Connecting to NERSC & Using the NEW NX Service

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NERSC
Basics
Logins and Passwords

**NIM** = NERSC Information Management

- **NIM** username and password
  - The set of username/password that you need to use to login most NERSC host/service.
    - Machines (Carver, Hopper, etc)
    - Website (My NERSC, etc)

- **http://NIM.nersc.gov**
  - A webpage to manage your account, change password, change shell, etc.
• **New User:**
  – **Must** call NERSC Account Support to get initial password

• **To Change/Reset Password:**
  – **Online** at [https://nim.nersc.gov/](https://nim.nersc.gov/) or
  – **Call** Account Support (during business hours) or
  – **Call** Computer Operations (after hours)

**Our Number:** 1-800-66-NERSC

  – Menu Option 1: Computer Operations 24x7
  – Menu Option 2: Account Support (Normal Business Hours)
• **Automatic Lock-Out**
  
  – For security reasons, if you repeatedly fail to type your correct password when accessing a NERSC system, your account on that system will be locked.

• **To Unlock:**
  
  – **Call** Account Support (during business hours) or
  
  – **Call** Computer Operations (after hours) or
  
  – **Email** accounts@nersc.gov (during business hours)
Connecting to NERSC Machines
• **Unix-like Systems:**
  – **Most** NERSC Systems uses Unix-like Systems.
  – You connect to them using “SSH”
  – Use your **NIM** username and password

• **SSH Clients:**
  – If you use a Linux/Mac:
    
    ```
    SSH -X -A nimusername@hopper.nersc.gov
    ```
  – If you use windows:
    • Download a client (e.g. putty) and then connect.
## Transfer Files

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<th>Requirements</th>
<th>Simple To Use</th>
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<th>Speed</th>
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<tr>
<td>scp/sftp</td>
<td>Any SSH/SFTP Client</td>
<td>Simple</td>
<td>NO</td>
<td>Slow</td>
</tr>
<tr>
<td>bbcp</td>
<td>bbcp client (no windows support)</td>
<td>Simple With Instructions</td>
<td>YES</td>
<td>Moderate-Fast</td>
</tr>
<tr>
<td>GridFTP</td>
<td>GridFTP Client Grid Certificate</td>
<td>Less Simple, multiple steps needed</td>
<td>YES</td>
<td>Fast</td>
</tr>
</tbody>
</table>

More Info? Go to [www.nersc.gov](http://www.nersc.gov) and search for them
• X-Windows let you run graphical user programs (e.g. Emacs, Matlab) on NERSC Machines

• We suggest you to use NX for much better X-Windows experience
What is NX

• Two Reasons for NX:
  – X-Windows is slow
    • Tried opening an emacs from China? It might take minutes to get the window open.
  – SSH Terminals are a pain
    • If I lose the internet connection, I might lose the running process.

• Two Features of NX:
  – Much Better X Experience
    • Buffered/Compressed - Means faster!
  – Sessions
    • Suspend, go home, reconnect, your open programs are still there!
• New NX Service
  – New Dedicated Server
  – Going into Production Soon
  – Suggestions are Greatly Appreciated

• To Use
  – Instructions: go to [www.nersc.gov](http://www.nersc.gov), search for “NX”
    • Download Client (One Time)
    • Setup Connection (One Time)
    • Connect, Use, Suspend and Reconnect
      – Will guide you to setup keypair for password-less login to other NERSC Systems (One Time)
Demo
Questions?
consult@nersc.gov

National Energy Research Scientific Computing Center