Apps Support Team
Mandes Schönherr
eResearch NZ 2019
New Zealand eScience Infrastructure

PollEv.com/nesinz682
Plan for today

- Access and allocations
- General HPC user support (Slurm, GPFS, Linux, etc)
- Software build, install, testing, tuning/benchmarking, documenting
- Various expertise in scientific domains
- training

6:00 wake up

enable researchers research outcomes
8:00 - 9:30  

**trouble submission tickets**

https://support.nesi.org.nz/hc/en-gb/requests/new

7 weeks of 2019
9:00 - 9:30
trouble submission tickets

“And when I move all the program to the Mahuika and I tried to run the program again, there is an error for the make error."

good ticket description includes:
- machine name
- project ID / username
- tried commands and output
- full error messages
- links to files
9:30 - 10:45  ticket follow up

● provision account / projects / allocations / disc space / software / ...
● debug
● trigger internal processes
  ○ work with other teams
10:45 - 11:00  morning tea meeting

Team communication

- distributing / sharing work
- prioritizing
- discussing new projects
- enhancing an agile workflow
11:00 - 12:00 documentation / training

Documentation

- continuous integration methods
- NeSI and HPC intro up to installing and detailed application description

support.nesi.org.nz
12:00 - 13:00 documentation / training

Training

- frequent NeSI introduction
- advanced HPC training (BYOC)
  - profiling
  - optimization / parallelization
  [https://github.com/nesi/perf-training](https://github.com/nesi/perf-training)
- contributing to Carpentries
  - software and data carpentries
13:00 - 13:30  lunch
ReFrame

- regression test suite
- basic functionality
  - compiler, libraries, scheduler, PrgEnv, IO, tools
- full applications
- monitors: sanity and performance

https://eth-cscs.github.io/reframe/
13:30 - 14:30  Application monitoring tools

**XALT**

- application and library usage monitoring
- statistics by calls, by core-hours or amount of users
- list of most used applications

[http://xalt.readthedocs.io](http://xalt.readthedocs.io)
Hierarchical SW stack

- 728 NeSI modules
- 308 different NeSI packages
- build with easybuild
- mainly gimkl toolchain

**Tier system** (in development)

Tier 1:
- wide user base
- globally installed, documented, scaling tests, regression tests, expert knowledge

Tier 2:
- limited user space
- installed, documented, (tested)

Tier 3:
- support for install at user level
15:30 - 16:30 Tuning and tweaking

- slurm
  - e.g. fair share, mem handling
- top level modules
- containers
  - looking into shifter and singularity
- visualization: ParaView, Nice DCV