Fall 2016 CI Faculty Advisory Committee Meeting

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UH ITS
Honolulu, HI
• 22 months since installation
• 5872 cores (Ivy Bridge & Haswell)
• 276 compute nodes
• 92 Compute Nodes Purchased
  – 50 % nodes added
  – 54 % cores added
• Total CPU Core Hours: 54.5 M
• 79% Utilization
  – 1/1/2015 – 10/9/2016
• 307 total users since installation
User Growth

University of Hawaii ITS HPC Users

Month

- # total users
- # of users added
User Organizations

41 Organizational Units across 3 Campuses

- Biology
- Botany
- Business, Legal And Technology Education
- Chemistry
- Civil And Environmental Engineering
- College Of Arts And Sciences
- Department Of Native Hawaiian Health
- Economics
- Electrical Engineering
- Geography
- Geology
- Geology And Geophysics
- Hawaii Institute Of Geophysics And Planetology
- Hawaii Institute Of Marine Biology
- History
- Information And Computer Sciences
- Institute For Astronomy
- Institute For Biogenesis Research
- International Pacific Research Center
- Joint Institute For Marine And Atmospheric Research
- Marine Biology
- Math And Sciences
- Mathematics
Usage

• 54.5 Million CPU Core Hours since 1/1/2015

CPU Hours: Total: by PI

- All 242 others: 9,703,957.7
- wrenn: 1,391,880.0
- watersc: 1,522,046.2
- torben: 2,405,315.1
- ymyang: 4,091,214.7
- malibin: 8,105,660.9
- jiancao: 14,614,688.8
- chunxi: 8,975,746.4

2015-01-01 to 2016-10-09 Src: HRcDB. Powered by XDMoD/Highcharts
Usage by OU

Total CPU Hours by OU

- Biology: 494191.038
- Geology And Geophysics: 878387.088
- University Of Hawaii Cancer Center: 1130124.73
- Hawaii Institute Of Marine Biology: 1170931.24
- Physics And Astronomy: 1232790.49
- Meteorology: 1749642.20
- Institute For Astronomy: 1801518.87
- Chemistry: 1829176.15
- Oceanography: 4682602.29
- International Pacific Research Center: 38658165.5

CPU Hours: Total

UNIVERSITY OF HAWAI'I
Utilization 79%
Number of Active Users per Day

Number of Users: Active

- Number of Users: Active
- 2015-01-01 to 2016-09-30
Activities

- HPC on-board training sessions at least twice a month
- Supporting ICS class on cluster
- 80+ Individual Consults
- NVIDIA GPU Workshop, 02-04-2016 and 02-05-2016
  - Attendees - 56
- Agave API Workshop, 04-13-2016
  - Attendees – 10
- Nextcloud – beta test frontend for Value Storage
- EPSCoR
Cluster Expansion

- 38 of 324 nodes available for purchase
- Fall and spring node purchases
- What comes after this cluster is full?
- ITC Data Center has room for another Cray size cluster
- MRI new solicitation – January 2018
  – Compute and storage
Questions?
Sustainability and ROI

• 92 Compute Nodes Purchased
  – ~50% of original HPC

• 5 Papers Published with work from the Cluster

• 1 Fulbright Research grant graduate student mentioning our cluster in their attribution
Looking Back @ Looking Forward

• Hilo Genomics course in December using the Cluster
• NVIDIA Training February
• MRI to attract IFA faculty
• OSG Quick Connect coming by mid spring to support more HTC & workflows
• Bi-weekly HPC introduction trainings continued
• Data Carpentry training upcoming in the spring
• 29 nodes already being order for the next upgrade (the one after January)
• Research Collaborations
  – Jetstream, POC for Oceanography
  – AGAVE with TACC
  – Pacific Research Platform
Looking Forward

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Maintenance

• Lustre File System Maintenance – Reboot
• SLURM Scheduler upgrade Nov 2\textsuperscript{nd} to 15.08.3
Grant Involvement

• Recently Funded
  – CCDNI with Institute for Astronomy (ITS CI assisted)
  – Lithopixel – Art Department and the Institute of Astronomy (ITS CI assisted)
  – A grid and virtualization environment (AGAVE) (awarded to ITS CI as a partner)