

Lewis Users Meeting

+ MU Research Computing Support Services

+ docs: <http://docs.rnet.missouri.edu>

+ web: <http://doit.missouri.edu/research>

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<https://vienna-wv.com/portal/tag/trees/>

RCSS by the Numbers

- + 5+ Compute clusters, 5+ storage clusters
- + 220+ nodes, 5000+ cores; 10+ node types
- + 680 Terabytes of Research Storage;
1 PB of General Purpose Research Storage;
600 TB of HTC Storage;
300 TB of HPC zLustre prototype
- + 100 Gigabit AL2S SDN connection
- + 150,000 jobs per month (was 40k)
- + 3,000,000 core-hours per month (was 600k)
- + 500 users; ~100 active in any one month
- + 4 Full time staff, 2 Students, and a Director



Summer 2017 Expansions

- + HTC Storage allocation of 1PB (1,000,000GB) and growing!
- + Added 300 TB of experimental/prototype zLustre HPC Storage
- + Migrated virtual environment to oVirt and added Science Gateway environment.
- + Added 100TB (soon 100TB more) to Ssecure4 Storage
- + Worked with UMKC to build Researcher Managed Backup (rsync target) with 300TB of storage (\$120/TB/60Mths)
- + Two smooth outages to add/reconfigure environment
 - + Integrated MRI grant hardware (18 nodes, 10 GPU's.)
 - + MRI Grant added Nvidia P100 GPU
 - + Added 13 new HPC investor nodes (D630v4 w/ 256GB RAM/28 cores)
 - + Reconfigured and stabilized Infinband (can run larger 500-700 core jobs).
- + Added 4x Nvidia 1080 Ti GPU's (consumer) proof of concept
- + Evaluated Dell Z9100-ON 100Gbps core switch for storage upgrade

Investing in Lewis

- + Nodes can be purchased at any time for about \$7600 (HPC configuration)
- + We provide space, power, cooling, networking and manage the hardware, software, security and scientific applications in exchange for idle time.
- + Can develop large and community based clusters at the rack scale (~38 nodes). Work with researchers and vendors to optimize configuration to maximize research output. Dedicated login node.
- + Assist with proposal development
 - + quotes, letters of commitment or collaboration
- + Investors get
 - + A fairshare allocation that will try to allocate 20,000 core hours per month, ability to bust jobs to the entire cluster.
 - + 3TB of HPC group storage.
 - + Setup engagement to help develop/migrate workflows
 - + Dedicated welcome training session