Introduction:
This document is intended to serve as a recommended framework for Cal Poly based on current business practice. It applies to all applications which will be placed in use within the scope of the University as an enterprise and as such shall include considerations for use by designated auxiliaries and the Foundation where there is both an explicit or implicit concern regarding issues of support, compliance or impacts on the costs of same for the University or the efficient management of matters such as sustaining a secure and free flowing interaction of information or services for the University and to its constituent stakeholders including students, faculty, staff, alumni, parents and prospective students or the associated stakeholders of, for example, the clients of designated Institutes.

It is structured as a checklist for use in considering the acquisition of software-based applications but in specified cases shall be applied as either a guideline or as a strict matter of compliance in said decisions regarding the acquisition of certain applications or where the anticipated impact of the uses of the application necessitate a truly compliant integration. Risks and the costs of resources to the University shall be factored into the evaluation of weather compliance is actually necessary prior to any unit or campus agency incurring costs or other like commitments in the actual acquisition process.

Beyond this essential risk and total cost of resources screen, the specific decision will be endorsed by the campus computing committees who will serve as a key review gate for all purchases whose total life cycle value is estimated to be in excess of $20,000 on a Total Cost of Ownership basis, including donations).

This level is a current acquisition cost “threshold” and was recommended from current consultation, subject to upgrades guided by implementation experience and specific committee actions.

One key goal of this framework as implemented will be to assist the university toward a process of better understanding total cost of ownership (TCO) as a key overall approach to determining such decisions based on “value beyond price” in an IT context.

This framework is not intended to further burden the existing administrative procurement process, but rather to serve as a current best practices business tool to further communication and understanding of the implications and impact

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1 While designed for IACC, AACC and/or IRMPPC per se, SC3 should at times be in either an assistive, consultative or possibly active user role for this framework and efficient procedures shall be developed for application in procurement by State or Foundation’s procurement organizations to assure effective application of these measures.

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of purchasing software tools in advance of the actual purchases and to make better life-cycle IT based decisions concerning the services and infrastructure of the enterprise.

Specific framework implementation for specific decisions will be negotiated between the unit sponsor(s) (if applicable), ITS, and the appropriate computing committee(s) based on the nature of the proposed acquisition (e.g., academic, administrative, enterprise-wide application, etc.), the anticipated cost of the project, and the perceived impact of the solution under consideration on present and future methods of operation. It is expected that all committees will address IT decisions of both purchased and donated assets within this framework and that applications driven by external agencies such as ones emanating from the Chancellor’s Office shall be evaluated as well on a timely basis.

It is also expected that the respective computing committees or specified units will develop their own processes, and statements of roles and responsibilities with regard to implementing this framework within the culture and charter or responsibilities of each committee or units, but that in specialized cases such as where grants or donations or where mandated applications from other sources are involved, that timely attention to this framework will be considered and decided. In all cases the spirit of collaboration and consultation shall guide the need for the appropriate level of compliance.

It is expected that the depth and detail of the review expended will be appropriately comparable with the value of the proposed expenditure and its impact on operations or new services and that matters requiring escalation will seek first the guidance of the IRMPPC.

**Prologue**

*Assumption: There is benefit to Cal Poly when sound decisions are made prior to when actual decisions are taken to increase in the value and the quality of such decisions and to mitigate adverse impact to the University.*

An introductory statement should be developed that addresses basic issues, including, but not limited to:

1. Why is this needed?
   a. Identify: significant priority or early applications which drive higher level priorities or urgency.
   b. Cost: with severely constrained resources and an increasing set of concerns regarding risks of compliance and collateral impact of “unintended consequences” to security or on-going costs, there is a benefit for an explicit process that must emerge that essentially
applied sound “business case practices” for the benefit of the University.
   i. to better assess demand and requirements,
   ii. to add visibility and discipline to understand impact to both current and ongoing resources and costs
   iii. to address TCO factors and understanding
   iv. to streamline procurement processes (e.g., duplicate titles with similar features)

2. Discuss and assess the effects of and alignment of vertical applications / bolt-ons in the anticipated CMS Environment and to other core campus services or applications (e.g., messaging, calendaring, teaching & learning environments)

3. Discuss candidate application’s role in an integrated, cost effective, functional, enterprise-wide service model, including:
   a. service and support (start-up and ongoing, including staffing needs; roles of centralized and decentralized units, e.g., LAN Coordinators and non-technical staff)
   b. infrastructure considerations (e.g., extensibility, open standards)
   c. need to make sure it doesn’t violate any back-end or core business services (e.g., administrative, teaching and learning)
   d. flexibility while sustaining consistent operating efficiency and integration

Key / Critical Steps
REQUIRED:
1. Requirements definition (See Above)
2. Is this application valuable to other organizations on campus? Would this application better serve the campus community in a centralized implementation?
3. How will the application be supported (e.g., internal or external (ASP model))? Service and support definitions, how will the following services be provided?
   a. Service Desk support
   b. Training
   c. Workstation support
   d. Server Support
   e. Application Support
4. Adheres to campus technology standards unless waived (Reviewed by ITS/AIM)
   a. Database (Oracle)
   b. Web (integrates with uPortal, Java based)
Framework for Decision Making
With Regard to the Acquisition of Software-Based Applications

- Authentication (integrates with campus Trusted Authentication System (CAS) or LDAP compliant)
- Security
- Operating System (Linux, Sun Solaris)
- Hardware (Dell, Sun)

5. What is application architecture?
6. Does licensing model support a development / test / production environment model without “punitive” / additional costs for development and test environments?
7. What is the time frame for implementing the proposed solution?
8. What support will be required from other campus organizations to implement and operate the application?
9. What is the exit strategy & time line for the proposed solution?
10. What are the training requirements?
11. Is the application ADA compliant?

SUGGESTED:
1. Are there any alternative solutions or approaches? Is there a better way to do this? What is unique or specific in the proposed solution being sought / or that has been found?
2. Investigate options to...Replace / Substitute / Eliminate / Combine with other applications? (i.e., Does this duplicate an existing application’s functionality? If so can the existing application be used or eliminated?)
3. Integrates with other University Systems and Services as appropriate? Can it be easily integrated into support systems, e.g. help desk/ Remedy trouble ticketing work flow, Directory/authentication, uPortal, ADA support, “push/pull” technologies for updates, keyserver uses, etc.
4. Will application be useful as part of the university’s data warehouse? How will the data be fed / integrated into the warehouse?
5. Is the application scalable?
6. Is the vendor reliable and viable into the future?
7. Are there usability tests and/or reference accounts?
8. What are the key milestones and “measures of success”?

Cost Information
1. What are the easy-to-identify costs – out of the box? (e.g., core infrastructure requirements (e.g., server, workstation, network) and first order resources (e.g., communication, documentation, Service Desk, centralized and decentralized support via colleges / divisions).
2. Collateral funding issues: are funds currently available? How could this be funded (e.g., centralized negotiation and procurement, IRMPPC-speed bumps, cost avoidance, business case, elimination of existing or duplicate
services, consolidation of support services, infrastructure or associated contracts)?
   a. Address Funding and Timeline for Acquisition
   b. Address Funding for on-going support (e.g., refresh, ongoing support, license growth requirements, maintenance, extended support window)
   c. Identify costs to convert / import / verify data, integrate to Portal, etc.

3. What are the "hidden" / hard-to-find costs – e.g., inadvertent consumption of unidentified resources, both centralized and decentralized (e.g., integration requirements causing an impact on existing systems – such as – application directly impacts other services on the mainframe, resulting in extended batch windows, resulting in additional CPU billing cycles or memory augmentation for client workstations)

4. What are the functional costs / requirements? (e.g., ADA compliancy and documentation, training and implementation resources)

5. What are the costs associated with training and specialized support skills (e.g., initial database administrator training and ongoing certification)?

6. What are the system administration costs / requirements / support toolsets?

7. What are the memory & storage costs / requirements, for both server and client workstations?

8. What are the bandwidth costs / requirements?

9. What are the transaction costs / requirements (e.g., license provisioning, distribution of media, license reporting to vendor)? What elements of the software would be managed centrally and locally? (e.g., leverage existing ITS Site License Support Services for distribution and reporting, while discipline specific support is provided by the college / division).

10. What are the on-going maintenance costs / requirements for respective dev / test / prod environments (including staffing needs)?

11. What is the expected cost increase curve for future support?

12. What are the on-going cost savings? (e.g., year 1 = $x, year 2 = $y)

13. Does the vendor have a transparent and explicit escalation processes? Does the vendor provide "self-service" documentation and services (e.g., list serve approach to share "bugs", "fixes", user group release control, etc.)

Forging Business Cases and Decision Making
Items identified under Key/Critical Steps and Cost Information (both hard and soft dollar) should be compared to value (both hard and soft) to the functional department sponsoring the purchase and the university. Below are checklist
questions that aid in decision making when weighing the total cost of ownership against value gained in return.

REQUIRED:
1. Is the one time funding available?
2. Have sources of funds been identified for on-going maintenance and upgrades?
3. For refresh hard dollar costs?
4. If not, have the consequences of service interruption been vetted to the constituent group(s) using the environment?
5. Have the personnel resources been identified for implementation and on-going support?
6. Does the funding department, appropriate constituent committees (AACC/IACC/SC3/Academic Senate, etc.), ITS understand the functional benefits to implementing this solution and agree with this implementation plan? Often these are expressed in business process efficiencies, broader or more flexible service offerings, cleaner integration with existing systems or campus standards, lower security or financial risks, etc.
7. Have legal and policy issues been identified? Addressed? Approved?
   Examples are:
   a. ADA compliance,
   b. information security compliance,
   c. identification of data stewards,
   d. SEVIS,
   e. CSU standards,
   f. Campus Standards
8. Does the proposed solution meet university data security requirements such as confidentiality of the data, integrity of the data, accessibility / reliability of the systems, legal requirements, etc. Has the information owner and/or steward, been identified assigned, etc.
9. How does this fit into
   a. the ITS strategic plan?
   b. Teaching and learning efforts of the University?
   c. existing campus /Resnet IT infrastructure?
10. Do the administrators of the systems with which this system must integrate (e.g. data stewards for populating data sets, middleware, reporting, network, etc.) understand the functional benefits and ready to work with the sponsoring organization to integrate this system into other campus IT processes?
STRONGLY ENCOURAGED:
1. Is the transaction growth and potential for wider adoption been identified? This has a consequence on support overhead. (e.g. Are we prepared to invest additional support funds if this is more successful than expected?)
2. Comparison of maturity and standards compliance of the product and vendor against potential implementation and integration costs? Leading edge technologies can provide exciting potential for new services or re-tooling of business processes however, this should be balanced against the “babysitting” required to keep the product running.
   a. Is this solution an “industry standard” or is it proprietary?
   b. What service level agreement elements from the vendor are required to ensure reliable service?
3. Software does not invent business process. Has the sponsor group identified costs (consulting or reservation of existing functional staff time) involved in establishing new or revamped business processes in order to fully utilize the “tool” that the piece of software is providing?

PROCUREMENT CONSIDERATIONS
1. What is the best /available (procurement) process to guide this decision? Who needs to be involved / informed?
2. Review of acquisition strategy: Sponsor Unit (if applicable) + ITS to present to (AACC / IACC) for review in context of this framework.
3. Documentation to be supplied prior to review consistent with the overall framework checklist
4. Have the processes/rules been followed in a clear, precise, explicit fashion (e.g., procurement)
5. Is this a candidate for the development of a system-wide Master Enabling Agreement?

General Environment (Response Required):
1. Is this a good fit? For the Campus? At the System Level (CSU-wide)? Technically? Operationally? Strategically?
2. Have the processes/rules been followed in a clear, precise, explicit fashion (e.g., procurement)
3. How does this fit into the ITS/campus strategic plan? Teaching and learning efforts of the University?
4. Is this solution compatible with the existing campus /Resnet IT infrastructure?
5. Is this solution an “industry standard” or is it proprietary? If the latter, why was a proprietary solution selected over a non-proprietary one? Is this the only available option? What known and potential risks are involved?
6. Are there external entity and/or vendor management issues that should be considered when implementing? (e.g., security, network, service level agreement)
7. Is this a candidate for the development of a system-wide Master Enabling Agreement?

**Implementation Strategies:**
1. ITS will work with campus procurement offices to develop efficient processes to ensure effective application of this framework.
2. In consultation with the computing advisory committees, ITS will create working group(s) to review proposed software acquisitions. The group will bring recommendations to the full committee(s) for review and approval.
3. ITS will consult with individual units upon request to assist them in evaluating specific software acquisitions and applying the framework.
4. ITS will work with computing advisory committees and other appropriate campus bodies to inform the campus community about the framework.
5. ITS will provide information about the current IT environment (e.g., technical architecture) to support use of the framework by units/vendors.
6. Units are expected to apply the framework as indicated and to confer with ITS and the campus advisory committees as needed.