Berkeley Coeus, a client/server relational database application licensed from MIT and adapted for use at Berkeley, has been operational since 1998 as the Berkeley campus system of record for sponsored project activity. In late 2004 a panel of external reviewers commissioned by Vice Chancellor Burnside recommended that Coeus be upgraded. The goal of the program is to upgrade Berkeley Coeus to the current version 4 release, now a Java-based suite of modular applications with a wide range of new features supporting critical Sponsored Projects Office (SPO) and compliance business functions.

This multi-year project was approved for initial campus funding in the last fiscal year. Significant progress has been achieved on schedule for the Coeus core functionality replacement. As planned, efforts are now underway to develop functionality for on-line proposal development and submission (to meet Grants.gov and other sponsor requirements), subcontract administration, and conflict of interest (Col) tracking modules. Finally, a key element of the Coeus upgrade project is to ensure seamless integration with related research systems such as eProtocol, the Berkeley Financial System (BFS), the Effort Reporting System (ERS), and UCOP systems to provide integrated research administration and compliance information in support of researchers and administrators campus-wide.

1. Alignment with IT Strategic Plan

This project is directly responsive to the IT Strategic Plan -- Critical Issue 3, Research, Priority 1, Basic IT Resources. Researchers and staff across disciplines require the use of common systems to support interdisciplinary, collaborative research. The lack of common administrative systems to support research slows research and wastes precious researcher time and research dollars on rework and retraining. The Coeus system is the institutional system of record for tracking all Berkeley campus research proposals and awards, and is a critical component of the campus’ research infrastructure. Data carried in Coeus is passed automatically to the Berkeley Financial System to set up and modify funds for spending to begin.

2. Impact

The Coeus Upgrade project benefits researchers and staff campus-wide and beyond. Coeus supports the processing of more than 2,700 proposals and more than 1,300 new contract and grant awards each year. All funding data is fed automatically to BFS, creating new funds and modifying existing ones, at a level of approximately $500 million per year. Accurate tracking of award commitments and compliance requirements ensures more streamlined processing of research funds, reduced risk of
noncompliance with federal, state, and UC regulations and policies, and the University’s ongoing eligibility for federal and other sponsored awards. Additionally, the National Institutes of Health, a federal agency that provides nearly $100 million annually in research funding, now requires fully electronic submission for all proposals; the rest of the federal government is mandated to follow. Federal funding to the campus approaches $290 million per year, so the ability to interact with these systems is critical to the research revenue stream.

3. Risk assessment

Contracts and grants for research and other sponsored activities come with often complex programmatic, financial and administrative commitments. Our inability to track those commitments and fulfill regulatory requirements would jeopardize our position as a world-class research program. Further, central systems must be better “distributed” to the research community campus-wide to eliminate the need for redundant shadow systems, retraining and rework efforts that waste the precious time and resources of our best and brightest.

The growing trend in multidisciplinary collaborative research projects has been accompanied by a large increase in the number of subawards, which are often complex and time-consuming to process and track. Subcontracting is under intense scrutiny from federal audit bodies, and noncompliance findings carry significant consequences both for the campus and for its research partners collaborating via the subaward mechanism. The complex and time-dependent workflows require complete and accurate data capture and management. Delays in executing and processing these subcontracts slow down research progress among collaborators, and create compliance risk.

Federal working groups are planning new federal-wide financial CoI regulations, and agency representatives have been visiting campuses to review policies and practices. Systems support is needed to integrate this compliance activity with proposal, award and protocol processing to ensure appropriate timing of reports and approvals and compliance safeguards. New requirements for CoI compliance in funding programs have emerged recently, including major ones from our own Office of the President.

Finally, federal and non-federal sponsor programs requiring fully electronic submission of all contract and grant proposals have been moving forward rapidly despite the clumsiness of the user interfaces provided. Researchers have struggled with the required forms and formats, system validation checks, and overall complexity of handling these submissions. SPO and RAC staff expend considerable effort to understand and troubleshoot the required form “packages” and proposal validation schemas in order to ensure successful and timely submission of Berkeley proposals. Concerted effort is needed to develop a campus approach to receiving, processing and submitting contract and grant proposals in keeping with sponsor requirements. Our inability to keep pace with developments in this regard will put individual faculty projects and careers at risk.
The Coeus upgrade project is itself complex. The Federal and other sponsor systems that we must dock with are moving targets. Internal system integrations will require coordination of resources across RAC units and outside of RAC/SPO. Current SPO staff workload is a risk. This project requires on-going support and campus-wide communication, outreach and training.

However, we have taken steps to overcome these risks. We are closely aligned with federal initiatives and resources through the Federal Demonstration Partnership (FDP), our counterpart operations within the UC system, the NIH’s Commons Working Group, and the Council on Government Relations (COGR). The new RAC structure unites SPO, OPHS, and OACUC operational units under common leadership and will simplify coordination of business processes and the development of fully integrated systems. We have well-established working relationships with Extramural Funds Accounting (EFA), with Coeus-BFS integration in place since late 2004, and IS&T over the last year of Coeus development. We have an extraordinarily talented and experienced RAC IS team that continues to build on accumulated team experience. The risk of not acting exceeds that of the challenges we face.

4. Innovation

This project builds on long-standing experience with the Coeus application to improve basic functioning and to integrate this essential central database with other existing systems and new applications in order to provide shared access to interrelated yet distributed information. Emerging technologies in Web Content Management/Enterprise Content Management (WCM/ECM), interface design, and Service-Oriented Architecture (SOA) provide exciting integration and workflow opportunities. Additionally, the rapid pace of standards-driven Java-based and open/community source development supports modular application development and allows agile development of fully integrated systems. The Coeus core provides a solid foundation upon which to construct a new generation of research support tools for the campus.

5. Funding model

The current funding request is part of the previously-approved multi-year program for Coeus Upgrade. The multi-year budget view is shown on the attached spreadsheet. Funding is based on collaboration between the Vice Chancellor for Research, RAC and IS&T. Extensive use of campus IT infrastructure (database, web, backup, and storage services) is a key component of this project. Projected out-year costs have been reduced for the Coeus project, as we anticipate resource savings through integration with the eProtocol project.

If this activity is not funded, our ability to facilitate bringing contract and grant funding to the University will be impeded and compliance risks could jeopardize the overall research program. A unique opportunity to provide innovative, highly functional tools to campus faculty and researchers will be lost.