Navigating the Research Computing Resource Renewals Coming in 2017

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Overview:

- Slide presentation:
  - Online Documentation
  - New System Details
  - Legacy System Defunding Schedule
  - New vs. Legacy Comparisons
  - Data Storage
  - Priority and Resource Allocation
  - Support and Communication Avenues
  - SHARCNET Usage Differences
- Demonstration:
  - /project, Globus, TAR
  - Slurm

Online Documentation:

- Compute Canada Migration Page
- Compute Canada Migration Wiki
- New Systems
- Deallocation Schedule
- National Data Cyberinfrastructure
- General Directives for Data Migration
- Resources for Research Groups (RRG, was RAC)
- Rapid Access Service (RAS, opportunistic use)
- Globus

New System Details: Graham (GP3) Waterloo

Nodes	Node/count	Cores/node	Cores total	GB mem/node	GB mem total
Base	800	32	25,600	128	102,400
Large	56	32	1,792	256	14,336
Bigmem512	24	32	768	512	12,288
Bigmem3000	3	64	192	3000	9,000
GPU	160	32 2 NVIDIA P100	5120 320	128	20,480
Total	1,043		33,472 320		158,504

New System Details: Cedar (GP2) Simon Fraser U.

Nodes	Node/count	Cores/node	Cores total	GB mem/node	GB mem total
Base	576	32	18,432	128	73,728
Large	128	32	4,096	256	32,768
Bigmem500	24	32	768	512	12,288
Bigmem1500	24	32	768	1500	36,000
Bigmem3000	4	32	128	3000	12,000
GPU base	114	24 4 NVIDIA P100 12GB	2,736 456	128	14,592
GPU large	32	24 4 NVIDIA P100 16GB	768 128	256	8,192
Total	902		27,004 584		189,568

Legacy System Defunding Schedule

Date	System	Cores total
March 31, 2017	Guppy	272
	Angel	176
	Brown	1,408
	Kraken	1,500
	Mako	240
	Redfin	528
	Requin	1,536
	Saw	2,688
	Wobbie	1,232
	Goblin	576
	Total	10,156
March 31, 2018	Orca	8,832
	Monk	432
	Total	9,264

New vs. Legacy Comparisons

Region	Defunded Cores
AceNet	5,148
Compute Quebec	3,488
Compute Ontario	44,988
WestGrid	15,104
Total	68,728

National GP Systems	New Cores
Cedar (GP2)	27,004
Graham (GP3)	33,472
Total	60,476

Other National Systems	New Cores
Arbutus (GP1) Cloud	6,944
Niagara (LP)	66,000
Total	72,944

New vs. Legacy Comparisons

- More cores
- Larger memory
- More GPUs
- Newer technology
- More users on fewer systems
- System specialization (GP vs LP vs cloud)

Data Storage

- System Local storage
  - /home
  - /scratch
  - /tmp
- National Data Cyberinfrastructure
  - /project
  - /nearline

Priority and Resource Allocations

Resources for Research Groups (RRG)

- Groups requiring compute or storage > RAS
- Awarded based on quality of science and HQP

Research Portals and Platforms (RPP)

- Targeted to Research Portals and Platforms
- Awarded to a maximum of three years

Rapid Access Services (RAS, was “default”)

- Resources to all users, ~50 core-years
- /home=50GBu, /scratch=20TBu/100TBg
- Compute Burst Pilot

Support and communication Avenues
- Migration support
  - Regional staff & CC Migration team
- RAC allocation migration
  - RAC administration & Regional staff
- Specific system migration and support
  - Regional staff
- Migration communication
  - National status updates
  - Regional status updates

CC portal, national tickets, Wiki, newsletters,
Regional portal, regional tickets, Wiki, events, lists

SHARCNET Usage differences

- Globus
  - Data transfers between regions
  - File count variable and TAR/DAR

- /work > /project
  - Link already in place
  - Scripts can start being modified

- Slurm
  - Mosaic has a working implementation
  - Submission tests can be performed there

Thank you for your attention.

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