

“Data Processing and Curation” CINECA perspective

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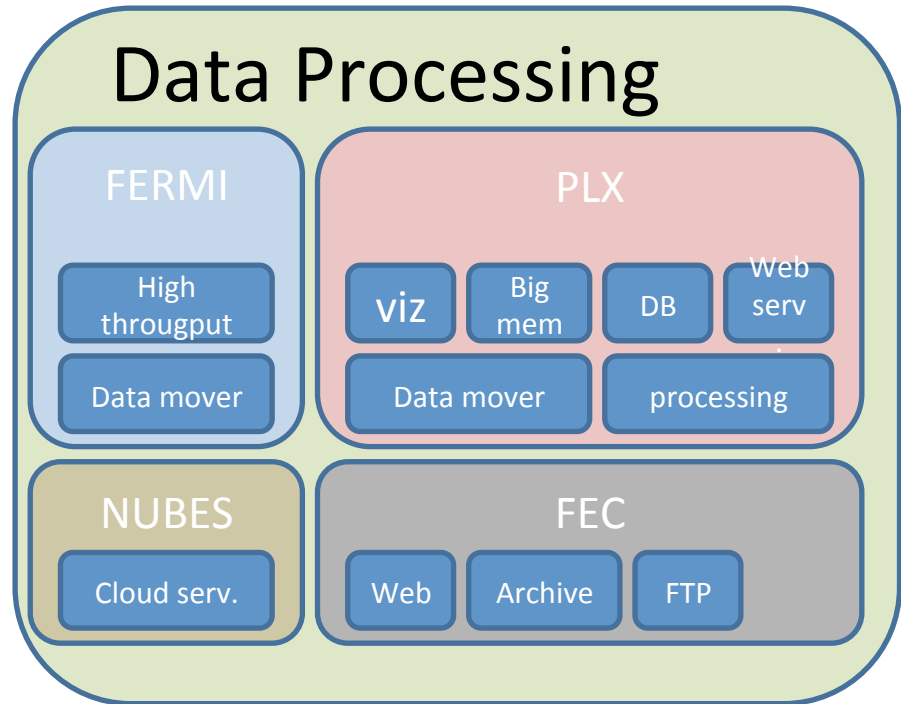
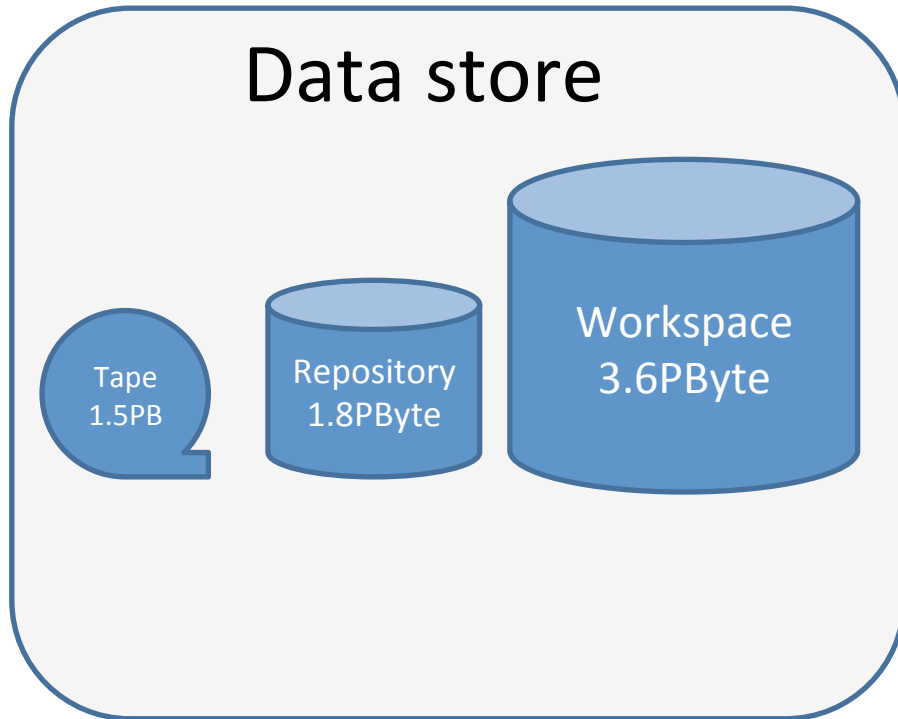
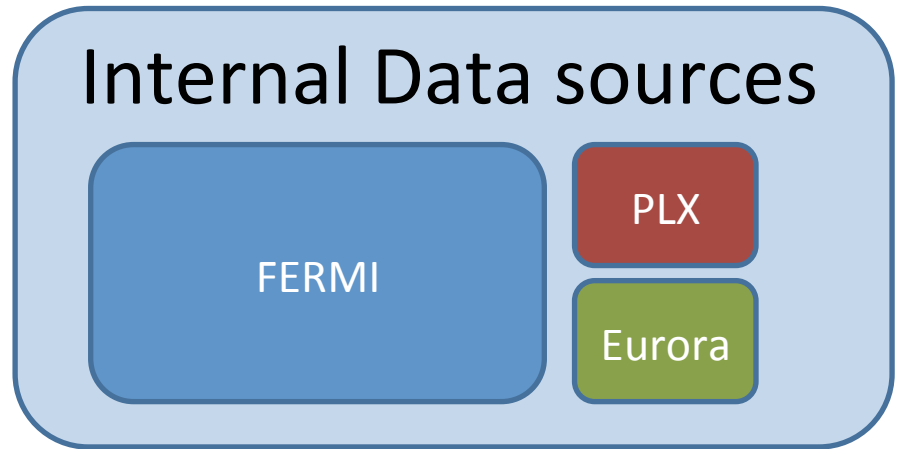
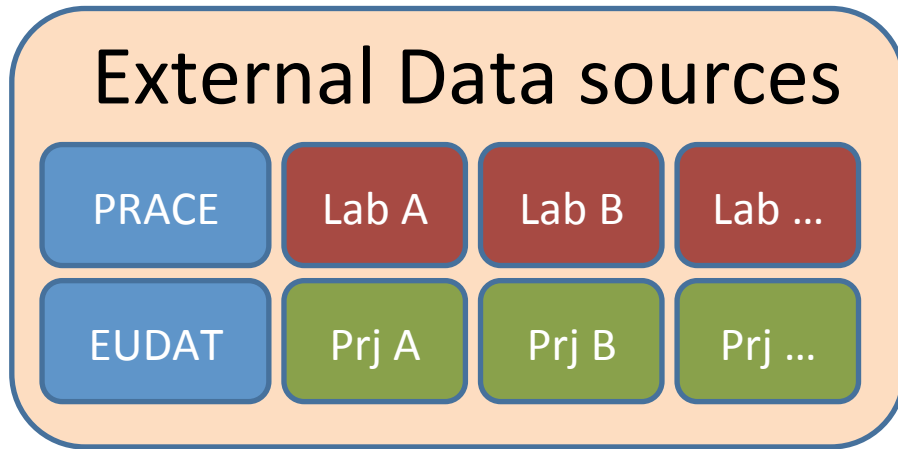
DATA Day, ICTP, 5/9/2013

CINECA mission:
provide services for Users

Process

- Understand User requirements/needs
- Development Projects/Evaluate services
- Infrastructure change/Procurement
- Deploy service for users

Today

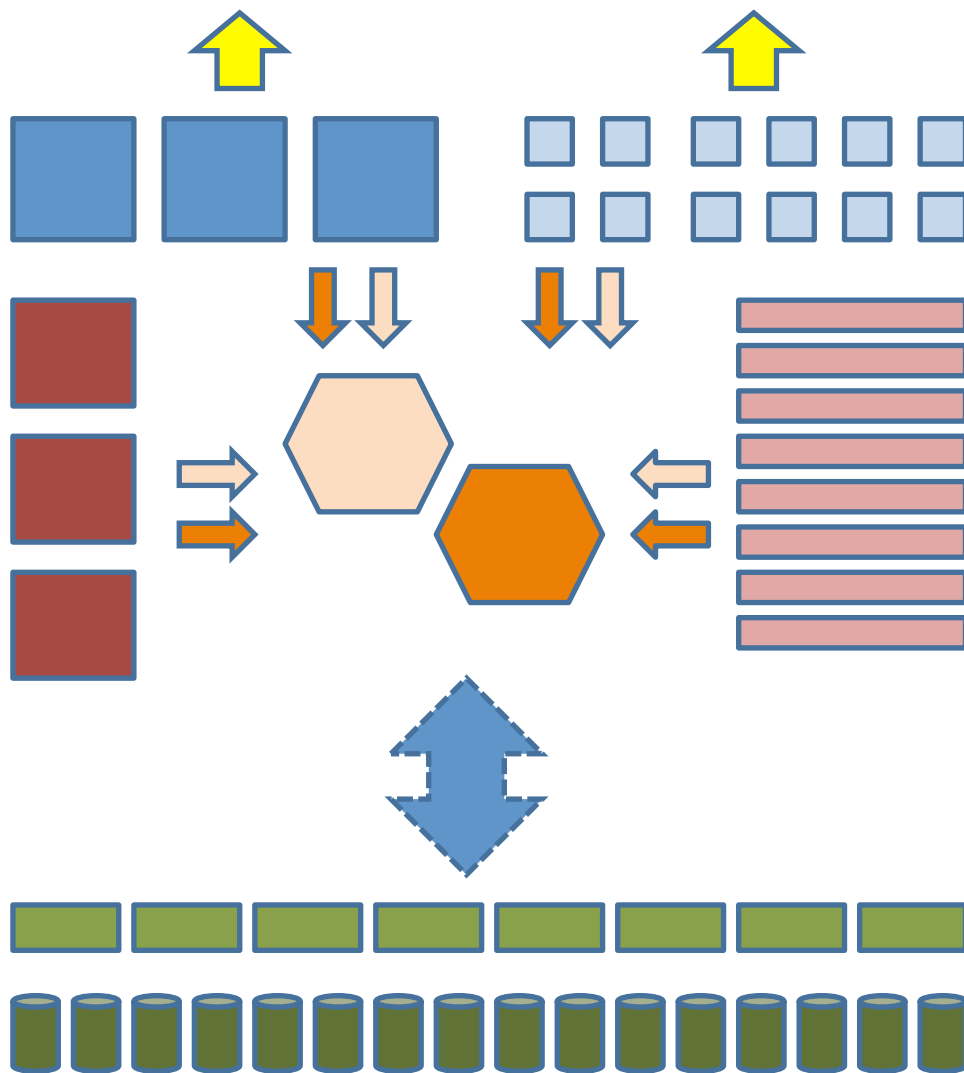


Not suited for new DATA services

Overall requirements

- Improve infrastructure flexibility
- Extend our storage capacity
- Enhance data management functionalities including easy deposit and long-term preservation
- Provide users with a data analytics infrastructure for high-throughput computations, pre/post processing, remote visualization functions
- Provide users with a farm for advanced, high reliable, web services hosting
- Provide users with the capability to deposit and access structured data sets (i.e. scientific database)

New System + Storage



IP pubblico



Fat FE servers (FFE):
DB, Viz, Postproc



Fat batch servers (FBS):
Analytic Engines (R, Stata, ecc..),
Postproc, ecc..



Light FE servers (LFE):
Web server, data servers, DB,
login, compile, Master, ecc..



Light batch servers (LBS):
Workflows, ecc..



I/O subsystem Server (IOS)



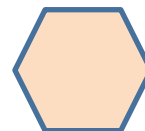
I/O subsystem disks (IOD)



Network:
IB switch
(IBS)



Network:
IB adapter
(IBA)



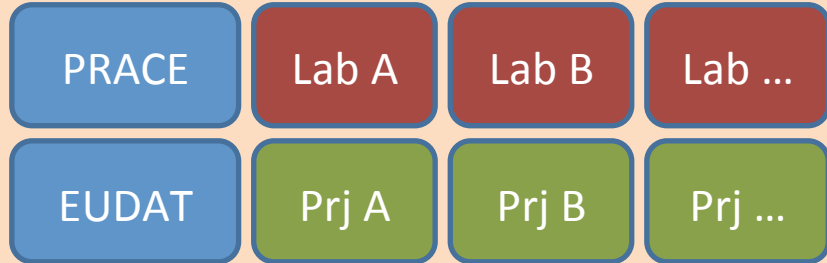
Network:
Gbe switch
(GBS)



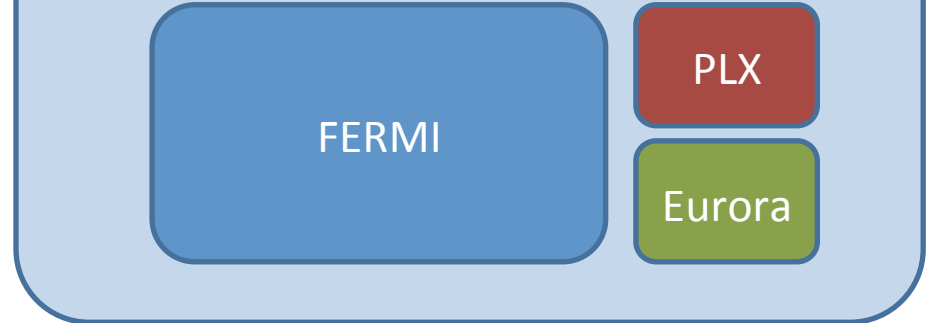
Network:
Gbe adapter
(GBA)

Tomorrow (early 2014)

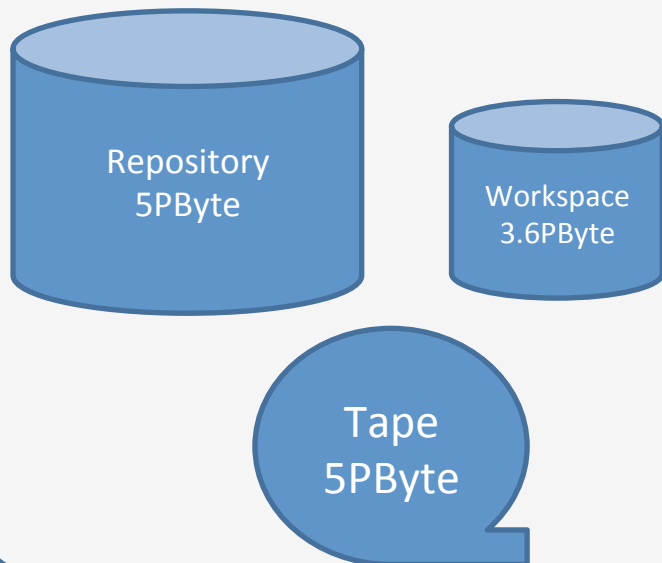
External Data sources



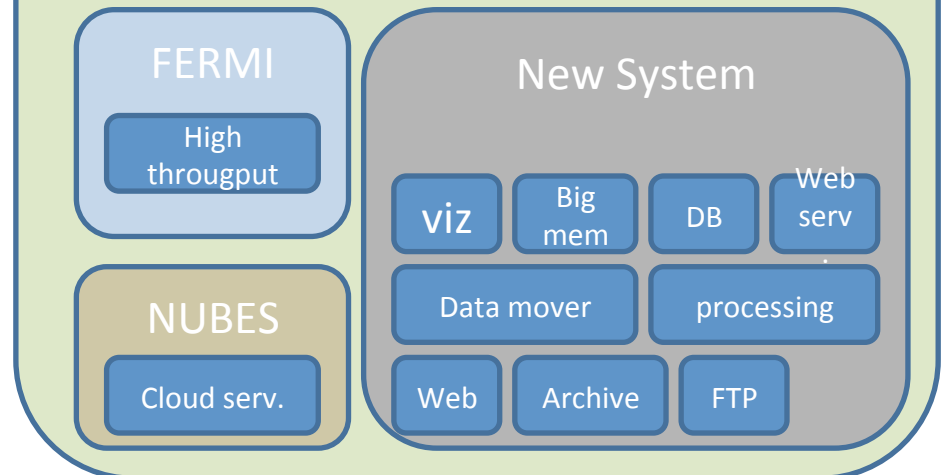
Internal Data sources



Data store



Data Processing



CINECA services

- High Performance Computing
 - Computational workflow
 - Storage
 - Data analytics
- Data preservation (long term)
 - Data access (web/app)
 - Remote Visualization
 - HPC Training
 - HPC Consulting
 - HPC Hosting
- Monitoring and Metering
 - ...

Thank you