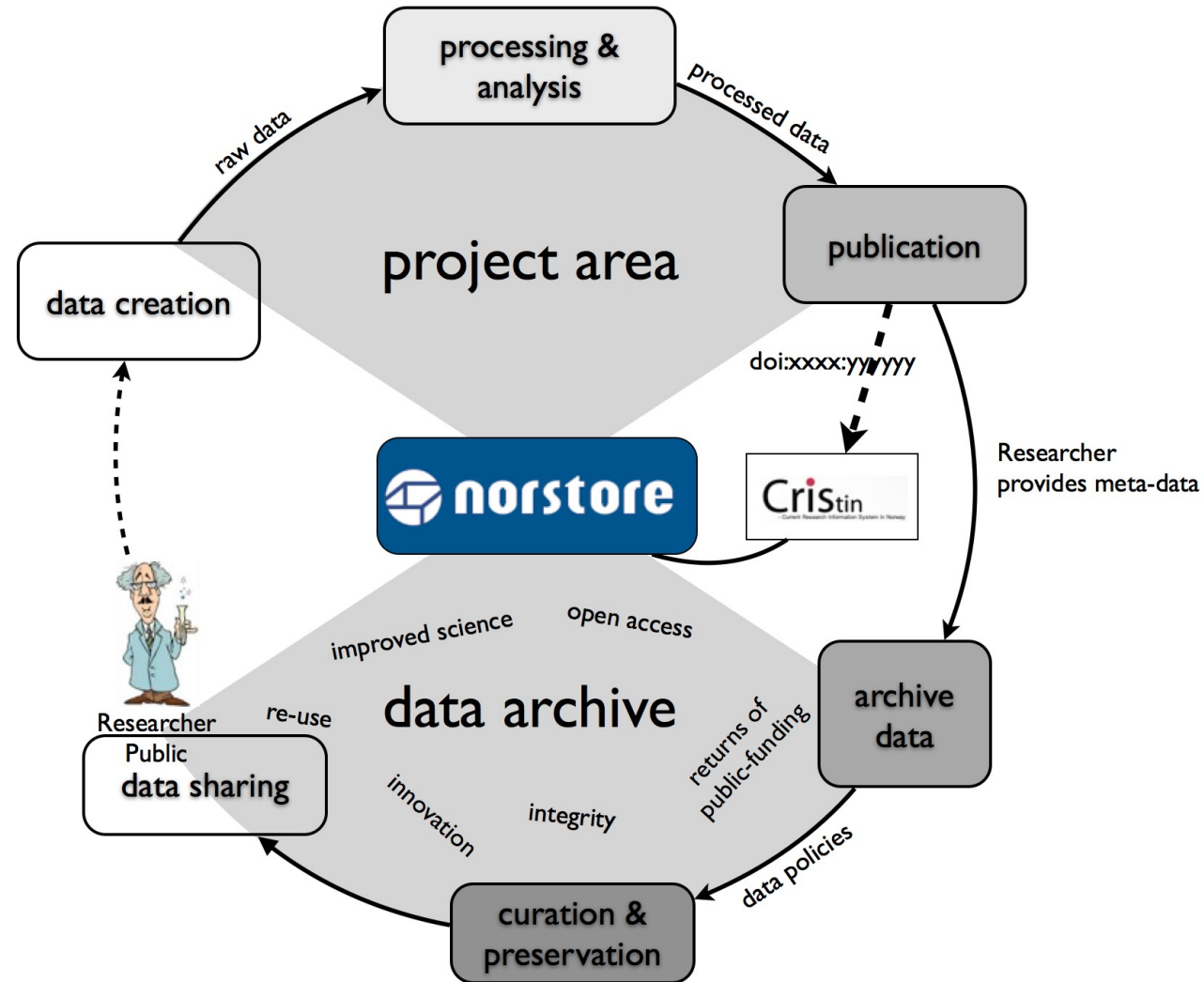




Norstore – what is Norstore

- NorStore is a national infrastructure for the management, curation and long-term archiving of digital scientific data.
- The infrastructure provides services for easy and secure access to distributed storage resources, facilitate the creation and use of digital scientific repositories, provide large aggregate capacities for storage and data transfer, and optimize the utilization of the overall storage capacity.

Norstore



Norstore hardware

Hardware

The table below contains a limited overview of the NorStore resources

Resource name	Description	Specification	Media type	Total disk capacity	Service interface
norstore-osl	Serves "project area" and "data archive"	Hitachi Unified Storage System	HNAS disk	1.6 PB	command-line and integrated
norstore-osl-tape	Serves "project area" and "data archive"	Spectra Logic T-finity	TS1140 tape	3.0 PB	command-line and integrated

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Capacity is currently being updated with several PiB.



Norstore services

- Project data storage offers data storage facilities to a group of researchers that require a collaborative platform to store, share and manage large datasets.
- Services for sensitive data offer research projects requiring sensitive data storage or handling the means to secure management of sensitive data.
- National research data archive is an infrastructure to enable discovery, reuse, integrity and long-term preservation of publicly funded research data.