HEP/NERSC Requirements Gathering Workshop

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Topics for Discussion

- Current approaches to NERSC requirements gathering
- Benefits of SC/HQ-centric requirements gathering for NERSC resources in the context of Programmatic mission needs
- 2009 NERSC requirements gathering workshop schedule
- An example outcome from BER/NERSC Workshop

Current Tools for Requirements Gathering for NERSC

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Document or Action	Owner/Perspective	Frequency
DOE Greenbook – Needs and Directions in High-Performance Computing for the Office of Science, June 2005	NERSC User Group (NUG)/NERSC users	Once every ? - five years
NERSC "Visualization Greenbook," October 2002	NUG/NERSC users	Not set
Science-Driven Computing: NERSC's Plan for 2006-2010, May 2005	LBNL NERSC/LBNL NERSC	Once every five years

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* http://www.nersc.gov/about/NUG/nugex_members.php

Assessment of Current Tools

- These documents are very informative.
- They represent either NERSC's User Group's perspective, or LBNL/NERSC Team's perspective.
- *Science-Driven Computing: NERSC's Plan* is the closest to capture SC's needs, and is published once every 5 years.
- Science needs are changing rapidly, and the five-year cycle does not capture the changing needs very effectively.
- We also need more computation-oriented data for NERSC needs than those currently collected using the existing mechanisms.

Benefits of Conducting NERSC Requirements Workshops in Three-Year Cycle

- SC Program Offices will have direct input on the requirements and can provide forecasts of needs aligned with mission priorities.

- Requirements gathering workshops in the DC area in the three-year cycle can capture rapidly changing Program-specific needs for NERSC resources better.

- We can document SC programmatic needs for NERSC resources that may not be captured in the five-year cycle planning tools (in 5 years; beyond 5 years).

- Scientists can get direct feedback on Program mission priorities.

- NERSC Staff can help quantify scientists' needs interactively.

- The new workshops will augment the existing, user-oriented requirements documents.

- We can leverage the successful structure and approach used for the ESnet requirements workshops.

Program/NERSC Requirements Gathering Workshops

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- Program's active involvement in pre-workshop planning, conducting the workshop, and writing the final report is critical -- Own the Workshop
- Timeframe and location: Two workshops/year. BER May 2009; HEP November 2009; BES February 2010; in the DC area.
- Approximately 15 - 20 HEP/BES scientists will be invited.
- ESnet has conducted effective Program/ESnet Requirements Workshops, and a format similar to theirs can be used.
- NERSC will provide Facilitators (NERSC staff) who: have the knowledge of end products; an translate Program's needs in quantitative ways; can help Scientists articulate and quantify their needs; and help Program and NERSC Management forecast Program's future needs.
- We would like to have all Program Office's program areas covered –> participation from each of your divisions
- Program Office representatives will work very closely with NERSC Program Manager and Workshop Facilitators.
- NERSC will prepare templates ("Case Study") for information gathering and report writing for participants' convenience.
- Prior to the workshop, participants will develop business cases, similar to those used in ESnet requirements workshops, to: (1) capture information and (2) use them as a backbone of the workshop report.
- Program Office will be responsible for the travel costs for their invitees.

A BER Requirement and NERSC Follow-on Action

- We held BER/NERSC Requirements Workshop in May.

- BER users told us that they wished to be able to reserve NERSC resources recurrently at specific Interval.

- NERSC Response: New Service for Franklin Dedicated Time Reservation:

  – NERSC is testing a new service which will allow users who need access to a large number of nodes to make a reservation for a certain date, time and duration.

  – http://www.nersc.gov/nusers/systems/franklin/running_jobs/reservation.php

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