subMIT Users Group: Kickoff Meeting

Josh Bendavid
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Introduction

- subMIT system provides an interactive login pool
  - Home directories
  - Convenient software environment (Centos7 native, docker/singularity images, conda)
  - SSH or Jupyterhub access
  - Local batch system with O(1000) cores, >50 GPU's
  - Local storage (1TB/user), 10's of TB for larger group datasets
  - Convenient access to larger external resources (OSG, CMS Tier-2 and Tier-3, LQCD Cluster, EAPS)
- Website (with User's Guide/Instructions): https://submit.mit.edu/
- Formally the project is organized as *Basic Computing Services* in the Physics Department
  - **Project Team:** Implementation/Operations/Maintenance of the system
  - **Users Group:** Contact point between the user community and the project team, forum for user feedback, requests, information flow to and from users
  - **Steering Committee:** Faculty oversight, funding, etc
  - See https://submit.mit.edu/?page_id=6

Users Group In Practice

- Monthly meetings
    - Advertised and open to the broader community
    - Topical presentations from project team, Users Group representatives, or other users or community members
    - Forum for feedback and information flow between the user community and the project team
    - Regular timeslot: Tuesday 10:00-11:00 EST
- Users Group representatives
    - Identified representatives from research groups across the department
    - Attend the monthly meetings
    - Provide feedback from your groups/community
    - Distribute information/news from the project team

Storage breakdown

- Several different storage areas are available covering different use cases
    - /home/submit/<username>
        - Home directories (nfs server), redundant disk array with backups
        - 5GB quota
        - Use for software development and (small) critical data
    - /work/submit/<username>
        - Work directory, no backups (but redundant disk array)
        - 50GB quota
        - Use for software installation (conda or docker/singularity images)
    - /data/submit/<username>
        - Large distributed disk system, no backups, but redundancy against disk failure ("erasure coding")
        - 1TB user quota, larger quotas available in dedicated group directories
        - Store large datasets here
    - /scratch/submit/<username>
        - Fast NVMe SSD array
        - Currently experimental/under development
    - /cvmfs/
        - Read-only distributed storage for distributing software, singularity images, etc
        - Several CERN-related repositories are available
        - Local repository /cvmfs/cvmfs.cmsaf.mit.edu where additional software or data can be added if needed
- Please ask if you have any questions about which storage to use or if more space is needed for a particular purpose and we will find a good solution for you

Communication Channels

- User support mailing list: submit-help@mit.edu
- Slack workspace: https://mit-submit.slack.com
  - "help-desk" channel
- This meeting (monthly)
  - Open for discussion
  - Open for user contributions: contact the full set of Users Group representatives at submit-usersgroup@mit.edu if you have a presentation or discussion topic for an upcoming meeting
- Discuss with Users Group representative from your group or "nearby" group
- Discuss with your group and identify a Users Group representative

Users Group Kickoff

- Users group has been formed with initial set of representatives (JB as coordinator)
    - Users Group representative (associated faculty)
        - Yin Lin (Phiala Shanahan)
        - Siddharth Mishra-Sharma (Jesse Thaler)
        - Prajwal Mohan Murthy (Bob Redwine)
        - Sunghan Ro (Julien Tailleur)
        - Yitian Sun (Tracy Slatyer)
        - Molly Taylor (LNS Heavy Ion Group)
    - More representatives to come in the near future
- Today: Short introduction from some of the Users group representatives

Important Topic Requiring User Feedback

- Linux distribution upgrade
  - Current CentOS 7 distribution reaches EOL for maintenance updates in June 2024
  - Decision by Red Hat to reorganize CentOS project and releases has created uncertainty for upgrade paths and disrupted logical transition from CentOS 7->8
  - Decision on next distribution to be carefully considered
    - Ease of transition
    - Support lifetime
    - Functionality
  - Consider direction being taken at other universities and labs
  - Discussion to be held in coordination with Users Group
  - Ease transition for users through well-supported and documented use of containers

Workshop in January

- Full day workshop Jan. 6, 2023
  - https://indico.mit.edu/event/647/
  - Developing agenda, announcement email soon
  - Mix of contributions from users, Users Group, Project Team
  - Proposed contributions welcome
- See also agenda of previous workshop from Jan. 2022
  - https://indico.cern.ch/event/1108229/