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# NERSC Requirements Workshop

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Advanced Scientific Computing Research



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# Topics for Discussion

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- 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.



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# 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 three years
NERSC “Visualization Greenbook,” October 2002	NUG/NERSC users	Not set
Science-Driven Computing: NERSC’s Plan for 2006-2010, May 2005	LBL NERSC/LBNL NERSC	Once every five years



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# NUG Executive Board (NUGEX)\*

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Program	Representatives			
ASCR	Kirk Cameron (Virginia Tech)	Mike Lijewski (LBNL)	Ravi Samtaney (PPPL)	
BER	David Beck (University of WA)	Brian Hingerty (ORNL)	Adrienne Middleton (NCAR)	
BES	Bas Braams (Emory University)	Eric Bylaska (PNNL)	Thomas Miller (UC Berkeley)	
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HEP	Julian Borrill (LBNL)	Cameron Geddes (LBNL)	Frank Tsung <b>Vice Chair</b> (UCLA)	
NP	David Bruhwiler (Tech-X)	Peter Messmer (Tech-X)	James Vary (Iowa State Univ.)	
At Large	Angus Macnab (Woodruff Scientific)	Ned Patton (NCAR)	Jerry Potter (LLNL)	Xingfu Wu (Texas A&M)

\* [http://www.nersc.gov/about/NUG/nugex\\_members.php](http://www.nersc.gov/about/NUG/nugex_members.php)



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# Assessment of Current Tools

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- 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.



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# Benefits of Conducting NERSC Requirements Workshops in Three-Year Cycle

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



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# 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: March/April 2009 in the DC area in conjunction with a BER significant meeting; BES to follow.
- Approximately 20 BER/BES scientists will be invited.
- ESnet has conducted effective Program/ESnet Requirements Workshops, and a format similar to theirs can be used.
- ASCR/NERSC will provide a Facilitator (NERSC staff) who has the knowledge of end products, can translate Program's needs in quantitative ways, 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 Facilitator.
- ASCR/NERSC will prepare templates 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.
- Workshop will be funded by the NERSC Program except for travel costs.
- This will take approximately 40 hours of the representatives' time over 3 – 4 months.



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# Contact Information

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