DSI’s HPC Cluster

User Group Meeting
Fall 2025

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Summer Updates

- We have two new websites for the DSI Cluster
  - Cluster-status.ds.uchicago.edu
    - See detailed information about cluster uptime and status
  - Cluster-policy.ds.uchicago.edu
    - Reference current policy, documentation, and tutorials surrounding the DSI Cluster
- Please check these sites before submitting a ticket or posting in Slack

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Summer Updates

- We've published a Surface Level Agreement (SLA) outlining expectations between DSI Techstaff and cluster users
  - By using the DSI Cluster, you agree to the terms of the SLA
- It defines communication paths and response guarantees
  - Please see our new SLA on our cluster policy webpage for more details
  - We guarantee speedy response through our slack channel, dsi-cluster-information or through our ticketing system, techstaff@cs.uchicago.edu

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Summer Updates

- We’ve moved into a new building – and you are in it right now!
  - Along with the cluster, I am also responsible for most of the IT and A/V systems here
  - If you have any questions or concerns, please submit a ticket to contact me via techstaff@cs.uchicago.edu

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Summer Updates

- We installed 4 new nodes
  - **P[001..003]**
    - 64 threads, 755GB of RAM, 4 Nvidia H200s
  - **O001**
    - 256 threads, 1TB of RAM, 4 Nvidia H200s
- One more node will be installed in the near term future (1-2 months)
  - **Q001**
    - 768 threads, 2.3TB of RAM, 4 Nvidia H200s

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Brief pause for questions

Let’s pause for a quick Q&A before moving on

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Future Plans

- We have a 60 bay top loader storage server incoming
  - 1.2PB of raw storage
  - This will be the new home of /net/projects
    - Allowing for larger allocations for project folders
    - Cluster-storage1 (the current server for /net/projects) is old and will appreciate the lower workload
    - This will help /homes stop crashing when logging into the cluster

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Future Plans

- We are planning an internal orchestration cluster to standardize DSI Techstaff tools and services
  - Load Balancer for the DSI Cluster
  - Observability Stack
  - CI/CD Stack
- This will allow us to make cluster changes faster and more reliably

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Future Plans

- Next month, I will be heading to SuperComputing 25
  - I am speaking to many vendors on how to improve our cluster, most importantly I am speaking with BeeGFS
    - BeeGFS is a distributed filesystem we've tested and seen performance gains from
    - I am meeting with their team to evaluate whether it's a good fit for us
  - I'm looking forward to bringing back new insights to our cluster

AMA

Ask me anything – hopefully I’ll have an answer

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