



GW COLONIAL ONE

XSEDE Regional Workshop at
the George Washington University



Colonial One Background

- Colonial One is the new shared HPC cluster at GW
- Shared across colleges and departments, and supported by DIT
- “Pay to play” - groups who contribute resources have priority in the scheduling system
- Columbian College of Arts and Sciences lead the design and initial implementation
- One of a number of initiatives to support research at GW



CAAREN

- Capital Area Advanced Research and Education Network
- a new GW-based high-speed research network for DC and Northern Virginia
- Direct connections to Internet2 and others
- 100 Gigabit per second backbone
- Impact:
 - Faster connection between FB and VA campuses
 - Very fast connections between Colonial One and XSEDE sites through Internet2
 - Globus Online available for quick data transfers



Colonial One - Current System

- Dell C8220 cluster, 96 node
 - 32x GPU nodes, each with dual NVIDIA K20 GPUs
 - 64x CPU nodes, each with dual 2.6GHz 8-core Intel Xeon CPUs, and 64/128/256GB of RAM
- Totals:
 - 1,408 Intel Xeon CPU cores
 - 159,744 NVIDIA CUDA cores
 - over 8 TB of RAM
- Mellanox FDR Infiniband fabric
- Two primary filesystems
 - 150 TB NFS fileserver for /home and /groups
 - 300 TB Lustre filesystem for high-speed scratch

Colonial One - Current System





Colonial One - Expansion

- Expansion plans are underway
 - ~250 nodes within the next year
- Colleges and departments who contribute have priority in the scheduling system
- Spare resources available with restrictions
- HPC Advisory Committee will set long-term directions and provide oversight
- Provide an on-ramp to XSEDE systems for compute-intensive groups



Colonial One - Support Model

- Professional systems support
- Senior HPC Systems Administrator - Tim Wickberg
- HPC Specialists - provide direct support for researchers, with domain-specific backgrounds
 - Physical Sciences - Glen MacLachlan (CCAS)
 - Genomics - (starting soon)



For More Information

Colonial One overview:

<http://it.gwu.edu/colonialone-high-performance-computing>

User documentation:

<http://colonialone.gwu.edu>

Or send us email:

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