

## ITC Recommendations to ITS for FY09

### Introduction

In fall and winter quarters of fiscal year 2007-08, the Information Technology Committee (ITC) conducted a portfolio review process designed to produce recommendations to the Division of Information Technology Services (ITS) on top priorities for the coming year. In this process, ITC considered nearly sixty individual priorities presented by the five subcommittees of ITC, the ITS Senior Management Team, the Divisional Liaison Council, and the Academic Department Managers group.

In light of uncertainties in the campus budget environment, ITC chose not to make recommendations with specific dollar amounts. Rather, this year's process focused on providing ITS with guidance in the following:

- Advice on **general priorities** for FY09
- A list of **critical investments** – areas where ITS must find ways to make progress, even if it involves internal trade-offs
- **Recommended directions** in a number of programmatic areas where ITS staff will face daily decisions throughout the course of the year

### Criteria for Recommendations

Each year, ITC considers general priorities that act as guiding criteria for making recommendations. Previously, as ITS emerged from the IT Transformation Program as a newly formed division, ITC focused on the criteria of reducing risk, stabilizing services, and resolving critical needs and capitalizing on strategic opportunities.

Now, as the ITS organization matures, ITC expects that customer-facing priorities will join the core priorities of security and stability. This year's recommendations reflect both the previous criteria, and an expanded focus on areas that will create tangible, positive impacts for the campus community:

- **Stabilization:** ITC recognizes that substantial efforts are still required to stabilize core global IT services. Maintaining a catalog of stable services, including the core infrastructure, is a top priority
- **Security:** Protecting sensitive information, developing foundational security policy, and achieving compliance with laws, policies and best practices continue to be high priority activities for ITS
- **Creating Efficiency:** In a period of reduced funding, information technology can provide the campus with ways to achieve greater efficiencies. ITC places an emphasis this year on efforts that result in greater capacity and increased efficiency both within the division of ITS, and across campus. As an example, while there is no specific investment recommended, ITC looks to ITS to improve the end-user experience with Standard Desktop Support, as workstations are the primary tool used by clients to access all ITS services
- **Supporting Campus Partnerships:** Recognizing that recently-identified infrastructure investment needs can easily eclipse all other campus IT needs, ITC recommends that ITS also take care to support and make progress in areas that benefit campus partners

### Critical Investment Areas

The investment areas on the following list are considered by ITC to require critical attention in FY09. Each is described in greater detail in the "Recommended Directions" section on the following pages.

Each item is supported by cost estimates and resource requirements produced by ITS staff in an annual internal budget proposal process. However, ITC does not put these items forward as recommendations for full investment. Rather, this list represents the areas where the committee expects ITS to undertake planning for refining scope, phasing work, and making incremental progress. Some items may require full funding, whereas others may be advanced through trade-offs and prioritization.

Investment Area	Description
<b>Accounts Self-Service</b>	Roll out online password resets for CruzID accounts to improve self-service and create capacity for Help Desk staff
<b>Application Security Assessment</b>	Acquire application vulnerability assessment tools and engage external security assessments to improve the security environment for campus applications
<b>Asset Management</b>	Build on the foundation of Asset Management to roll out a managed desktop service, and enhance Standard Desktop Support
<b>Business Continuity / Disaster Recovery</b>	Continue ITS staffing and support for campus efforts in Business Continuity / Disaster Recovery
<b>CruzTime</b>	Stabilize the CruzTime calendaring system
<b>Curriculum and Leave Planning</b>	Develop a new platform for the Curriculum and Leave Planning application
<b>Digital Classrooms</b>	Continue project to provide baseline classroom technologies
<b>DivData</b>	Develop a new platform for the DivData application
<b>Existing Data Center</b>	Undertake critical infrastructure investments for stability, effectiveness, and security
<b>Emergency Communications Systems</b>	Pursue infrastructure improvements, including the Emergency Notification System and Cell Phone Emergency Power upgrades
<b>Foundational IT Security Policy</b>	Continue development of foundational policies and practices for campus IT security
<b>Human Resource Information Database</b>	Develop a tool to track and report on personnel data elements
<b>Pursue Identity Management Phase 2</b>	Consolidate the IdM service (CruzID), including security and refreshed hardware
<b>Security Compliance</b>	Take minimum steps to protect sensitive information and achieve reasonable security levels, as guided by IS-3 security policy
<b>Student Learning Management System</b>	Identify and implement a new student learning management system in support of teaching and learning
<b>Telecommunications Infrastructure</b>	Pursue emergency upgrade efforts to provide capacity for digital communications and stability for basic services
<b>Web Services</b>	Roll out enhanced web services, including web content management, roles and responsibilities, and web presence support
<b>Wired Network</b>	Address outmoded and insufficient wired networking infrastructure

## Recommended Directions

ITC recognizes that the list of critical investment areas above will provide guidance to those individuals who directly interact with these areas. However, service providers across the organization who are not involved with the items above will continue to face daily decisions that may benefit from governance input.

Below, ITC recommends directions for a number of topic areas. For each area, a recommendation statement describes the directions in which ITC would like to see progress. In support of this statement, investment options are ranked as “Top Options” and “Other Options” to provide an order of importance.

The investment options used here were taken from the proposals generated in the portfolio review process. They are not considered to be an exhaustive list of important work in these areas, but rather are provided as examples of work that illustrate the recommended directions.

<b>Topic Area:</b>	<b>Account Services</b>
<b>Recommendation:</b>	In the area of Account Services, ITC recommends a focus first on efforts that will create efficiencies within ITS (by reducing workload associated with maintaining accounts), followed by investments to ensure stability of services currently offered. Where opportunities for low-cost progress exist, ITS should find ways to expand functionality and resolve policy issues.
<b>Top Options</b>	
<b>Online Password Resets</b>	Roll out online password resets for CruzID accounts (CCSC, CSAC) [Uses existing resources]
<b>Identity Management Phase 2 (CruzID)</b>	Refresh necessary hardware, and meet core security and functionality obligations for the campus and the UC system (SMT, ITSC)
<b>Other Options</b>	
<b>Expand IdM Functionality</b>	Roll out additional functionality that will positively impact the campus, including role-based authentication, application authentication, email aliases, mailing list support, and new user populations (SMT, CSAC, DLC)
<b>Policy Development</b>	Resolve account policy issues, including support for alumni and emeriti (CCT)
<b>Additional Account Services</b>	Invest in additional campus account services, such as Active Directory and Kerberos [Additional resources to be contributed by partner division] (SMT)

<b>Topic Area:</b>	<b>Applications Security and Infrastructure</b>
<b>Recommendation:</b>	In the area of Applications Security and Infrastructure, ITC recommends efforts that move from merely reacting to security breaches to building security planning and activities into regular cycles. Security remains at the top of the priority list for ITC, with the expectation that as ITS matures, investments will move toward creating efficiencies and capacity for the campus.
<b>Top Options</b>	
<b>Security Compliance</b>	Take minimum steps to protect sensitive information and achieve reasonable security levels, as guided by IS-3 security policy (CSAC, SMT)
<b>Application Security Assessment</b>	Acquire application vulnerability assessment tools and engage external security assessments (CSAC, ITSC, SMT)
<b>Other Options</b>	
<b>Applications Infrastructure Renewal</b>	Undertake application infrastructure renewal projects on a regularly scheduled basis to provide adequate reliability and performance (CSAC)
<b>Applications Change Management</b>	Implement rigorous quality control and change management processes for applications [Uses existing Applications Solutions resources] (CSAC)

<b>Topic Area:</b>	<b>Applications that Enable Business Processes</b>
<b>Recommendation:</b>	ITC emphasizes the need to make incremental progress in areas that positively impact large numbers of campus users. Recognizing the priority of infrastructure issues in the current environment, ITC recommends an emphasis on phasing work, leveraging technologies, capacity management within Applications Solutions, and building replacement cycles into investments to mitigate large one-time costs.
<b>Top Options</b>	
<b>Curriculum and Leave Planning (CLP)</b>	Develop a new platform for the Curriculum and Leave Planning application (ADM, CSAC, SMT)
<b>DivData</b>	Develop a new platform for DivData (CSAC)
<b>Other Options</b>	
<b>Human Resource Information Database (HRID)</b>	Develop a Human Resource Information Database to track and report on personnel data elements, and link to PPS (CSAC)
<b>Faculty Online Recruitment</b>	Develop a Faculty Online Recruitment tool that reduces workload, and links to DivData (ADM, CSAC)
<b>Staff Learning Management System</b>	Roll out a Staff Learning Management System to track individual staff training and development efforts (CSAC)
<b>Future Options</b>	
<b>Departmental Applications Support</b>	Deepen support for departmental applications that impact daily workloads across campus, including Filemaker Pro applications and local systems like the Campus Calendar (DLC)
<b>Graduate Student Database</b>	Develop a Graduate Student Database that tracks information in a consistent and effective way, and links to AIS (ADM, CSAC)
<b>End-User Functionality</b>	End-user functionality improvements for business systems such as CruzBuy and RMS

<b>Topic Area:</b>	<b>Business Continuity / Disaster Recovery</b>
<b>Recommendation:</b>	ITC recommends an emphasis on continuing work to support emergency response technologies and progress on campus-wide disaster recovery efforts.
<b>Top Options</b>	
<b>Improve Emergency Communications Infrastructure</b>	Undertake infrastructure improvements, including Emergency Notification System and Cell Phone Emergency Power upgrades (ITSC, SMT)
<b>BC/DR Support Staff</b>	Continue ITS staffing for campus Business Continuity / Disaster Recovery efforts (ITSC, SMT)
<b>Other Options</b>	
<b>Restarting UC</b>	Match funds to participate in the emerging system-wide Restarting UC program (ITSC, SMT)
<b>Physical Security Systems</b>	Invest in staff support for physical security systems (ITSC, SMT)

<b>Topic Area:</b>	<b>Campus Collaboration and Document Management Tools</b>
<b>Recommendation:</b>	In the area of Campus Collaboration and Document Management Tools, ITC did not find investment options that match the priority level of this year's infrastructure and related needs. As a result, there are no High Priority recommendations in this area. However, ITC does recommend that ITS find ways to make opportunistic progress where possible (especially in cooperation with other divisions), without impacting other priorities.
<b>Options</b>	
<b>Explore Vendor Offerings</b>	Explore collaboration tools available through Google Apps for Education (CCT, CCSC)
<b>Document Management Service</b>	Provide a campus Document Management service to support storage and retrieval of electronic documents (CSAC)
<b>Campus Collaboration Service</b>	Provide a campus-wide collaboration service that supports tools like blogs, wikis, messaging, calendaring, and potentially open course ware (CSAC)

<b>Topic Area:</b>	<b>Data Center Stabilization and Expansion</b>
<b>Recommendation:</b>	ITC placed a high priority on necessary upgrades to the existing Data Center. In addition, ITC acknowledges the campus commitment to develop new data center space, and places a high priority on efforts to expedite this process.
<b>Top Options</b>	
<b>Existing Data Center Infrastructure Improvements</b>	Execute critical infrastructure investments to allow the existing Data Center to operate effectively and securely, including emergency systems upgrades, monitoring tools, backup/recovery enhancements, physical security upgrades, and emergency PDU repairs (SMT, ITAIC)
<b>Long Term Data Center Solutions</b>	Continue to explore options and pursue solutions for long-term campus data center needs, and communicate expectations to divisional partners (CCT, DLC, ITAIC)

<b>Topic Area:</b>	<b>Emerging Infrastructure Services</b>
<b>Recommendation:</b>	In the area of Emerging Infrastructure Services, ITC agrees with the SMT recommendation to prioritize these items below the critical core infrastructure issues highlighted this year by Core Technologies. However, ITC recommends that these areas be included and documented in ITS planning efforts. Where opportunistic and low cost efforts can keep up current momentum, ITC supports these general directions.
<b>Options</b>	
<b>Virtual Server Hosting</b>	Continue development of the emerging virtual server (VM Ware) service (SMT, ITAIC)
<b>Virtual Private Network</b>	Continue development of the emerging virtual private network (VPN) service (SMT, ITAIC)
<b>Storage Consolidation</b>	Pursue the Storage Consolidation project to provide services such as central file storage, digital archives, storage and backup solutions to desktops and remote servers (DLC, ITAIC, CCSC, ITSC)
<b>High Performance Computing Center</b>	Develop a High Performance Computing Center to support campus cluster needs (ITAIC)

<b>Topic Area:</b>	<b>Instructional Technology Infrastructure</b>
<b>Recommendation:</b>	ITC recommends an emphasis on instructional technology investments that positively impact the broadest base of campus. Investments in staff and equipment for services with more limited scope are therefore listed as lower priorities.
<b>Top Options</b>	
<b>Student Learning Management System</b>	Implement the Future Student Learning Management System (LTC, SMT)
<b>Digital Classrooms</b>	Continue the Digital Classrooms project to provide baseline classroom technologies (LTC, SMT)
<b>Other Options</b>	
<b>Learning Technology Support Staff</b>	Provide staff to support student computing labs as described in the Campus-Wide Student Computing Lab Support investment, and faculty in incorporating learning technology into their courses as described in the Faculty Instructional Technology Support investment (LTC)
<b>Learning Technology Equipment Replacement</b>	Provide stable, ongoing funding to support equipment replacement for instructional technologies, as in the IC Labs Equipment Replacement and Total Cost of Ownership for Equipment investments (LTC)
<b>Distance Education</b>	Upgrade support for distance education, as in JBEB classrooms (SMT)

<b>Topic Area:</b>	<b>Instructional Technology Innovation</b>
<b>Recommendation:</b>	ITC recommends finding ways to make low cost, incremental progress in instructional technology innovation. In the current cycle, ITC places higher emphasis on established technologies, but would like to see further documentation about demand for innovative services for evaluation in future cycles.
<b>Options</b>	
<b>Web Archiving</b>	Support for Classroom / Lecture Web Archiving service (LTC, SMT)
<b>Virtual Lab Services</b>	Develop expanded Virtual Lab services (LTC, SMT)
<b>Expanded Learning Technology Services</b>	Provide expanded instructional technology services such as Student Response Systems and Servers for New Instructional Projects (LTC)

<b>Topic Area:</b>	<b>Integrated Campus Enterprise Portal</b>
<b>Recommendation:</b>	ITC considers work on developing an integrated campus enterprise portal to be prioritized below related efforts, such as Web Content Management. A portal continues to be a long-term goal for ITS and the campus, and ITC supports finding low-cost opportunities to advance this work, and recommends that ITS keep this topic at the forefront in planning and phasing.
<b>Options</b>	
<b>Integrated Campus Enterprise Portal</b>	Develop a campus enterprise portal that incorporates IdM to increase productivity and provide an integrated, professional environment (DLC, CSAC, ADM)

<b>Topic Area:</b>	<b>Productivity Tools</b>
<b>Recommendation:</b>	In the area of Productivity Tools, ITC recommends continuing efforts at stabilization, while pursuing low-cost opportunities for feature development.
<b>Top Options</b>	
<b>CruzTime Stabilization</b>	Stabilize the CruzTime calendaring service (SMT)
<b>Other Options</b>	
<b>CruzMail Feature Development</b>	Enhance CruzMail through development of features like mailing lists (SMT, CCSC, CSAC)
<b>Outsource Student Email</b>	Investigate outsourcing select components of the CruzMail service (CCSC, ITAIC, SMT)

<b>Topic Area:</b>	<b>Security Compliance</b>
<b>Recommendation:</b>	ITC recommends taking reasonable steps to comply with legislation, policy, and regulations. The highest priority is placed on continued development of foundational IT security policy, with lower priority placed on tools and functions that have less criticality. ITC endorses finding low-cost ways to make progress in each of these areas.
<b>Top Options</b>	
<b>Foundational IT Security Policy</b>	Continue development of foundational IT security policy and practices, including staff support and tools for security program planning and implementation (SMT, ITSC)
<b>Other Options</b>	
<b>Campus Security Software</b>	Provide additional anti-viral and anti-spyware software tools to help users with security (CCSC)
<b>Security Awareness and Training</b>	Better inform and equip users to secure restricted data, including continuing training and awareness efforts, and developing encryption options for desktops and laptops (CCSC, ITSC, SMT)

<b>Topic Area:</b>	<b>Support Services Improvements</b>
<b>Recommendation:</b>	In the area of Support Services Improvements, ITC recommends pursuing efforts that positively impact the end-user experience, including continuation of the Asset Management project.
<b>Top Options</b>	
<b>Asset Management</b>	Build on the foundation of Asset Management to roll out the managed desktop service (CCSC, SMT)
<b>Other Options</b>	
<b>ITS Supported Software</b>	Expand ITS-Supported Software services (SMT, CCSC)
<b>Desktop Support Response Time</b>	Improve response time for hardware / software problems (ADM)

<b>Topic Area:</b>	<b>Telecommunications Infrastructure</b>
<b>Recommendation:</b>	ITC recognizes that emergency upgrades to the Telecommunications Infrastructure are a critical priority for the campus in the current cycle.
<b>Top Options</b>	
<b>Emergency Infrastructure Upgrades</b>	Invest in emergency upgrade efforts to provide capacity for digital communications and stability for basic services, including the Ericsson Switch and the network portion of the campus voice switch, improvements to exterior cellular telephone coverage, and in-house tactical and master planning for voice and data communications in the long-term (SMT)

<b>Topic Area:</b>	<b>Web Support and Content Management</b>
<b>Recommendation:</b>	ITC places a high priority on the development of web services to support the campus, including tools like web content management that will create efficiencies, as well as partnerships to support a consistent web presence and strengthen roles, policies, and procedures.
<b>Top Options</b>	
<b>Develop Web Services</b>	Roll out enhanced web services, including web content management, roles and responsibilities, and web presence support (SMT, CCSC, CSAC)
<b>Web Contract Service</b>	Develop a recharge web contract service for units requiring design, development, maintenance and training services not funded as global projects (SMT, ADM, CCSC, CSAC)

<b>Topic Area:</b>	<b>Wired Network</b>
<b>Recommendation:</b>	In the area of the campus Wired Network infrastructure, ITC recognizes that the campus requires critical upgrades, as described in the <i>Core Technologies Renewal Strategies</i> report. ITC places a high priority on efforts to upgrade campus-wide infrastructure, and recommends an opportunistic approach to resolving local pain points.
<b>Top Options</b>	
<b>Campus Network Infrastructure Improvements</b>	Pursue investments that address outmoded and insufficient wired networking infrastructure, including refreshing local switch electronics, backbone capacity improvements, enhanced network security monitoring and intrusion detection, and in-house long-term master planning (SMT, DLC, ITAIC)
<b>Other Options</b>	
<b>Local Network Infrastructure Improvements</b>	Address local problem areas where insufficient wired network infrastructure represents a great burden on campus customers, including the University Library (future need) (DLC, LTC)

<b>Topic Area:</b>	<b>Wireless Network</b>
<b>Recommendation:</b>	ITC recognizes that wireless networking services are highly dependent upon the wired network infrastructure, and as such are a relatively lower priority in the current cycle. Therefore, ITC recommends only incremental improvements to the CruzNet service, and progress in developing policies and planning to support future investment.
<b>Other Options</b>	
<b>Enhance Wireless Network</b>	Enhance wireless network, including coverage areas (LTC, DLC, CCT)
<b>Wireless Policies and Planning</b>	Address policy issues and strategic planning for the wireless service [Costs absorbed by existing resources] (SMT, DLC, ITAIC)