
SCA Kickoff

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Overview

- Scientific computing is the computational applications and computers that is needed to meet the SLAC scientific mission and ideally foster the growth of new scientific capabilities and opportunities.
- SCA is a key element of the overall strategy, given its capabilities in simulations and data management
 - » These are two of the pillars of SLAC's strategic plan for scientific computing.
- Joint leadership for both the hardware and applications components of scientific computing.
 - » We believe that participating in this broader enterprise, and under Lab scrutiny, will be to the advantage of PPA and the Lab in general.

Three Focal Areas

- Management of digital scientific data that supports the scientific mission areas of the laboratory.
- Develop expertise in advanced programming techniques to support science program needs for algorithm development.
- Cost effective computing facilities that are operated to modern methodologies that meet the program needs with the appropriate mix
 - » Robust “R&D” program to insure we stay up to date on technology

Creation and role of SCA

- Scientific Computing Applications department in PPA supports common efforts:
 - » Support for small experiments and community tools
 - » Innovation
 - » Planning computing for future programs (DES, LSST, CCI)
- In practice:
 - » Pipeline processing, data monitoring, visualization, collaborative tools etc, being applied to LSST, SCDMS, EXO, Fermi, CTA
 - » xrootd: key element of cluster file access in LHC and many other experiments
 - » GEANT4 team: core and program G4 work projects
- Puts considerable expertise in one department and allows leveraging over several projects – but, crosses KA streams

Activities Appropriate for Core Funding

- Core effort is grouped in three areas:
 - » products used by multiple projects
 - eg xrootd, GEANT4
 - » expertise that leverages external products in wide use
 - eg virtualization; C++ frameworks like Gaudi, GEANT4's
 - » In-house project that leverages outward
 - eg Large databases for LSST

Initiatives

- Further collaboration with LCLS and SSRL
 - » Using service center personnel
 - » Development of services and tools
- Expansion of responsibilities for LSST
 - » Overall Data management
 - » Camera
 - » Dark Energy Center
- Expansion of Simulation Group
 - » End to End Simulation for Photon experiments
 - » Partial Position for Geant4
 - » Developing Applied Math capabilities-collaborating with AD

Reorganization

- Have an organization that was intuitive and focused around the focal areas while preserving current commitments
 - » Establish clear ownership and responsibilities for focal areas
 - » Balance change with stability
 - » Rationalize admin and functional relationships where possible
- Position for taking on Lab Wide responsibilities
 - » Technical Coordinator is an outward architectural and technology focused role that focuses on medium and longer term time horizons across the lab—not a line management role
- Facilitate staff evolution by putting new people in leadership positions (not accomplished in this round)
- View this as an interim organization with roughly a year life-time

Organizational Goals

- Working to understand our roles and responsibilities
 - » Expect SCA to show leadership and set standards
 - » Advisory: PPA Computing Coordinators, SCSC
 - » SCA coordinates PPA hardware requests
- SCA management is developing organizational goals from which people will derive some of their individual goals
- A professional center does need to have standard business processes
 - » Global and local views of projects, tasks and opportunities
 - » Effort Tracking-assess what is the needed level of detail
 - » Staff training
- SOWs- establish Partner expectations and service center obligations

Managerial Roles in a professional center

- Service center are challenging—requires anticipation and knowing what skills are needed by whom when
 - » Resource planning
- Provides global subject matter expertise that enables long range cross lab planning
 - » Scanning the horizon
- Interfacing
 - » Within the service center
 - » Across directorates
 - » Externally to the wider community.
- Assurance—are we delivering as planned? Have the partner needs changed? Is everything going smoothly?

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Next Meetings

- Planning/Planning/more Planning
 - » Simulation Survey—Report: Richard Mount
 - » Technical Coordination- Tony Johnson
 - » Scientific Computing Systems Report- Len Moss
 - » Report on Data Management Survey—Anders
- Technical/Technology Talks
- Project/Program/Experiment status talks

- Develop a rotation to get a mix of status and technology talks to have a broad range of topics