

Best Practices for Managing HPC User Documentation and Communication



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BOF Format

Three topics - 15 minutes per topic

1. Documentation lifecycle
2. Communicating change and notable events to center's user community
3. Measuring effectiveness of communication and documentation efforts

NERSC

- NERSC has 6000 users, 800 projects, from all over the world.
- Effective communication to reach all users is essential. We have the following mechanisms:
 - Lots of web documentations and online training materials
 - Weekly email newsletters
 - Monthly NUG telecons
 - Annual face-to-face NUG meetings
 - Engage and exchange info at user community events
 - Ticket system
 - Informal conversations with users
 - RSS feed, Twitter, Facebook, chat for users, staff-to-user/user-to-user mailing lists

NOAA

- 3 User Centers across the country
- Weekly emails per HPC site
- Multiple email lists
- Monthly and special event user meetings
- Special Handling and community involvement
 - Site visits
 - Center wide user boards
 - Organization wide user boards

What is the Oak Ridge Leadership Computing Facility?

- Mission: Provide the computational and data science resources required to solve the world's most impactful scientific & engineering problems.
- Users cover multiple science domains and experience levels
- New projects and users are added to system throughout year
- Projects receive 100x more hours than at other generally available centers.
- Average 250 projects per year
- OLCF users are spread out all over the globe and come from academia, national laboratories, other government agencies, and industry
- Average over 1,000 active users per year



Titan

Cray XK7

Currently #2 HPC Top 500

27 petaflops

299,008 Processor Cores

18,688 GPUs

Documentation Lifecycle

Process to add, update, and remove documentation

1. Who is responsible for documentation at your center?
2. Who is allowed to update documentation?
3. What is the approval and review process?
4. How do you prevent documents from going stale?
5. Is user driven content allowed and encouraged?
6. Do you involve vendors in documentation process?
7. How do users know when documentation is updated?
8. Do you use third party tools to aid in the documentation process?
9. Do you have general documentation best practices?

Communicating change and notable events

- Start Early & Communicate OFTEN!
 - Weekly emails are helpful but sometimes only provide you with evidence that something was sent.
 - Use as many mediums as possible (Wikis, email lists, user meeting)
 - Provide transition guides, keep a “living copy” of known issues
 - Allow users to contribute to the list of issues
 - Tickets are good, allowing users to contribute to a wiki was more helpful than during a major transition
 - Ensure that the impacts are spelled out during each message
- Frequency matters on Impact
 - Minor issue – weekly
 - Major issue – daily
 - Unplanned Outage – every two hours

Measuring effectiveness of communication and documentation efforts

- Tools
 - Google Analytics: most popular pages
 - Siteimprove for Silverstripe web pages: broken links, spelling, statistical results, search engine optimizations.
 - Google Search Appliance
 - Internal “machine-learning” based search tool to better match documents and tickets
- Methods
 - User Surveys
 - Scores and Comments. Specific questions on documentation and communication.
 - The key is to have NERSC personal touch.
 - NERSC does not content itself with offering only, e.g., a generic tutorial on OpenMP, it also precisely describes how to, in practice (i) modify the code (ii) compile and, most importantly, (iii) run on NERSC platforms.
 - Q: do you feel adequately informed about NERSC changes? 90% Yes.
 - Tracking email view (ANL mail chimp)
- How to obtain useful user feedback
 - User Survey
 - Frequency: annual
 - Tracking and incorporating results
 - Web page comments
 - Various channels of user engagement
- Metrics
 - Fewer tickets, better survey scores, thumbs up comments