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Experimental Computing Laboratory (ExCL) Monthly Meeting

PRESENTED BY

Steve Moulton, Aaron Young, Jeffrey Vetter

Advanced Computing Systems Research Section



U.S. DEPARTMENT
of **ENERGY**

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Claude Code in ExCL



- [Claude Code | ExCL User Docs](#) — ExCL's new Quick-Start Guide for Claude.
- Soon we will be provisioning a dedicated VM for running Claude. In the meantime, launch your Claude sessions on Explorer and use Slurm to launch jobs that need access to specific accelerators. (Claude likes to launch sub-agents and other long running jobs that persist after exiting the TUI.)



Quickstart

Clone the repository and run Claude Code in three steps:

```
git clone git@code.ornl.gov:7ry/claude-hpc.git
cd claude-hpc
make install
```

Then launch Claude Code from any repository:

```
cd /path/to/repository
claude-hpc .
```

i To use Slurm commands (`squeue` , `sbatch` , etc.) or Lmod modules inside Claude, switch to the `slurm` branch before building:

```
git checkout slurm
```

Maxwell

- Maxwell (formerly ORC HYP100/HYP65) has made the move into ExCL.
 - 4*Nvidia A100, 4*AMD Mi100
 - 255 HT Cores (one core failure) 1Tb memory, 3 TB /scratch storage.
 - Fully integrated into ExCL authentication, file services and Slurm.
 - The usual access applies (free for all access unless someone requires solo access for performance measurement).

OpenMPI deployment is in the works

- Generic build is done and will be deployed sometime today
 - The IRIS project is the initial driver for this deployment
- Hardware specific builds (i.e. accelerators) will be next. Each hardware/software version combination appears to require a separate build. This should not be a problem, just lots of wall clock time.
- Software module will take care of putting correct build in your path.
- UCX deployment under way.
 - RoCE appears to be generally supported on our hardware; some network provisioning work will be required.

Operations

- With few exceptions, all research systems have been updated to Ubuntu 24.04.
 - This simplified Slurm deployment and was in general the right thing to do.
- All host operating systems are up to date.
- Migration to new hypervisors will take place over the next few weeks. This should not impact users except during actual migration time. This will also give an alternative to home Claude VMs.
- DR Tape backups of home directories is not currently working. This is an ITSD problem which is being investigated. Backup to HA disk storage (i.e., the old file server) is working as expected. No change in snapshot operations.
 - As always, keep your code in version control and pushed to a remote repository.
- Outages will continue to occur on the first Tuesday of each month as needed.

Questions/Projects/Comments/Discussions

- Recordings available via link in newsletter
- Does anyone care about Ubuntu 26.04 LTS yet?
- License access.
- Quick load/user count command? Pdsh-like tool?
- Parsec access in ExCL? Individual user vs Parsec for teams? Cost?