General Interest Webinar

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Overview:

Slide presentation:
- SHARCNet file systems and their properties
- Basic command line tools for file management
- Data transfer avenues (dtn.sharcnet.ca and Globus)
- Overview of visual file handling strategies
- Folder mounting on local machine
- Other clients and cloud resources

Online Documentation:
- How do I organize my files?
- Using storage
- Analyzing I/O Performance
- Remote Graphical Connections

Demonstration:
- Add “quota” to .bashrc
- Globus / Globus Connect Personal file transfer
- Visualize temporary files from development node and viz system
- Use sshfs to mount SHARCNet folder and meld locally
- Use other local software to edit mounted folder

File system properties:

Access:

- Unified = Same files regardless of where you log in
- Per-cluster = unique files on each system
- Per-node = unique files on each node

Back up:

In general one version of each file is stored for the previous 5 working days,
one for each of the 4 previous weeks,
and one version per month before that.

Quota:

- Time:
  - Auto deletion of files
- Size:
  - Hard quota = write errors
  - Soft quota = account constraints
- Number of files:
  - Soft quota = account constraints (1,000,000 files on any system)

Handling: File transferring, Archiving/Compressing (e.g. tar dar)

SHARCNet file systems and their properties:

	access	backup	Quota size	Quota time
/home	unified	yes	1/10GB hard	none
/work	unified	no	1TB soft	none
/scratch	per-cluster	no	none	2 months
/tmp	per-node	no	none	2 days
/archive	unified	no	none	none

Purpose:

- /home = source and small configuration files
- /work = active data
- /scratch = temporary files
- /tmp = (very) temporary files
- /archive = long term storage

Basic command line tools for file management:

Quota:

Filesystem	Limit	Used	File Count	Checked
bull:/home	1 GB	455.1 MB (44%)	5,042	22h ago
cove:/work	1 TB	587 GB (57%)	21,692	21h ago

scp:

Secure copy, e.g. scp -r myFolder remoteLocation

rsync:

Syncronize, e.g. rsync -avz myFolder remoteLocation

tar:

Archive pack, e.g. tar cvf myArchive.tar myFolder

Archive unpack, e.g. tar xvf myArchive.tar

dar:

Split pack, e.g. dar -s 4G -w -c myArchive -g myFolder

Temporary unpack, e.g. dar -R . -O -x myArchive -v -g pathToPlace

Setfacl:

Set permission, e.g. setfacl -Rm u:stefon:r-- myFolder

Getfacl:

user::rwx
user:stefon:r--
group::r-x
mask::r-x
other::r-x

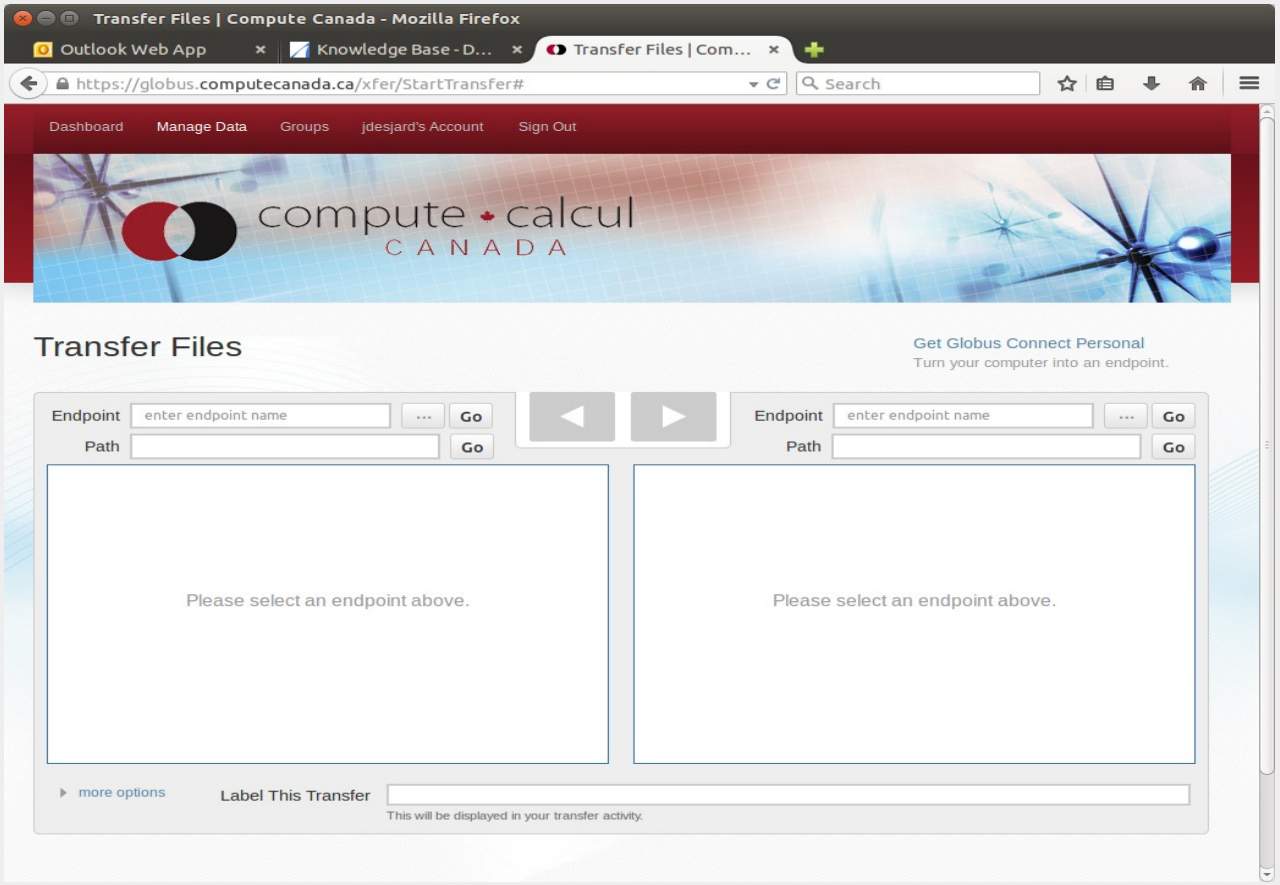
Data transfer avenues:

Data Transfer Node:

- dtn.sharcnet.ca
- Sees internet and most SHARCNET file systems
- No cputime limit on processes

Globus:

- globus.computecanada.ca
- Globus Connect Personal

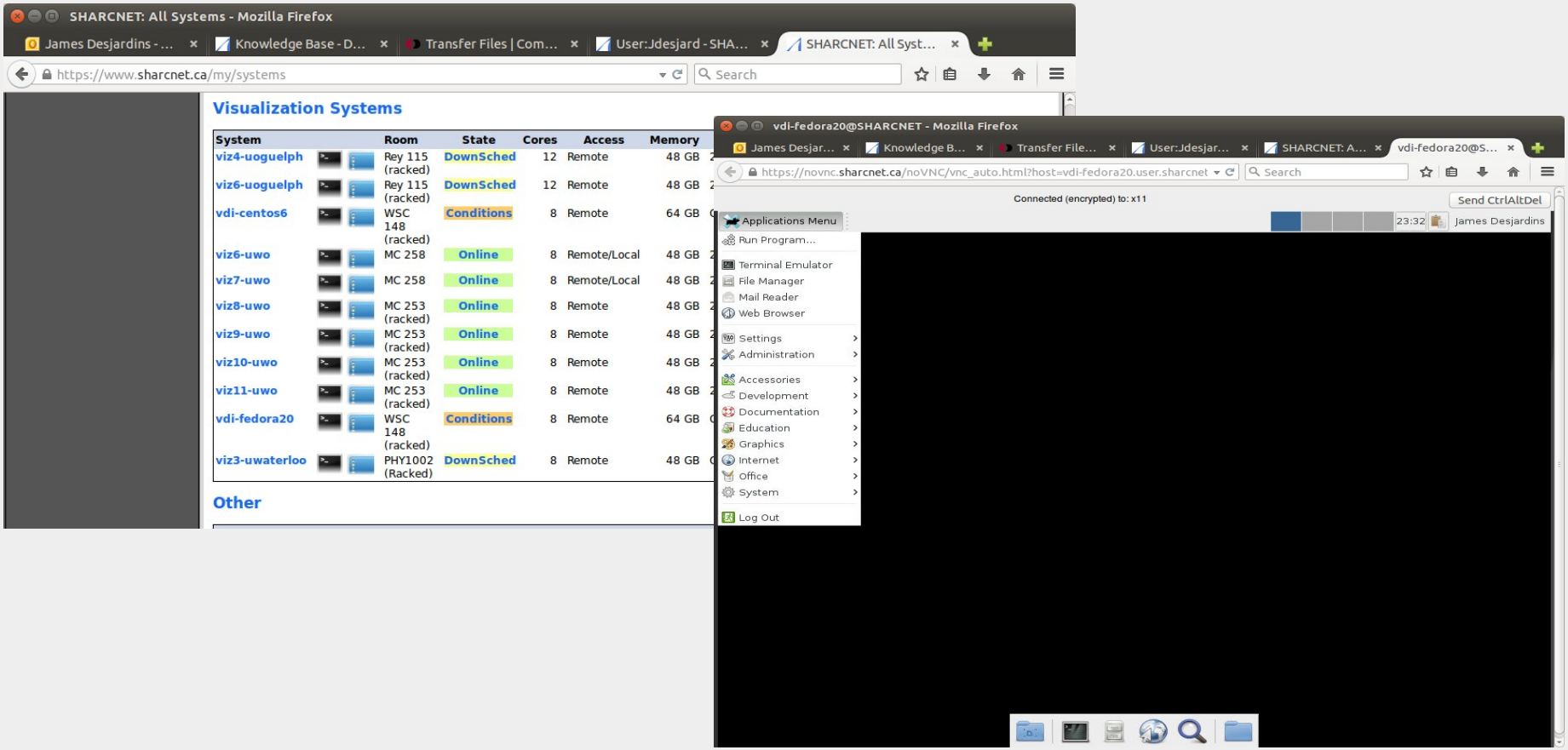


Overview of visual file handling strategies:

Development nodes:

ssh -Y jdesjard@kraken.sharcnet.ca
ssh -Y kraken-devel1

Visualization systems:

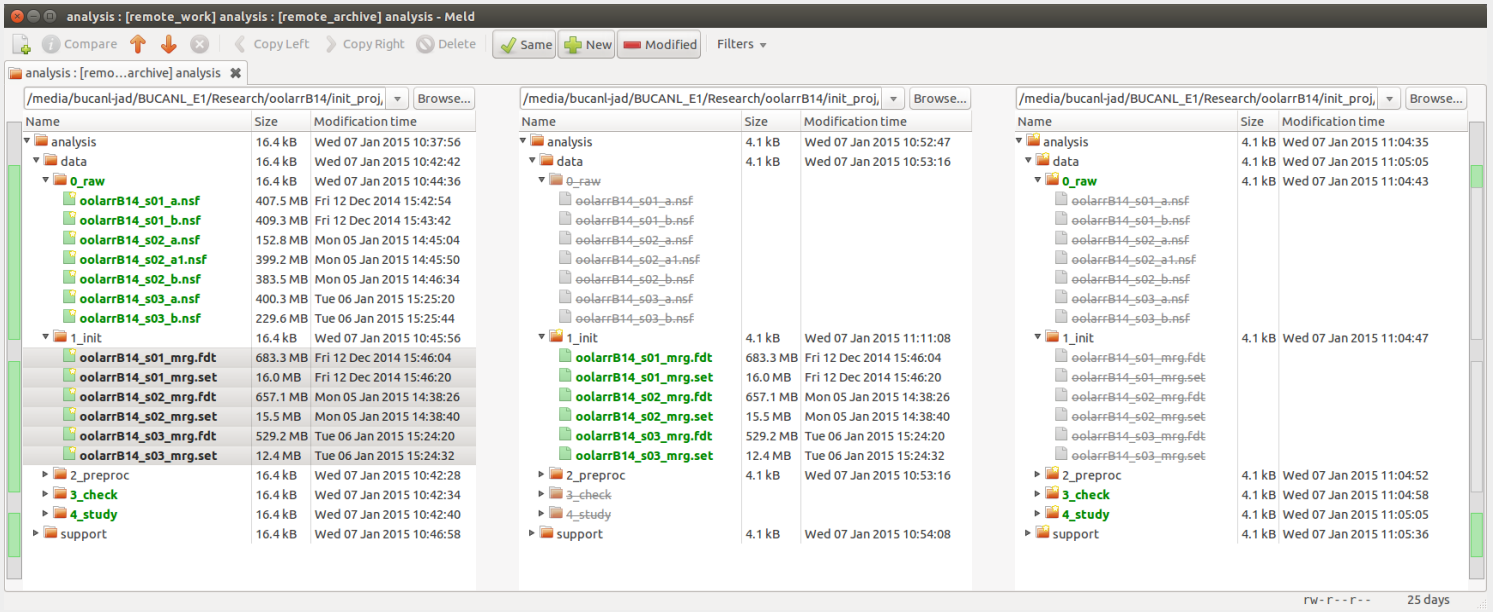


Folder mounting on local machine

Local sshfs mount:

Mount, e.g. sshfs remoteLocation mountPath

Compare directories, e.g. meld localPath mountPath



Unmount, e.g. fusermount -u mountPath

SFTP File browser Crtl-l

Other clients and cloud resources:

OwnCloud (http://owncloud.org/)

SeaFile (http://seafile.com/en/home/)

FileZilla (http://sourceforge.net/projects/filezilla/?source=typ_redirect)

Windows clients:

- Bitvise (http://www.bitvise.com/)
- MobaXTerm (http://mobaxterm.mobatek.net/)
- Win-sshfs (https://code.google.com/p/win-sshfs/)