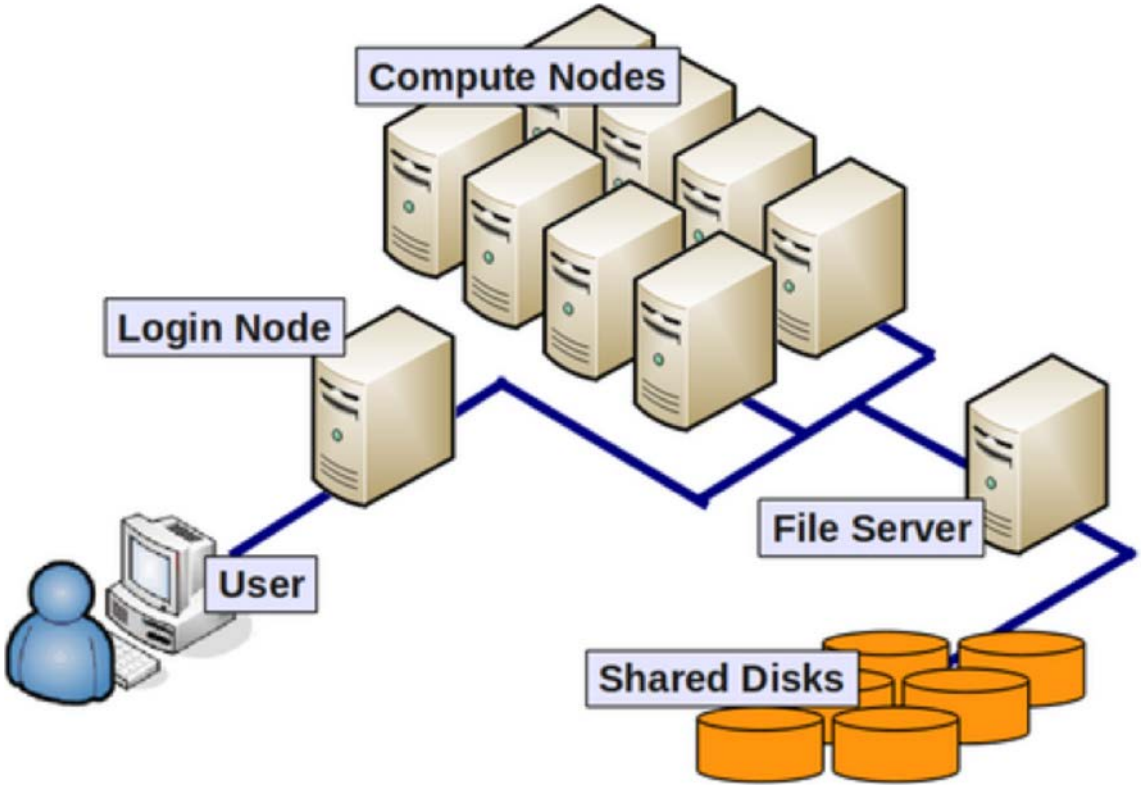
Introduction to Cluster Computing
Storage

Cluster Basics



Storage Grid

	Home Directories	Lab Storage	Local Scratch	Global Scratch	Persistent Research Data
Mount Point	/n/home#/ $USER	/n/pi_lab	/scratch	/n/$SCRATCH	/n/$REPOS
Size Limit	100GB	4TB+	70GB/node	2.4PB total	3PB
Availability	All cluster nodes + Desktop/laptop	All cluster nodes + Desktop/laptop	Local compute node only.	All cluster nodes	All cluster nodes
Retention Policy	Indefinite	Indefinite	Job duration	90 days	3-9 mo
Backup	Hourly snapshot + Daily Offsite	Daily Offsite	No backup	No backup	External Repos No backup
Performance	Moderate. Not suitable for high I/O	Moderate. Not suitable for high I/O	Suited for small file I/O intensive jobs	Appropriate for large file I/O intensive jobs	Appropriate for large I/O intensive jobs
Cost	Free	4TB Free + Expansion at a cost	Free	Free	Free

Storage Grid

	Home Directories	Lab Storage	Local Scratch	Global Scratch	Persistent Research Data
Mount Point					
Size Limit					
Availability					
Retention Policy					
Backup					
Performance					
Cost					

Storage Grid

	Home Directories
Mount Point	/n/home#/ $USER
Size Limit	100GB
Availability	All cluster nodes + Desktop/laptop
Retention Policy	Indefinite
Backup	Hourly snapshot + Daily Offsite
Performance	Moderate. Not suitable for high I/O
Cost	Free

- Your primary, private, space on the cluster.
- Custom software installations, job scripts, and other important data should live here.

https://docs.rc.fas.harvard.edu/kb/additional-groups/

Storage Grid

	Lab Storage
Mount Point	/n/pi_lab
Size Limit	4TB+
Availability	All cluster nodes + Desktop/laptop
Retention Policy	Indefinite
Backup	Regular Offsite
Performance	Moderate. Not suitable for high I/O
Cost	4TB Free + Expansion at a cost

- The primary shared space for a group/lab.
- Datasets, lab work, and job results should live here.

Storage Grid

- Your primary job/working space on the cluster.
- Only things that you are working on now should live here, and final results should be moved immediately.

	Local Scratch	Global Scratch
Mount Point	/scratch	/n/$SCRATCH
Size Limit	70GB/node	2.4PB total
Availability	Local compute node only.	All cluster nodes
Retention Policy	Job duration	90 days
Backup	No backup	No backup
Performance	Suited for small file I/O intensive jobs	Appropriate for large file I/O intensive jobs
Cost	Free	Free

Storage Grid

- Your primary job/working space on the cluster.
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Storage Grid

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Mount Point	/scratch	/n/$SCRATCH
Size Limit	70GB/node	2.4PB total
Availability	Local compute node only.	All cluster nodes
Retention Policy	Job duration	90 days
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Performance	Suited for small file I/O intensive jobs	Appropriate for large file I/O intensive jobs
Cost	Free	Free

Storage Grid

- Read-only space for shared datasets and repositories.
- Contact FASRC to get access, or to upload a new dataset.

	Persistent Research Data
Mount Point	/n/$REPOS
Size Limit	3PB
Availability	All cluster nodes
Retention Policy	3-9 months
Backup	No backup
Performance	Appropriate for large I/O intensive jobs
Cost	Free

Documentation: docs.rc.fas.harvard.edu

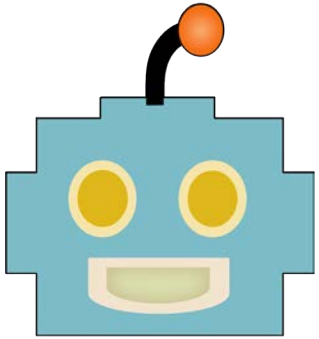
Here you will find all our user documentation.

Of particular interest:

- Cannon Storage: https://www.rc.fas.harvard.edu/resources/cluster-storage/
- How to get help : https://www.rc.fas.harvard.edu/resources/support/

Request Help - Resources

- https://rc.fas.harvard.edu/resources/support/
  - Documentation
    - https://rc.fas.harvard.edu/resources/documentation/
  - Portal
    - http://portal.rc.fas.harvard.edu/rcrt/submit_ticket
  - Email
    - rchelp@rc.fas.harvard.edu
  - Office Hours
    - Wednesday noon-3pm 38 Oxford - 100
  - Consulting Calendar
    - https://www.rc.fas.harvard.edu/consulting-calendar/
  - Training
    - https://www.rc.fas.harvard.edu/upcoming-training/



- RC Staff are here to help you and your colleagues effectively and efficiently use Cannon resources to expedite your research endeavors.
- Please acknowledge our efforts:
  - "The computations in this paper were run on the Cannon cluster supported by the FAS Division of Science, Research Computing Group at Harvard University."
  - https://www.rc.fas.harvard.edu/about/attribution/