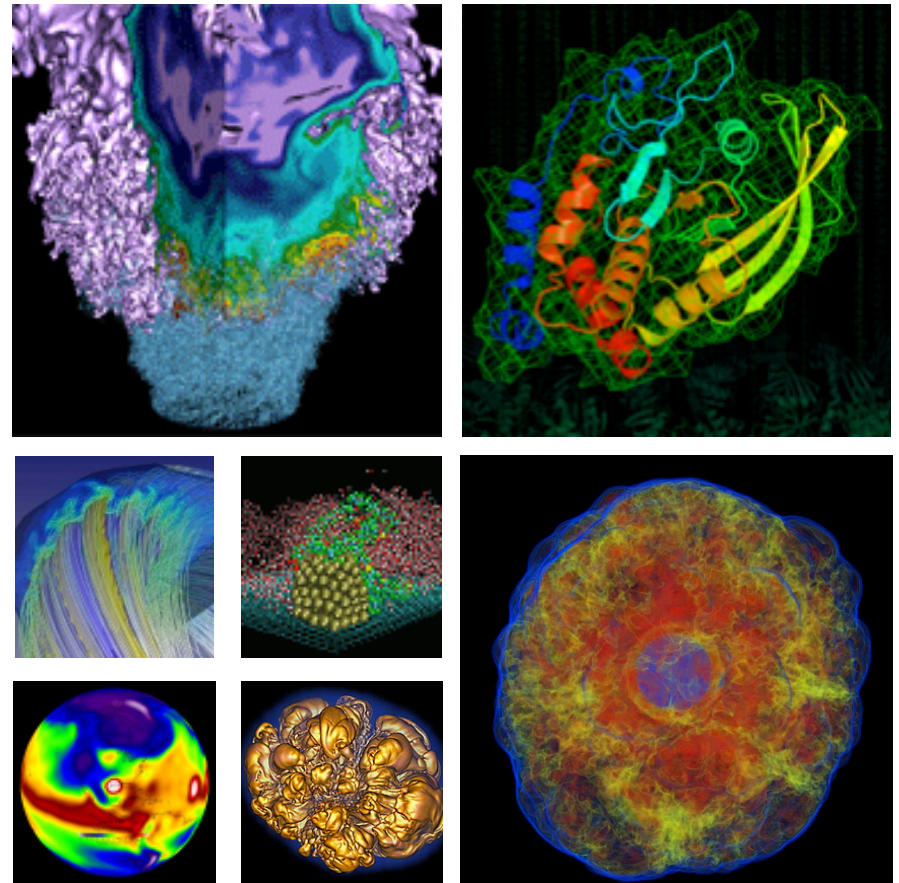


Accounts and Allocations



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Accounts vs. Allocations



There are two types of *accounts* at NERSC.

1. Your personal, private account
 - Associated with your *login* or *user name*
 - Provides *authentication* (personal identity) and *authorization* (which resources are accessible)
 - Your project's Principal Investigator (PI) requests an account for you
 - Four primary account *roles*
 - PI, PI Proxy, Project Manager, User
2. An allocation account, or *repository* (aka *repo*)
 - Like a bank account you use to “pay” for computer time and archival storage
 - PIs request allocations of time and/or archival storage
 - All MPP users belong to at least one repo
 - An individual user may belong to more than one repository
 - But only one *default repo*

Accounts and Allocations Management



- **NIM – NERSC Information Management**
 - Web-based tool for user and repo management
 - Check daily balance, change password, change login shell, update contact information, etc.

<http://nim.nersc.gov>

Account Policies



- All users must sign Computer User Agreement

https://nim.nersc.gov/Computer_User_Agreement.php

- Password policies

- Must change password every 6 months

- **Do not share passwords**

- **Do not email passwords**

- Account locked after 5 consecutive login failures

- Login to NIM to clear login failures

- Call NERSC Account Support for more help

Password Rules

- **Must contain**
 - *at least* eight characters
 - *at least* one of each of:
 - upper-case letter
 - lower-case letter
 - numeric digit
 - “special” character (! @ # \$ % ^ & etc.)
- **Good**
j#K01vz\$euP@!udls
- **Bad**
P@ssw0rd
- **One method**
 1. computer security is very important for nersc users
 2. csivifnu
 3. C\$1v1fnu

Allocations Process - PIs



- PIs apply through *Energy Research Computing Allocations Process (ERCAP)*
 - Part of NIM
 - Typically late summer
 - Science objectives, approach, and resource requirements
 - Computer time and archival storage space
 - Reviewed and awarded by DOE Science Offices
 - Most allocations are awarded in late Fall
 - Allocation year starts in January
 - Small startup allocations are awarded throughout the year

Allocations Process - NERSC



- **Amount of MPP time available**
 - Approximately 3 billion MPP hours AY14
 - 80% to “DOE Base”
 - 10% to ASCR Leadership Computing Challenge (ALCC)
 - 10% to “Director’s Reserve”
 - NERSC Initiative for Scientific Exploration (NISE)
 - Big Data
 - Highly Collaborative
 - Extreme Networking
 - Education, startups, staff, etc.

- **MPP Hour**
 - Per-core
 - Currently based on Hopper
 - Machine charge factor (MCF)
 - Hopper: 1.0
 - Carver: 1.5
 - Edison: 2.0
 - PI determines percentage of repo's allocation for each user
- **Storage Resource Unit (SRU)**
 - Reflect relative costs of “doing business”
 - Influence user behavior towards efficiency

MPP Allocation Charging

- **No charges for interactive work**
- **Batch (parallel) charges**

$$\text{Job charge} = \text{WT} * \text{NN} * \text{NC} * \text{QCF} * \text{MCF}$$

WT: elapsed wall-clock time in hours

NN: number of nodes

NC: number of cores per node

QCF: queue charge factor

– low: 0.5

– premium: 2.0

– all others: 1.0

MCF: machine charge factor

Edison: 25% discount if **NN** \geq 683

- **Batch (serial) charges**

NN = 1

NC = 1

Storage Allocation Charging



- **Based on three measures**

- Number of files (**NF**)
- GB of space (**S**)
- GB transferred (**T**)

- **Daily charge =**

$$0.0000393 * NF + 0.0131147 * S + 4.0 * T$$

- **Member of multiple repos**

- Storage charges split among repos
 - Default: prorated by allocation size
 - User can change

Running Out of Time



- **User**

- PI determines a percentage of the repo's MPP allocation for each user
- If user runs out of time
 - Can't run batch jobs
 - Contact PI to increase percentage

- **Repo**

- If repo runs out of time, contact PI to contact appropriate DOE Science Office Allocations Manager
 - Each Office typically holds a certain amount of time in reserve

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Resources



- **Self Help**

<http://www.nersc.gov/users/accounts/>

<http://www.nersc.gov/users/accounts/user-accounts/>

<http://www.nersc.gov/users/accounts/allocations/>

<https://www.nersc.gov/users/data-and-file-systems/hpss/hpss-charging/>

<http://www.nersc.gov/users/accounts/nim/>

<http://nim.nersc.gov>

- **NERSC Account Support**

<http://help.nersc.gov>

accounts@nersc.gov

1-800-66-NERSC, menu option 2



Thank you.