US Grid Support
February 2006
# Update
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US Grid Infrastructure and Middleware Support: Status

- Core middleware:
  - Condor – supported for 5 more years from NSF to be flightworthy.
  - Globus – supported for 5 more years from NSF as CDIGS project http://dev.globus.org/wiki/Welcome

- Grid Projects:
  - GriPhyN over: possible 1 year funding to bridge the gap for the Virtual Data Toolkit (VDT)
  - PPDG and iVDGL end at the end of FY2006:

Next Steps for the Facility Infrastructure

- Open Science Grid Consortium transitioned to "project" like structure.

- Endorsed by US ATLAS, US CMS, LIGO, Run II etc.

- Full computer science middleware engagement:
  - Miron Livny Facility Manager
  - Mike Wilde EOT Coordinator
  - Alan Blatecky Engagement Coordinator

- Goal includes delivering Distributed Facility, which includes VDT support, to meet LHC needs and timescales.
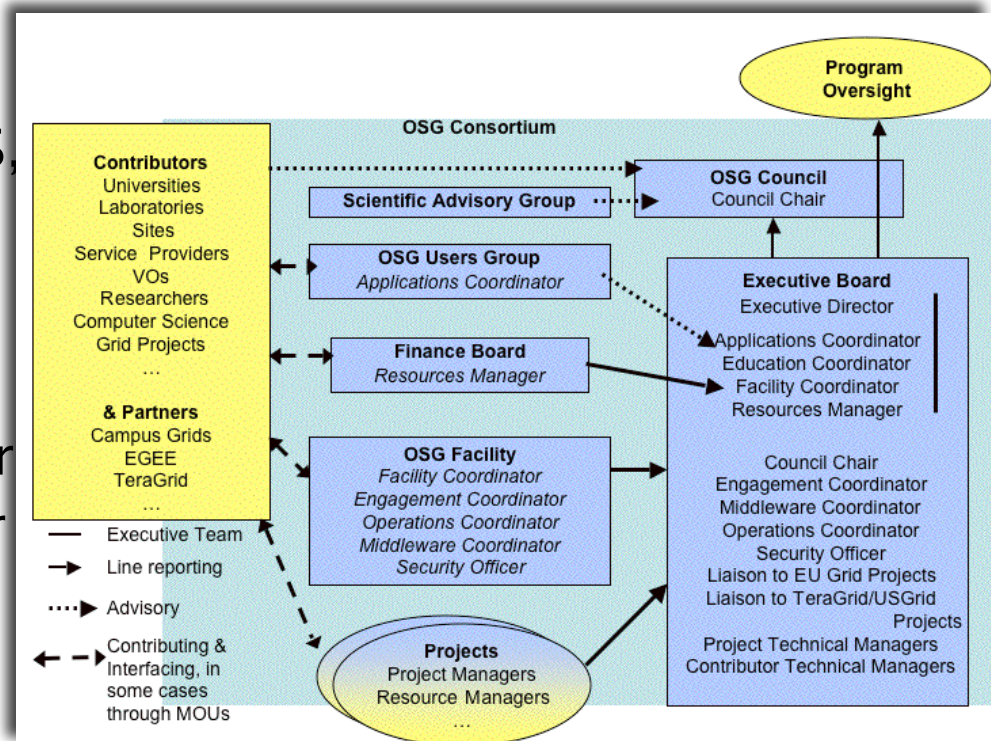
OSG Three Thrusts

- Distributed Facility – including operations, security, middleware and engagement, interfacing with campus and regional grids and sustain a national, long-term infrastructure.

- Education, Training and Outreach – including grid schools, minority and international outreach, Grid Cookbook.

- Science Driven Extensions – adding to the capabilities and capacities of the Facility through joint projects with external development teams, and contributions from stakeholder software and computing organizations.

DOE and NSF funding opportunities

- DOE SciDAC-2 broad call:

Program Funding

It is anticipated that in Fiscal Year 2006 SciDAC partners will have up to approximately $31,000,000 available to support new SciDAC projects. The number of awards will be determined by the number of excellent proposals, the total funds available for this program and the availability of appropriated funds. These funds provided by participating offices may be up to the following: ASCR, $20,000,000; BER, $6,000,000; FES, $1,000,000; NP, $1,000,000; and HEP, $5,000,000.

Awards are anticipated to fall in four categories-Science Applications, Centers for Enabling Technologies, Institutes, and Scientific Application Partnerships *(Note: The funding ranges provided below are for guidance only. Meritorious proposals requesting funding outside the suggested range will receive full consideration)*. Science Applications may be funded from $200,000 up to $800,000 per year for two to five years. Most of these are expected to be teams with two or more institutions participating, each receiving from $50,000 up to $300,000 per year. Centers for Enabling Technologies a expected to be large distributed teams and may be funded at $1,500,000 to $3,000,000 per year for up to five years. Scienc Institutes are expected to be funded at $1,000,000 to $2,500,000 per year for up to five years. In both cases, participating institutions may be funded at from $50,000 to $300,000 per year. Scientific Application Partnerships are expected to be funded at $50,000 to $500,000 per year for one to three years. These funding levels are provided as guidance.

Merit Review

After an initial screening for eligibility and responsiveness to the solicitation, proposals will be subjected to scientific merit review (peer review) and will be evaluated against the following evaluation criteria, which are listed in descending order o importance:

1. Scientific and/or Technical Merit of the Project,
2. Appropriateness of the Proposed Method or Approach,
3. Competency of the Personnel and Adequacy of Proposed Resources,
4. Reasonableness and Appropriateness of the Proposed Budget.

SciDAC-2 Scope:

advancing scientific discovery. Researchers have achieved key scientific insights in a number of areas of national importance, yet many challenges of multi-scale, multi-disciplinary problems now facing science programs in DOE require advanced modeling and simulation capabilities on petascale computers. A second challenge is driven by the need for capture, storage, transmission, sharing and analysis of large-scale experimental and observational data as well as data from simulations. This Announcement is seeking proposals that contribute to:

- The creation of a comprehensive, scientific computing software infrastructure that fully integrates applied mathematics, computer science, and computational science in the physical, biological, and environmental sciences for scientific discovery at the petascale level and
- A new generation of data management and knowledge discovery tools for the large data sets obtained from large experimental facilities and from high end simulations.

Proposals are sought that:

- Address obtaining significant insight into, or actually solve, a challenging problem of national scientific or engineering significance clearly related to DOE missions through computational science,
- Create scientific simulation codes that: achieve high single node performance; scale to thousands of nodes and tens-of-thousands of processors; and can be readily ported to other computer architectures,
- Develop applied mathematics and computer science methodology focused on computational science at the petascale and work with application teams to apply innovations,
- Integrate computational science with discipline-driven applications through teaming and partnerships with computer scientists and applied mathematicians,
- Engage experimental and observational data-intensive science, and/or
- Empower new scientific communities to achieve scientific discovery through computational science.

Prospective researchers should observe that the program is structured to be interdisciplinary and multi-institutional in nature.

Synergistic collaborations are encouraged. Collaborative proposals involving multiple institutions, that may include universities, laboratories, and/or private institutions, are anticipated for the majority of submissions. Researchers may request a period of performance of up to five (5) years.

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OSG Proposals

- OSG Proposal – being submitted to multiple program offices in NSF and DOE.

- Cooperating development projects being submitted in parallel.

Expect to know initial situation for FY07 for 3? 5? Years by June 2006.

OSG – EGEE Cooperation Status: Delivering to the WLCG

- OSG 0.4.0 includes EGEE information providers, publishing through OSG–BDII to LCG–BDII. Support for RB submissions of LCG VOs: to–date ATLAS, CMS, Geant4.

- Functional Testing and Monitoring scripts: SFT & ACDC.

- OSG 0.4.1 WS–GRAM; LCG–xxx EGEE–WMS: Keep testing for interoperation.
  - Collaboration with D0 Resource Selection Service and gLITE–CEMON

- SRM V2.1 deployment schedules will be synchronized.

- Continued concern at VOMS–VOMS–ADMIN robustness.
  - Issues of compatability of role based authorization between EGEE and OSG infrastructure.

Other Interoperability Work

- OSG – TeraGrid cooperation increasing; TeraGrid to support OSG VO allocation; OSG supporting applications from TeraGrid Science Portals;

- Contributions to Multi-Grid Interoperability: EGEE and OSG on data, security, etc working groups together.