IT Service Delivery
Vision

Project Team Report
December 2003
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1 Executive Summary

This report summarizes the work of the IT Service Delivery (ITSD) Project team from October 1 to December 4, 2003 as part of the overall EBC initiative for the UCSC campus.

1.1 Project Objectives

- Develop and implement a new IT Service Delivery Model to optimize performance and productivity of IT-related services.
- Ensure that the IT strategy is closely aligned with the campus strategy.
- Clearly define the IT services required to serve business needs and the best way to source and deliver them.
- Define clear roles and responsibilities for the delivery of IT services.
- Maintain or enhance IT Service levels to clients.

1.2 Figure 1: Proposed IT Service Delivery Model
The team defined a set of design principles to guide the development of the model. These principles were grouped into six categories (details of these principles may be found in the main body of this report):

- Establish coherent delivery and value of IT services campus-wide through consolidation.
- Produce cost savings for the university.
- Focus on client service.
- Be adaptive and responsive.
- Be open to the larger influences beyond the client relationship.
- Recognize people in the IT community as essential resources.

The proposed model shows services as either consolidated services (inside the blue and pink chevron area) or local, specialized support services. The model was built to balance and integrate six key design aspects: Behind-the-Scenes Services, Client Services, Client Feedback, Dedicated Specialized Support Services, Funding, and IT Governance.

In the proposed model, the Office of the CIO would be the heart of the consolidated IT organization. The CIO Office would also be designed using the IT service delivery principles. The CIO Office would have:

- **Responsibility** for strategically planning and implementing IT services that align with campus and divisional goals,
- **Authority** to orchestrate all IT services on campus, and
- **Sufficient funding** to plan and implement portfolios of services.

### 1.3 Expected Benefits from Model Implementation

- **Consistency in Client Service Levels.** Clearer definition and delineation of services, unified problem tracking and resolution mechanisms.
- **Improved IT Alignment and Value.** Better visibility of emerging IT needs and projects across campus, that in turn allows for better planning and alignment of IT resources with campus priorities.
- **Better IT Cost Management.** Overall visibility of IT costs, fewer resources required from consolidation, elimination of unplanned redundant services or applications, campus-wide leverage of IT spending.

### 1.4 Next Steps & Recommendations

The IT Service Delivery Model represents a vision of the future delivery of IT services at UCSC. The next step in the IT Transformation effort is to interpret this model into a set of actionable projects to transform the IT function on campus and recast service delivery into the new model. This migration planning exercise will be informed by the results of the IT Data Collection project which has characterized the current state of IT on campus.

Work on this migration planning effort has already begun with IT Leadership (Larry Merkley and the IT Advisory Committee) with the intent of launching a series of migration projects over the next few months to realize the IT vision presented here.
2 Background

The IT Service Delivery Model (ITSD) Project was commissioned as a part of the Executive Budget Committee (EBC) Process. This document summarizes the final recommendations of the ITSD Project team and their work from October 1, 2003 to December 4, 2003.

Due to the current California budget crisis and the consequent cuts in state funding, the campus needs to reduce expenditures. UCSC leadership has chosen to address this challenge by taking a campus-wide strategic approach to cost reduction through the EBC process. The IT function and IT Services can contribute in two essential ways to this critical process by:

- Enabling the appropriate technology for specific EBC cost reduction initiatives such as eProcurement or Time and Attendance (T&A).
- Redesigning the management and delivery of IT Services to manage IT costs campus-wide.

Under this first phase of the IT Transformation two separate but related projects were identified:

1. The IT Data Collection Project collected information on IT assets and how IT services are currently delivered on campus (by whom, for how much cost, using what resources).
2. The IT Service Delivery Model Project focused on developing a future state vision of how IT Services might be delivered.

Specifically, the ITSD project team sought to address these issues:

- Information technology services must strategically support the mission of the campus and enable achieving the goals that are set forth by campus leadership.
- The IT community needs an effective structure and delivery mechanism.
- The IT community needs to find a way to improve the client experience while offering the ability to manage the “costs” that are associated with service delivery.

This has not been an easy task since it requires striking the right balance between creating overall IT efficiencies, serving a varied group of user constituencies, and critically examining the trade-off between managing overall IT costs and managing service levels.

Collectively, the work of the IT Data Collection and ITSD teams paints a picture of where IT stands today and where it should go in the future. The model presented is a beginning, not an end point. It will evolve and be further informed by subsequent design and implementation. The team has attempted to create a vision that will address the short-term cost reduction needs of UCSC and also will evolve gracefully to support the future needs of the campus in an effective and cost efficient manner.
2.1 How are IT Services Delivered Now?

The IT Data Collection project identified 294 employees who met the test of “performing IT work” IT staff on campus\(^1\). These employees deliver a variety of IT services from 52 different IT organization units on campus. These organizations fall into two categories:

1. A central Information Technology Services (ITS) organization led by Vice Provost Larry Merkley.
2. Multiple decentralized IT organizations within the campus units. Each IT organization reports to leadership within the unit and has its own IT leader in the campus unit.

Figure 2: Distribution of IT Workers at UCSC

\(^1\) Source: IT Data Collection Project.


IT Services Delivered by Division

The central ITS organization provides networking, phone services, email, administrative computing (student information system, financial systems, etc.), workstation support to Chancellor’s Office units, classroom and event presentation services, instructional computing labs, academic course materials development and web services, as well as contract and recharge technical support services across campus. The ITS function was formed in February 2003 by bringing together Communications and Technology Services (CATS), Media Services and the Chancellor’s Office Administrative Systems and Technology (COAST).

The IT organizations within the units vary in size and scope. They provide services ranging from workstation support to very specialize computing support for teaching and research.

The result for the campus as a whole is a myriad of duplicated services, and an IT environment that is not well standardized. For example there are 14 disparate mail systems in use on the campus with no integrated directory services.

Figure 3: IT Services Delivered by Division
Faculty, staff and students express frustration because:

- They don’t know where to go for service.
- Services are inconsistent or unnecessarily redundant across the campus.
- Central and some local IT services (email, file services, security, software licensing, etc.) are not sufficiently robust.

In July 2003, Provost John Simpson recommended that the campus consider reorganizing IT services so that all IT services report to ITS, except in areas where it did not make sense to do so.

### 2.2 Current State Problems

The current policies, practices and procedures for delivering IT services are inefficient and may expose the University to a level of risk. The model that has been evolving over the past decade may have worked well for a smaller institution, but does not scale effectively as the University continues to grow at a fast pace. Although individual user satisfaction is believed to be fairly high in some areas, the current method of service delivery does not take advantage of economies of scale and best practices.

#### 2.2.1 What specific problems are we trying to solve?

There are several big problems, but some stand out more than others. Each of the following issues was identified as a problem by at least some team members. However, not all IT Vision team members agreed that every issue is a problem. The list was presented to the campus community to encourage a wider examination of the issues by faculty, staff and students.

1. The immediate problem we are trying to solve is how to **strategically reduce the overall campus expenditures**, rather than simply take an arbitrary percentage cut in all UCSC units.

2. Currently the campus has **few standards for hardware and software**. There are guidelines, but not real standards. We are missing opportunities for leveraging buying power and economies of scale in technical maintenance.

3. In the current IT service model, there are **redundant services** offered by different IT units (in other words, one IT unit offers a service, and a second IT unit offers the same service). Providing redundant services might cost more than it would if only one organization provided the service.

4. In the current service model, there are **multiple points of contact**, not a single point of contact, for clients to go for IT services. Clients are sometimes frustrated because they don’t know who is responsible and accountable for solving their IT problems.

5. Because faculty and staff in a single organizational unit are often located in different areas of the campus, **IT staff in some organizations may be located across campus from some of their clients, resulting in delayed response**. Some faculty who participated in the recent World Café process expressed frustration about
needing IT support while they were teaching, and experiencing a delayed response because IT staff were not nearby.

6. There is no single IT problem tracking system that is used by all campus IT staff. There are some IT units that have very good problem tracking systems, and there are several problem-tracking systems used on campus. However, the problem tracking systems are not integrated. If a client requests service from a local IT staff, and the client asks for assistance from CATS about the same or different problem, the two IT service providers don’t know the IT problem history of the case. The two problems may be related, and it may take IT staff longer to resolve the problem.

7. Applications systems across the campus are not well integrated, so data needs to be re-entered, or data from one system cannot be analyzed with data from another system.

8. There is no workflow procedure or formal content management standards for publishing web sites. Clients with vision impairments have difficulties with navigation and are unable to access some material on UCSC web sites. In addition, web sites are inconsistent about academic program requirements, or present information before final approval.

9. Many workstations and servers are not backed up regularly, or if they are, it is a manual process in many units.

10. Significant staff time is devoted to the security of servers and workstations amidst ongoing vulnerabilities, increasing exploitation activity and additional legislative requirements.

2.2.2 What are the Boundaries?
All IT services provided on campus were considered within the scope of this IT Service Delivery Model project.

2.3 Project Objectives
- Develop and implement a new IT Service Delivery Model to optimize performance and productivity of IT-related services.
- Ensure that the IT strategy is closely aligned with the campus strategy.
- Clearly define the IT services required to serve business needs and the best way to source and deliver them.
- Define clear roles and responsibilities for the delivery of IT services.
- Maintain or enhance IT Service levels to clients.

2.4 Expected Benefits
There are a number of benefits expected from implementing a new IT Service Delivery Model, and those benefits fall into three broad areas:
- Consistency in Client Service Levels. Clearer definition and delineation of services, unified problem tracking and resolution mechanisms.
• **Improved IT Alignment and Value.** Better visibility of emerging IT needs and projects across campus, that in turn allows for better planning and alignment of IT resources with campus priorities.

• **Better IT Cost Management.** Overall visibility of IT costs, fewer resources required from consolidation, elimination of unplanned redundant services or applications, campus-wide leverage of IT spending to obtain better pricing from hardware and software vendors, etc.

### 2.5 Project Team and Project Approach

#### 2.5.1 Project Team Members

The project team consisted of 16 members representing a wide variety of UCSC organization units:

- Ed Boring, Physical and Biological Sciences Division
- Scotty Brookie, Arts Division
- Coleen Douglas, University Relations
- Jim Genes, School of Engineering
- Beth Guislin, Information Technology Services
- Steve Hauskins, Physical and Biological Sciences Division
- Bruce Horn, Information Technology Services
- Lee Jaffe, University Library
- Chris Kamalani, Business and Administrative Services
- Troy Lawson, Office of Planning and Budget
- Warren Mikawa, Student Affairs Division
- Ethan Miller, School of Engineering
- Davi Ottenheimer, Chancellor’s Office Administrative and Systems Technology
- Janine Roeth, Information Technology Services
- Brad Smith, School of Engineering
- Dan Snodgrass, Humanities Division

Mel Barracliffe, AVCOR consultant, provided facilitation, guidance and project management for the team.

#### 2.5.2 Reviewers and Advisors

The team reported its progress and sought guidance from Larry Merkley, Vice Provost Information Technology, and the ITS Advisory Committee comprised of Patrick LeCuyer, Assistant Vice Chancellor, Communications and Technology Services; Bill Hyder, Assistant Provost and Assistant Dean Social Sciences Division, and Terry Schalk, Adjunct Professor, Physics.
At key points in the process the team solicited input and feedback from various stakeholders through one-on-one discussions, feedback sessions at Cafés for faculty and IT Staff, IT Town Hall meetings, and through the ITS web site. Formal reviews were also held with the ITS Advisory Committee.

2.5.3 Project Approach: From Principles to Final Proposed Model

Figure 4: Project Approach, illustrates the steps taken by the team to create the IT Service Delivery Model. A series of team work sessions were held from October 1 to December 4, 2003 to progressively develop a set of common principles, identify current issues and questions, and produce the final model.

The team began by collectively examining the project objectives, the required deliverable (IT Service Model), and the IT issues and challenges that needed to be addressed by the model. The team also started to research leading practices in the area of IT Service Delivery within the Higher Education community and in other sectors. The team then focused on answering key questions around four main aspects of a formal IT Services model:

- **IT Services:** How should IT services be defined, identified, categorized and managed?
- **IT Principles:** What are the guiding principles that would influence and shape the development of the IT Service Model?
- **IT Organization:** How should the IT function be organized to maximize the quality of service delivery, minimize the overall cost of service delivery for the campus and yet be adaptive to changing needs?
- **IT Governance:** How should the IT function be aligned with and accountable to the evolving needs of the campus? How will IT decisions be made so that IT remains responsive and aligned with its clients?
For the next step, the team reorganized into three sub-teams. Each sub-team created an alternate IT Services Model based on the common principles and ideas generated in earlier steps. This was done with the intention of injecting more creativity into the model development process and to enable certain opposing ideas to be fleshed out and compared. The 3 models were then presented within the team and to various stakeholders for feedback.

Finally after further review and discussion with the IT Advisory Committee and with Larry Merkley, the team built a common unified IT Service Model based on the previous three models. This refined model forms the basis of this report and is presented in the section entitled *Proposed IT Service Delivery Model*. 
2.6 Principles for Model Foundation

The team developed a set of design principles to act as guidelines for the creation of the new service delivery model. These principles have been grouped into six categories below.

**Establish coherent delivery and value of IT services campus-wide through consolidation:**

- The consolidated IT organization manages baseline IT services for campus-wide use.
- Baseline IT services represent the portfolio of common services used by the campus.
- Baseline IT services are characterized by: standards, efficiencies, scalability, common tools, coherence campus-wide, and a predictable funding base.
- Specialized IT needs that are not part of baseline services are locally initiated and funded.
- Office of the CIO establishes a common culture and values for the broad IT community.

**Produce cost savings for the university:**

- Assess cost savings proposals for their interrelated impacts on people, things, and processes in the context of the whole institution.
- Limited cost savings may be achieved through the IT organizational consolidation process alone.
- Further cost savings are achieved by undesired scaling down or eliminating baseline IT services.
- An investment in IT often provides savings or a return elsewhere on campus.

**Focus on client service:**

- Understand needs, manage expectations, and incorporate feedback through clear, frequent dialogue among clients and IT staff.
- Provide well-known client point(s) of contact and advocacy.
- Take responsibility for resolution of a client’s issue.
- Facilitate easiest access to services and support through a multi-mode approach.
- Represent the portfolio of baseline services to users with Service Level Agreements.
- Services support client needs; clients and providers are accountable as the needs evolve.
- Users’ rights and responsibilities are well known.
- “Clients” exist throughout the chain of IT service delivery. Note that IT staff are considered to be clients of other IT staff when they depend on each other for services.
- IT staff keep their commitments to clients and to each other.

**Be adaptive and responsive:**

- Adaptability is evident in all aspects of IT.
- Obtain and integrate feedback from all sources to catalyze adaptation and responsiveness.
• Services evolve over time from innovation to production to elimination. This is the IT Service Life Cycle.
• Innovation: support new ideas, effective project management, planning, and nimble design.
• Production: support operational robustness, efficiencies, and management of risks.
• Elimination: support timely removal of out-dated services.

**Be open to the larger influences beyond the client relationship:**
• Balance local needs with campus-wide perspective.
• Promote the free flow of information towards new opportunities.
• IT services are responsive to ethical, legal and policy influences.
• Services are interdependent and interrelated; “silos” promote undesired separation.

**Recognize people in the IT community as essential resources:**
• Promote collaborative engagement and learning.
• Keep IT staff passionate about their jobs.
• Develop quality career paths for staff and student employees.
• Map current IT expertise and jobs to IT service delivery vision.
• Understand ethical responsibilities regarding IT employees.
• Push decision-making authority to the lowest appropriate level.
• Recognize that physical consolidation of IT staff is not a requirement.

### 2.7 Consolidated vs. Decentralized IT Services

Managing Information Technology (IT) for a diverse and large campus is a complex problem that must address many fundamental issues from resource allocation to quality assurance and accountability. A decentralized system has many well-known advantages, as well as particular disadvantages, that will be discussed here in comparison with a consolidated approach. The debate centers around finding the correct balance for the tension that exists regarding control, innovation, and priority management at the campus and local levels.

To demonstrate some of these issues, Applegate, McFarlan, and McKenney in their book *Corporate Information Systems Management* (1999, p. 180), provide a description of some of the consequences of excessive domination by IT and by Users:

*Possible Implications of Excess User Dominance*

- Too much emphasis on problem focus.
- IT feels out of control.
- Explosive growth in number of new systems and supporting staff.
Multiple suppliers deliver services. Frequent change in supplier of specific service.

Lack of standardization and control over data and systems.


Few measurements/objectives for new system.

Technical advice of IT not sought; if received, considered irrelevant.

User buying design, construction, maintenance, and operations services from outside.

User building networks to own unique needs; not to (organization)

Some users are growing rapidly in experience and use, while others feel nothing is relevant because they do not understand.

No coordinated effort between users for technology transfer or learning from experience.

Growth in duplication of technical staffs.

Dramatically rising communications costs because of redundancy.

Duplication of effort and input everywhere because different data, hardware, and communications will not allow seamless movement.

Possible Implications of Excess IT Dominance

Too much emphasis on database and system maintenance.

All new systems must fit data structure of existing system.

All requests for service require system study with benefit identification.

Standardization dominates with few exceptions.

IT designs/constructs everything.

Benefits of user control over development discussed but never implemented.

Study always shows construction costs less than outside purchase.

Headcount of distributed minis and development staff growing surreptitiously.

IT specializing in technical frontiers, not user-oriented markets.

IT spending 80 percent on maintenance, 20 percent on development.

IT thinks it is in control of all.

Users express unhappiness.

Portfolio of development opportunities firmly under IT control.

No strong user group exists.
The authors conclude that “The user tends toward short-term need fulfillment (at the expense of long-term architectural IT structure and orderly development), while the IT department can become preoccupied with the mastery of technology and an orderly development plan at the risk of a slow response, or no response, to legitimate user needs. Balancing the roles of these two groups is a complex task that must be handled in the context of the (organization’s) culture.”

UCSC must address this IT balancing act to design the optimum service delivery model, in the same fashion as any higher-educational enterprise organization. The current environment has been described as highly-decentralized, as illustrated by the following observations:

**IT staffing levels vary widely among campus units**

Local units (e.g. departments) may have the right number of IT staff to meet user expectations, when well-funded and well-managed. However, this is not the case in many units, which can result in:

- **A heavy emphasis on having “Jacks/Jills of all trades”.**

  Local IT folks are often expected to handle everything from basic desktop software support to server management and complex application development. IT managers and unit managers may have unrealistic expectations about what an IT professional should be expected to handle successfully. This situation has led to extremely long delays with development projects and user support, and may result in IT specialist discontent and matriculation. It can also create a loss of management trust in local IT staff.

- **Unclear distinction between development (R&D) and operational responsibilities.**

  Although in the short-term a blend may help lessen lifecycles and increase control over functionality for users, it also significantly increases long-term costs of maintenance such as upgrades, lifecycles, risk of failure and/or downtime. In addition, there is a natural tension between these disciplines that needs to be recognized to create opportunities for specialization, depth of knowledge and professional growth.

- **Support of widely diverse user needs with small IT groups**

  Local IT units may simultaneously support very diverse constituencies

  - faculty, administrative users, staff and students
  - clients with complex and/or basic IT skills
  - clients with complex and/or basic IT needs
  - clients on diverse systems (UNIX, Windows, MacOS)
  - clients with significant and/or no funding

  A decentralized model has no mechanism to adequately support all these user types.
in a single constituency, without building a sizable local organization made up of multiple specialists.

- **Higher cost of IT support per unit**

IT managers in smaller units typically only have the opportunity to have one or two technical staff. Since some work is very technical, specialists are often hired. However, many of the support duties are also very basic, and could be handled by less experienced IT staff. A campus-wide pool of IT talent would allow for the right level of expertise for the client’s particular needs.

- **High degree of variability in services offered within different units**

Inconsistency of support can be a result of IT funding differences between local units or unqualified staff. Some local units have well-resourced IT groups, able to innovate and fulfill departmental needs quickly and appropriately. Other factors that come into play are the abilities of the local IT staff at any given time, as well as local differences in need.

**Reliance on IT middle management**

- **Expensive redundancy in IT middle management**

Highly decentralized IT requires a technology manager or director for every local unit in order to maintain some level of service consistency. While these middle managers are arguably important in their client liaison and supervisory roles, they add a layer of expense to the deployment of IT services in the aggregate. If the client liaison role filled by the technology manager were consolidated, there could be more effective strategic planning as the unit needs from across the campus are juxtaposed.

- **Not necessarily aligned with strategies in other units, or campus-wide**

Local IT managers fill the role of a “mini-CIO” who handles both tactical and strategic IT for his or her division. Strategies and policies developed locally may be out of alignment with standards in other units, the central IT unit, or best practices in general.

**Inconsistent availability of commonly needed client oriented services**

It is difficult to share similar basic services among and across units. Clients may need to contact several organizations, some of which offer redundant services, to find resources available to provide the service they need. UCSC has no commonly shared Client Service Desk or Help Desk. A user must go one place for classroom support, another for laptop support, and another for network support. Each unit has its own service methodology. For example, there is no campus-wide request tracking system, and different units may be unaware of a client’s IT existing needs and past requests. IT technical staff often handle administrative duties in very small quantities and without efficient processes, such as inventory management and purchasing requests, which can carry a high opportunity cost.

Shared services in a consolidated model might include a campus-wide client service desk, self-service online portal, call tracking system, purchasing office, inventory management system, training services, IT architecture and standards management, a client service portfolio, and campus-wide IT regulatory compliance management.
Lack of IT staff mobility options

The lack of formal opportunities for professional growth within a unit and between units diminishes the opportunity for talent to find their best fit. Furthermore, because there is no single individual who has authority to redeploy campus IT resources to meet areas of high demand, one unit might be overwhelmed while another is looking for projects.

Minimal cross-divisional, campus-wide collaboration

It is difficult to mount campus-wide IT efforts requiring collaboration among local units. The CruzTime calendar software project undertaken three years ago was one of the most extensive cross-campus collaboration efforts attempted for IT, but it required extensive time and effort in building consensus for adoption. Such collaborative efforts are difficult to orchestrate and carry out on an ongoing basis. The central IT unit is not structured and empowered enough to draw from the critical mass necessary to be effective across the entire enterprise. This leads to a more expensive consultative role with a disconnect between strategic enterprise designs and implementation performed at the local level.

In summary, a decentralized environment certainly works well for some clients and IT staff, and not so well for others. There is no question that a set of highly specialized, discipline-specific services are needed in a number of local units, for example scientific research that requires specialized systems and support and theater arts lighting. Central IT has the charge of providing campus-wide services, but has faced funding constraints and other organizational challenges. The ITSD Team has considered the benefits and downsides to both decentralized and consolidated IT at UCSC, and recommends a more consolidated approach to improve IT service delivery.

REFERENCE:

# 3 Proposed IT Service Delivery Model

The team began its deliberation with the assumption that all IT services would be a part of the consolidated IT service organization unless an argument could be made for keeping the service at the local unit. First we looked at what elements need to be included in a service delivery model. The six general elements that the IT Vision Team has considered as essential for an IT service delivery model are shown in Figure 5: IT Service Delivery Elements below. In general, the team considered each element on a continuum. For example, the funding continuum asks the question, “Should IT funding be kept in the units or in a central organization, or some combination?” We had lively discussions among ourselves at IT Town Hall meetings about these general elements to guide us in developing a model to answer the two questions:

- What services should be delivered in the new model?
- How should staff be organized in the new model?

**Figure 5: IT Service Delivery Elements**

The ITSD team considered the six elements shown above and through the process described earlier and developed the following proposed future state UCSC IT Service Delivery Model.
The proposed model shows services as either **consolidated services** (inside the blue and pink chevron area) or **local, specialized support services**. The team generally agrees on the model, but the details need to be further developed in the next phase of the IT Transformation Initiative. The following sub-sections describe the various elements of the model.
3.1 Consolidated: Services from the CIO Office

In the proposed model, the Office of the CIO would be the heart of the consolidated IT organization. The CIO Office would be designed using the IT service delivery principles discussed earlier in this report. The CIO Office would have:

- **Responsibility** for strategically planning and implementing IT services that align with campus and divisional goals,
- **Authority** to orchestrate all IT services on campus, and
- **Sufficient funding** to plan and implement portfolios of services.

With a strong Office of the CIO, the campus will have the opportunity to **strategically manage the overall IT campus expenditures**, rather than simply taking an arbitrary percentage cut in all IT units.

The elements of the proposed Office of the CIO would include:

- Feedback, Quality Management, Communications and Community Engagement
- Divisional Liaisons
- Architecture and Standards
- Business Office: Strategic Purchasing and Asset Management
- Portfolio Management
- IT Research and Development

3.1.1 Feedback, Quality Management, Communications and Community Engagement

In order for the consolidated IT organization to be adaptive, it needs to **receive feedback from a wide-range of sources**—clients, IT staff, UC System, State of California, and the larger society. The IT organization needs to use that feedback to learn, take advantage of opportunities, and change appropriately. Feedback and adaptation is essential for the ongoing success of the consolidated IT organization.

**Quality management** focuses on delivery quality services consistently over time. Quality management involves:

- Clients – understanding their needs, managing their expectations with tools such as service level agreements, and providing appropriate services.
- IT Staff – managing individual performance to ensure responsiveness to clients, providing accountability to clients, collaborating campus-wide, and demonstrating principle-based leadership.
- The Consolidated IT Organization as a Whole – managing the strategic effort to provide the campus return on investment, responding to governance, and assessing services.

Faculty, staff, and students are concerned that in a consolidated IT organization there will not be a process to give feedback about services (particularly if the client is dissatisfied with the service), and to participate in planning services. At one Faculty Café, some faculty told team members that they want an audit-like function for quality management, where assessment is conducted outside the Client Services organization.
Targeted and timely communications about IT Services is another important element of the Office of the CIO. The soon-to-be-implemented enterprise portal combined with the anticipated identity management (directory) system will facilitate targeting communications to faculty, staff, students and prospective students. These clients ideally will receive only the IT news they need, when they need it.

In addition to communicating about IT services to clients, the IT staff (and technically-advanced clients) will want IT-related news. One example from another campus is UCLA’s online newsletter, iCompass (www.icompass.ucla.edu). iCompass is a single source of IT news and information for IT providers on the UCLA campus. iCompass promotes coordinated autonomy across the various organizations that provide IT services, including web developers.

The success of any IT venture relies on people to make it happen. For consolidated IT to be successful, the people in the IT community need to be engaged in the process and understand what is expected of them as the campus goals change. We need to establish a common culture and values for the new IT organization. We need to promote collaborative engagement and learning among our IT professionals, and help them to keep their passion about their work. Transitioning from a highly decentralized to a consolidated organization will require levels of collaboration rarely seen on campus.

### 3.1.2 Divisional Liaisons

In the proposed model, each Division and corresponding principal officer would have an assigned Divisional Liaison. The Liaison would be an experienced IT professional who could meet regularly with the principal officer and others in the division. Each Divisional Liaison would:

- Advocate for Divisional needs within the consolidated IT organization
- Engage in dialogue with the principal officer and others in the division to better understand divisional IT needs to meet the division’s strategic goals.
- Handle the normal, non-operational IT management issues that are handled now by divisional IT directors, such as coordinating IT service needs and plans for a new building.

In addition to working out details for these proposed Divisional Liaisons, in the next planning phase, the team will need to consider if the Liaison group should include advocates for each general constituency such as administrative, academic, and student constituencies.

### 3.1.3 Architecture and Standards

The campus currently has guidelines, but few specific standards for hardware and software. With strong hardware and software standards, we likely would reduce purchasing, and maintenance costs, and reduce the time for setting up hardware and software. If there were improved architecture standards, for example, we would be more likely to have administrative application systems that could exchange information easily.

### 3.1.4 Business Office: Strategic Purchasing and Asset Management

The campus has begun to leverage buying power through the Purchasing Department’s computer agreement with UCLA and a corporate hardware reseller (KST). However, with
strong hardware standards, we could increase our savings. The Business Office in the consolidated organization will play an important role in strategic purchasing practices, and in developing specifications for a new system to tie together purchasing and asset management, including maintenance and inventory schedules.

3.1.5 Portfolio Management

This function would manage the portfolio of services available to clients and the IT service life cycle. The portfolio would evolve over time in response to funding, technology advancement and application evolution. A service would be started, maintained, and eventually decommissioned in its life cycle. Service portfolio management allows organizations to reap savings from standards, improve client satisfaction through service integration, and improve IT staff satisfaction through clear communications about which services are on the menu, and which services are not on the menu.

Service portfolios are dynamic. They are designed initially with strategic, technical, and operational governance committees. Those committees are comprised of IT clients, principal officers, campus executives, and IT professionals. Periodically, the Office of the CIO updates service portfolios by adding some new services, and removing other services from the portfolios.

Currently, we do not have service portfolios, but we do recognize the life cycle for IT services. For example, File Transfer Protocol (FTP) has been used for years by faculty, staff and students to transfer files from desk computers to AFS central storage. FTP service is not secure, and ftp will be decommissioned on December 15, 2003. Instead, clients are transitioning to Secure File Transfer Protocol (SFTP), and as of December 15, 2003, they will only use SFTP, not FTP.

3.1.6 IT Research and Development

The Divisional and Constituency group Liaisons will hear about Divisional and Constituency anticipated needs, and know if the service portfolio will meet those future needs. If not, then the Office of the CIO staff assigned to research will be charged with researching solutions that can be added to the service portfolio.

3.2 Consolidated: Client Services

Client Services is shown in the large blue chevron-shaped area of the proposed model. In today’s campus environment, there are multiple points of contact, and multiple organizations for clients to visit for IT services. Currently, faculty, staff and students are frustrated at times because they don’t have a single IT representative who is responsible and accountable for ensuring their IT needs are met.

Client Services includes hardware setup and maintenance, software licensing, workstation support, troubleshooting, and training. Client Services would have primary responsibility for maintaining a campus-wide client relationship management (CRM) system that includes request tracking and could be used by all campus IT staff.
The proposed model incorporates three important elements in Client Services to improve service, response time, and accountability. The proposed Client Services organization would include:

- **Enterprise Portal for IT Self-help**: The consolidated IT organization will provide extensive information and automated account processes through the enterprise portal. In light of the 70-20-10 business practices model, a client services goal will be to have 70% of all questions in aggregate answered through self-service on the enterprise portal.

- **Client Service Help Desk (CSD)**: The Client Service Help Desk is envisioned as a full-service help desk environment that includes a call center as well as a walk-up client assistance desk. The staff at the CSD will provide emergency and basic troubleshooting, as well as some consulting services as time allows. The CSD also will provide triage and dispatch services on behalf of the Client Services Representatives. The CSD will be easily accessible with no phone trees.

- **Client Services Field Team comprised of Client Representatives**: There will be a point-of-contact person for faculty, staff and students who will provide mid- and high-level consulting, liaison advocacy, account representation, one-on-one training, OS migrations, pedagogical applications of technology, and desktop tech support.

The consolidated Client Services organization will need the right technology, such as:

- Proactive systems that anticipate and mitigate potential problems (like security holes)
- Client relationship management (CRM) software with request tracking
- Remote administration
- Identity management/directory services

These technologies could raise potential service levels, and reduce the need for satellite IT service centers around campus.

### 3.2.1 Client Constituencies

Multiple client constituencies are shown in a cloud at the bottom of the model diagram. The clients could be grouped by one or more combination characteristics, and individual clients likely would belong to more than one client constituency. The team considered:

- **Geographical region** where the faculty, staff or student normally works
- **Platform** (Mac, MS Windows PC, or Unix)
- Academic **discipline**
- Demographic group (**students, faculty, staff**)
- **Unit** or Division
- **Technical ability** of the Clients

The ITSD Team could not come to agreement on whether the Client Services Team comprised of Client Representatives would be divided up and located in geographical regions.
or not. There probably were more discussions (and disagreements) about this regional aspect of consolidation than any other topic.

- In part, the advantages and disadvantages of locating staff in the regions would depend on the type of support delivered: basic workstation support that is not discipline-specific, or advanced technical support. Some team members argued that Client Representatives who provide advanced technical support should have their worksite in the client’s region for increased collaboration as partners in research, for example. Other team members argued that it would be better to centrally co-locate those advanced technical Client Representatives so that they could share knowledge and work more effectively as a team.

The arguments around the regional model, where client representatives have offices in the regions are:

- IT staff could respond to client requests more quickly if they are located close to the clients’ work sites. Response time is a large issue for those in off-campus locations. On campus, if the trip to the site requires a vehicle to transport tools and equipment, there may be delays in finding a parking spot.

- Increased informal communications between the Client Representatives and the clients because of informal “water cooler” meetings if they are located in the same region. If the Client Rep and client were not in the same region, clients may have little problems that they don’t want to bother a person across campus about could pile up until they become major catastrophes. Physical separation from a support tech may result in some clients feeling ignored if their support is on the other side of campus.

- IT staff would spend a small proportion of their work time traveling to client sites. Travel time to reach client sites would be reduced, especially for off-campus locations such as University Town Center, etc.. If staff were co-located centrally, cross campus travel would demand a high level of time management skills in order to avoid clogged queues on tasks that otherwise were planned for the period that has now been taken up with going to the remote location.

The arguments for having Client Representatives have offices in a single location, referred to as a “center for excellence” are:

- Trust and relationships between IT staff across the organization could be improved, reducing the current silo-based culture.
- In a co-located environment, IT staff could share technical knowledge while they collaborate on project teams.
- Multiple IT staff all trying to solve the same type of problems would know about each other. The time spent traveling to the client site could be saved in reduced time to solve problems because of the collaborative “center for excellence”.
- The CATS Contract Technical Support Services (CTSS) group provides very good IT support services to campus units, and CTSS staff are centrally located. This is an example of a centrally-located group providing mid-level (not highly advanced or specialized) technical support to units located on and off campus.
In short, the team confronted two opposing questions:

- Can we achieve a concentration of high levels of client service that are cost effective if we use dedicated local presence?
- Can we achieve high levels of client service without dedicated local presence?

More than likely, the new organization will arrange field technical support based on a combination of regional proximity and advanced technical support needs. The shortage of central office space makes regional support practical. However, having IT staff housed "down the hall" could be a symptom of reactive (not proactive) IT support. In a few years, UCSC clients with moderate IT needs may be glad when they no longer need regional support, because they will have access to automated, pro-active IT services that run in the background.

3.3 Consolidated: Services Behind-the-Scenes

In the model diagram, the blue ocean color represents services with direct client interaction. The sunset colors represent service areas with much less direct client contact. The bubbles of services spanning both the sunset and ocean areas represent services where there is some client contact.

In the proposed model, the consolidated services behind-the-scenes support clients and client services, and also have some client contact. This is a broad spectrum of services, and the IT Vision Team chose three areas to begin preliminary grouping:

- Administrative Systems
- Infrastructure Services and Systems
- Instructional Technology

3.3.1 Administrative Systems

Many administrative systems are well-known (FIS, AIS, PPS), while others may be less well-known but still critical to the campus operation (such as University Relations, Student Housing systems, budgeting systems). Many of these systems have common needs both for operations and to support their clients in data integration, report writing, functional analysis and programming. The Administrative Systems grouping within the consolidated organization offers these services to maximize coordination and consistency in delivering the applications while supporting the functional uniqueness of each. These services may include

- A more coordinated method of managing systems development and operations
- Common resources to develop training curriculum support
- Shared resources for report writing

At a more global level, the needs and priorities of these applications can be brought for consideration by the campus through IT governance and portfolio management. The result could be less conflict for IT resources through effective planning.
3.3.2 Infrastructure Services and Systems

In general, Infrastructure Services and Systems refer to the services upon which other services depend. This includes many of the services that exist today in an enterprise form within ITS and in a distributed form around the campus. However, there are aspects that the IT Vision Team wished to emphasize in this new model. These include those services that:

- Enable other IT services or applications.
- Provide a framework for service delivery.
- Offer opportunities for consolidation, e.g. efficiencies of scale.

3.3.2.1 Enable other IT services or applications

Middleware refers to the suite of services that enable other IT services or applications. Middleware includes:

- Enterprise Portal
- Identity Management System
- Client Relationship Management
- Incident and Problem Management

Many of these services have been referred to in other areas of the model. For example, an enterprise portal and common incident and problem management systems are key to effective Client Services.

Identity management provides a central infrastructure for the management of information about individuals who interact with UCSC from the point of view of delivering and supporting IT services. This information can be leveraged to enhance and simplify the user/client experience, simplify accounting and auditing processes, and provide cost-savings in the development of IT services. UCSC currently has nascent efforts in an Identity Management system, providing authentication, authorization and management of people information. An Identity Management service is critical to the deployment of coordinated and targeted IT services.

Other middleware activities are in evidence at UCSC today, although not in the enterprise form desired by this model. There are many incident and problem management systems used silo-like throughout the campus. UCSC also has efforts in portal technologies directed towards students and eventually faculty as part of the AIS system.

3.3.2.2 Provide a framework for how services are delivered

Through consolidation, we have an opportunity for common service delivery practices or principles all the way through the organization, including behind-the-scenes services. Areas that reside in Infrastructure include Project Management, Application Development, Security and Disaster Recovery. In each, UCSC can strengthen the enterprise operation through standards and consistent application. For Application Development, this may include common development tools and platforms, which can result in consolidation of servers or leveraged licensing and development resources. In the areas of Security and Disaster Recovery, this can mean common operating standards that support our legislative or policy requirements or otherwise appropriately manage our campus risk.
The effectiveness of these infrastructure services can have a profound impact on the client, and promote dynamic and applicable services. For example, project management services are key to meeting complex or advanced needs above the bronze-level. Project managers will provide analysis in consultation with Client Services or other IT staff. They will garner and commit IT staff to complete the project. They will work with other IT service managers to evolve services and keep the bronze-level of services useful and used by the clients.

3.3.2.3 Offer opportunities for consolidation through efficiencies and scale

Infrastructure services also include other enterprise elements such as Network and Telecommunications and Enterprise Servers. These areas and the support organizations for each offer similar opportunities for standards and consistent application. Additionally, there may be further economies of scale, which is an expectation for Enterprise Servers. Currently, there are redundant services on redundant servers that may be more appropriately offered through consolidated service on robust, consolidated servers.

3.3.3 Instructional and Presentation Technologies

Instructional and Presentation Technologies is the grouping of services that support instructional activities of faculty and students. These are enterprise services that may have direct relationships with clients, including instructional computing labs, media support and web development, e.g. for academic departments and courses.

Instructional and Presentation Technology services may lead or greatly influence other behind-the-scenes services, e.g. web development, because of the importance of this service to support of instruction. As well, Instructional Technology services may partner more directly with Client Services due to the nature of direct contact with clients.

Figure 7: Dedicated Local Support or Not?

3.4 Local: Dedicated Local Support Services

The premise given to the Vision Team was to consider that all IT services would be included in the new consolidated organization by default. A very strong case would need to be made for not including IT services in this consolidated portfolio. However, the team recognized that there are local requirements that are truly unique such as the telescope support for Lick or support of the Linux cluster for the Human Genome project. These local, dedicated support services are the possible exception, and are differentiated from regular consolidated IT services in the following ways: in these cases the
consolidated IT organization (CIT) may not have the necessary services or resources, the priority would not campus-wide, or from an IT service support perspective there would be little growth potential. In some cases, such as new emerging technologies it may be beneficial for a local unit and consolidated IT to collaborate on a joint project.

3.5 Funding

While the Vision Team was not charged with making funding recommendations, the team did need to make some funding assumptions in order to develop a model designed to save the campus money overall, and better manage IT expenditures. Conceptually, Figure 8 below shows the situation today where the campus has many silos of IT services and, what some might describe as a low level of central services. Each division may have a strong set of IT services (or may not) in reflection of the local investments and priorities.

In this view, there is no unified campus-wide view of IT funding and services, priorities, allocation of resources or skills and certainly not on spending. There also is a lack of unified governance, management or budgeting for IT. The result is unnecessary redundancy and lost opportunities for synergy and efficiency. At best, we have a suite of services that may work for a division, but may have a loose affiliation across campus.

This translates into challenges for the deployment of enterprise applications and systems. IT resource management is a distributed responsibility and we lose opportunities for efficiencies of scale or consistent staffing as one may have through planning of contract services. Support to end users that have similar requirements none-the-less varies according to the level of support or training available in that division.

In the future the campus will face more enterprise applications and systems, not less – Time and Attendance, e-Procurement, Portals are all currently on the planning horizon and would have these same challenges in our existing environment.
The consolidated model that we have proposed is illustrated in Figure 9 below. An “alloy level” of services would be defined that would be consistent across campus and based on predictable funding. The overall level of consolidated services would be managed as a whole and the level of services would be tied to a stable, predictable funding model for the campus based on an agreed metric. Examples of metrics include, head count, volume or type of service, and number of workstations. The team felt that over time the level of these consolidated services would rise compared with the current state baseline.
The proposed model would handle three types of services and funding:

- "Bronze Level” Consolidated Services
- "Platinum Level” Services
- Dedicated Local Services

The nature of these services is described in the table below.
<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Service Provider</th>
<th>Funded By</th>
</tr>
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<tbody>
<tr>
<td><strong>Bronze Level service</strong></td>
<td>Consolidated IT</td>
<td>Consolidated IT with</td>
</tr>
<tr>
<td>provided to all clients within a constituency, such</td>
<td>organization</td>
<td>sustainable formulaic</td>
</tr>
<tr>
<td>as all faculty.</td>
<td></td>
<td>funding</td>
</tr>
<tr>
<td><strong>Platinum Level Services for contract or recharge</strong></td>
<td>Consolidated IT</td>
<td>Local unit</td>
</tr>
<tr>
<td>that are on top of bronze-level (such as application</td>
<td>organization, if</td>
<td></td>
</tr>
<tr>
<td>development)</td>
<td>possible. If services</td>
<td></td>
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<tr>
<td></td>
<td>not available through</td>
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</tr>
<tr>
<td></td>
<td>IT, and governance</td>
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<tr>
<td></td>
<td>body agrees, services</td>
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<tr>
<td></td>
<td>would be contracted</td>
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<tr>
<td></td>
<td>for elsewhere</td>
<td></td>
</tr>
<tr>
<td><strong>Dedicated Local Service</strong></td>
<td>Local unit</td>
<td>Local unit</td>
</tr>
<tr>
<td>Defined as services where there would be no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>campus-wide financial advantage or campus-wide</td>
<td></td>
<td></td>
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<tr>
<td>service improvement through consolidation.</td>
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</table>

Bronze-level service for faculty and staff would likely cover workstation support, including equipment purchase, software, instructional lab and classroom support, strategic web development support, network, telephone, etc. (See the Appendix of this report for a non-exhaustive list of candidate Bronze Level services). The team does agree that there would be more services included in bronze-level support than the current baseline support provided by CATS and some local units today.

### 3.6 Governance

The team felt that it was critical that the consolidated IT organization should not get out of alignment with its client constituencies. If principal officers no longer have budgetary control over funds for the bulk of IT services, what specific governance model should be in place to keep the CIO responsive to campus needs?

In the proposed model (Figure 10), governance is organized into three layers:

- Strategic governance
- Operational governance
- Technical governance

**Strategic Governance** would be concerned with ensuring that IT remained aligned and responsive to overall UCSC campus priorities and needs.

**Technical Governance** would focus on ensuring that the integrity of UCSC standards and IT architectures would be applied, preserved and evolved in a practical manner.

**Operational Governance** would be concerned with the task of making sure IT resource allocation and IT portfolio decisions remain congruent with strategic governance needs and serve the needs of divisions and units. This function would also ensure that major operational IT issues are escalated appropriately.
In the next phase of work this governance framework needs to be related to existing governing bodies such as ITC. It may also be necessary to define additional governance bodies or mechanisms.

The team also felt that a critical success factor for effective governance would be a vigorous and active client feedback loop. This “voice of the client” feedback would be supported by a unified client relationship management system as well as the day-to-day interaction of the CIO, clients and client advocates such as the Divisional Liaisons.
4 Future Scenarios: The Client Experience

Our whole purpose in developing an IT Service model is to ultimately serve clients. Many of the detailed discussions of the team revolved around internal IT management issues, processes and mechanism. However in the end, clients do not really care about the inner workings of IT as long as they have a great experience working with IT.

Client relationship management theory holds that the best way to design a good client experience is “from the outside in”, i.e., from the view of the client as they interact with the service. An effective way to do this is to describe client scenarios. The team generated various scenarios themselves and also solicited input from IT staff at one of the IT Town Hall meetings. These scenarios not only help to test the proposed IT Service Delivery model, they are a good way to describe how the model might work in practice.

Since a large number of scenarios were developed, it would not be practical to describe all of them here. Therefore we have presented a small subset in this report to aid the reader in visualizing the IT Service Model in action. A complete listing of the scenarios can be found in the Appendices of this report.

In the sub-sections that follow, the scenarios have been grouped by three major client segments: Faculty, Administrators and Students. Each scenario is described, followed by any relevant model principles that the description illustrates.

4.1.1 Faculty Member Scenarios

Scenario: Multiple services need single point of contact

A professor is planning for a class, and requests reserving equipment for a classroom (Media Services), reserving a lab (Instructional Computing), and putting up a WebCT site (Instructional Computing). In the three proposed models, whom would the professor contact to make the requests?

Making the requests:

The professor can choose the most familiar or comfortable method to make the requests – via a self-service Portal, via phone or email to the Client Service Desk or via phone, email or personal contact to their Client Services Team. The Client Service Desk and the Client Service Team representatives would use any online references, e.g. what was available through a self-service form, to ask appropriate questions for consistent and complete requests on behalf of the professor. For example, the professor may need to check off which software they need in the labs and if they need the lab on a repeating basis, which may be on the self-service form. In all cases, requests are entered into a common tool, the incident and problem management system (“tracking system’). The professor receives an email that confirms his requests were received and in process.

Routing the requests:

Media Services and Instructional Computing both use the tracking system to identify and respond to service requests. Follow-up communication with the professor may be initiated for more information, for example, Instructional Computing may want to discuss class titles or descriptions for WebCT.

Tracking the requests:
It is the responsibility of the Client Service Team to generally monitor requests submitted by their users through tracking system. They can notice lingering service requests and act. The Client Service Team may intervene on behalf of the professor to resolve outstanding requests or act as a liaison to various service providers if more information is needed. In this case, it may be that a classroom of the desired size with the requested technology is not available and Media Services wants to explore available classrooms of different sizes or with different technical characteristics.

The professor may wonder about his requests and check the tracking system online for status. Or, the professor may be talking to the Client Service Desk about another issue and ask them for a status on previous requests as well.

When completed, the professor receives the location of the classroom, the lab and all relevant WebCT information as well as some information if there are follow-up questions.

**Scenario: Unusual Request Involving Multiple Referrals**

A faculty member has been out of the country in Italy for three years. He says he had a video copy of a 16 mm black-and-white film, "The Young Dr Freud". Now the faculty member has neither the film nor the video, and asks for another copy, and wants it in European PAL format rather than the NTSC format used in the US.

This request is entered into the tracking system much as any other request. As an unusual request, it is specifically routed to Media Services to address. If the Media Services staff is unable to answer this question it is further routed to another service provider. At this point of multiple referrals, a Client Services Team member has recognized that this request may not be straightforward. That Client Services team member coordinates possible service providers in order to assess if there really is an answer to this question.

### 4.1.2 Student Scenario

**Scenario: Urgent requests...client perceives help is needed NOW**

I think all my computers are infected because NTS has disconnected them from the network. What do I do?

The user may have arrived at this conclusion for any number of reasons – perhaps their network connection doesn’t work or they received a ResNet notice on their door that they had been disconnected. In either case they could call the Client Service Desk to verify if their network jack has been disconnected. If the Client Service Desk sees that their system was identified as infected, they would provide information on where to get info on cleaning the infected system or whom to contact for help in doing so. Alternatively, this user’s local Client Services Team may be soon following up to resolve the infection having received the general security notice that a jack in their domain has been disconnected.

### 4.1.3 Administrative Staff Scenarios

**Scenario: Workflow Process and Communications**

I’m a specialized employee (not in IT) on campus and I need to disseminate an important piece of information out to all the IT staff on campus. What is the procedure, and how do I know that when I send out info to the IT staff, they are further distributing the info to their clients?
Communication from consolidated IT to clients would be direct to the clients or support personnel. For example, notices about downtime to the CruzTime calendar service would be sent directly to the end-users of CruzTime; notices about updates to CruzTime clients may be sent to both end-users and associated support personnel. All communications would look consistent due to the influence of Communications and Client Services organizations. For example, a communication may include why the individual was receiving the message, all contact information for more info or help, and technical jargon translated.

All communications originating inside or outside of IT would follow the procedures outlined for campus or directed mailings. All communications would make best use of technology infrastructure such as the Identity Management systems (a.k.a. Enterprise Directory) and central email services.

Any originator of a message would have a confirmation from this process that the message was successfully sent, which may be an email or a web page addition or directly as a recipient.

**Scenario: Maintaining Integrity of Client Service Procedures**

*How do you prevent having the faculty and staff who know each other from doing "end-runs" or not following a model's client service procedures?*

The use of a common incident and problem management system ensures that no matter what the entry point, a request goes to the appropriate service provider. Having benefits that result from the use of model such as quick response times, follow-up and ability to leverage technologies for cost-savings reinforces the desired standard.

**Scenario: Consultation or Project Management Services**

*The Vice Chancellor of University Relations wants an ad-hoc report that displays data from the ADFS system in 2 days. The programmer has to gather the specifications for the report, code and test the report, and deliver the final report on time. What resources are available?*

Making the requests:

The Vice Chancellor of University Relations chooses the most familiar or comfortable method to make the requests — via a self-service Portal, via phone or email to the Client Service Desk or via phone, email or personal contact to their Client Services Team. The Client Service Desk and the Client Service Team representatives would use any online references, e.g. what was available through a self-service form, to ask appropriate questions for consistent and complete requests on behalf of the Vice Chancellor. For example, this request has a turnaround of two days, which is less than the usual. This request is entered into a common tool, the incident and problem management system ("tracking system"). The Vice Chancellor receives an email that confirms his request was received and is in process.

Routing the requests:

The Report Writers associated with the ADFS system see the request in the queue.

Tracking the requests:

It is the responsibility of the Client Service Team to generally monitor requests submitted by their users through tracking system. They can notice lingering service requests and act. The Client Service Team may intervene on behalf of the Vice Chancellor to resolve his outstanding request or act as a liaison if more information is needed. In this case, the Report Writer programmer needs clearer specifications and a tester for the report and may
contact the Client Service Team to identify who in the Vice Chancellor’s organization can help. The Client Service Team monitors that this is happening in a timely manner.

The Vice Chancellor’s assistant may be talking to the Client Service Desk about another issue and ask them for a status on the Vice Chancellor’s request. When completed, the Vice Chancellor receives the report.

**Scenario: Obtaining Application Consulting Advice**

*Dining Hall staff wants a consultation to find out what tools are needed to run an auxiliary business like Dining Services. Where does the staff member go to get technical and operational advice?*

The Divisional Liaison is the initial point of contact and works to initially understand the functional need. The Liaison consults with the project management resources within IT in order to do more thorough planning using a clear methodology. As necessary, technical and operational resources elsewhere within IT are consulted. If a formal project is initiated the Project Manager will work directly with the client through project completion, however the Project Manager will be responsible for keeping the Divisional Liaison as well as the client aware of project status. If major issues arise during the project that cannot be resolved at the project level, the Divisional Liaison will assist in escalating and resolving them. Once the project is completed the Project Manager moves onto other assigned work. The Divisional Liaison maintains an ongoing working relationship with the client.
5 Next Steps

As stated at the beginning of this report, the IT Service Delivery Model represents a vision of the future delivery of IT services at UCSC. The next step in the IT Transformation effort is to interpret this model into a set of actionable projects to transform the IT function on campus and recast service delivery into the new model. This migration planning exercise will be also be informed by the results of the IT Data Collection project which has characterized the current state of IT on campus.

Work on this migration planning effort has already begun with IT Leadership (Larry Merkley and the IT Advisory Committee) with the intent of launching a series of migration projects over the next few months to realize the IT vision presented here.

As we go forward, the IT Service Delivery team would like to make some final key observations and recommendations for IT and Campus leadership:

**IT Funding Mechanism.**

The IT Transformation must be put in the context of the overall EBC process since it is interdependent on several other EBC initiatives that require IT support as well as the design of IT funding mechanisms that will enable the IT Service Delivery model to be implemented successfully. Although IT funding has been discussed briefly in this report, the actual design of these funding mechanisms was considered to be outside the scope of this project team.

**IT Organization Model.**

Although the IT Service Delivery Model implies certain organizational constructs, it itself is not an organization chart. In fact, the proposed IT Service Delivery Model could be translated into several equally valid alternate IT Organization charts.

For example, some key roles such as the Divisional Liaison could either be organizationally situated within the IT function or within the Divisions. The team has made strong arguments for both extremes; however the main point is that the team viewed this as a critical role for the success of the model irrespective of its organization placement.

This and other subsequent organizational decisions need to be made within the context of what the roles are intended to achieve in the future state model and not simply from a span-of-control, job scope and level perspective. The team developed a great deal of insight into this dynamic of the model and would like to participate and consult in these discussions going forward.

**Enablers, Barriers and Critical Success Factors (CSFs).**

The team felt that it is important to be explicit about some of the possible enablers, barriers and CSFs of successful implementation of the vision such as organizational buy-in, good communications, and cascading sponsorship. Particular care needs to be taken to manage the human side of such a major organizational change. The team has started an email thread around this topic and these thoughts need to be further explored and woven into migration planning.

**Evolving and Communicating the IT Vision.**

The creation of this unified IT vision from such a diverse team was quite a challenge. At times in the process there were very vigorous, quite polarized debates on specific elements and aspects of the model. Complete consensus was not reached on every detail of the
model and some of these divergent opinions remain to be resolved in the next phase of work.

However this process has not only created a model, it has created a core team of people who now share an overall vision, have explored the details of each element, and understand the trade-offs that may need to be made. To use a catch phrase from our work sessions, it is fair to say that the team does feel in “violent agreement” that what is presented here represents sufficient common ground to begin building the future state IT Service model and IT organization. As always, the final test of a design is in its implementation.

Effective communication of this vision is also critical. Publication of this report and a presentation to the EBC for their endorsement are necessary steps but not sufficient. A full communications plan needs to be developed to inform all stakeholders affected by this vision both outside and inside IT.

The team also recommends that as we move to the migration and implementation phases of work, an ongoing IT Vision Standing Committee be established to continue to evaluate and evolve the model. This standing committee should be made up of members of this ITSD team. The charge of the committee would be:

- Work with IT Leadership to continue to maintain and evolve the IT vision
- Act as sustaining advocates and sponsors for the realization of the IT vision and help communicate and cascade the vision to all levels of the IT function and to clients.
- Act as stewards of the vision to help implementation teams to interpret its intent and to not get “bogged down” in debates that may have been previously explored or resolved by the vision team during this project.

This could be achieved in two ways:

- Monthly or Quarterly IT Vision Reviews by the IT Vision Standing Committee
- Participation of ITSD project team members in the subsequent project teams as team members, project leaders, sponsors or advisors.

In conclusion, the team would like to thank all those people who attended the briefings, commented via email and the web site, participated in one-on-one discussions, Café’s, IT Town Halls or sought out team members to express their insights and concerns. We hope to have addressed many of your concerns and inputs in this document, but if this is not the case the dialog will continue as we move forward and please feel free to contact one of the team members.

"Plans are only good intentions unless they immediately degenerate into hard work”.

Peter Drucker
6 Appendices

6.1 Bronze Level Consolidated IT Services

The team compiled the following non-exhaustive list of candidate services to be provided across campus by the consolidated IT function:

6.1.1 Enterprise

- Portal
- FIS/PPS/DWH/RMS Business processes
- AIS
- ADFS (Alumni Donors & Friends System)
- Email
- Calendaring
- Enterprise Application Development
- Card Access
- Reporting and Training

6.1.2 Infrastructure

- Directory Management Services
- Security
- Network Planning
- IT Research & Development
- Physical Building Access
- Web Services

6.1.3 Instructional and Presentation

- Web/File Services
- Course Management System
- Streaming Media
- Media Production
- Classroom Technology
- General Lab/Wireless
- Training
- Event Technology
- Distance Education/Teleconferencing
• Instructional Development
• Lab Management (including systems, physical and electronic support)

6.1.4 General Workstation Support
• Hardware purchasing
• Software Site Licensing
• Network Support
• Printing Services
• Repair and Supplies
• Disaster Recovery & Backup
• Inventory Management
• Problem Resolution and Tracking

6.2 Other Client Scenarios
This appendix lists other scenarios identified to test the IT Service Delivery model but not explored in this report:

Multiple services need single point of contact.
• A professor is planning for a class, and requests reserving a classroom (Media Services), reserving a lab (Instructional Computing), and putting up a WebCT site (Instructional Computing). In the three proposed models, whom would the professor contact to make the requests?
• Outreach staff are planning to invite a group of 100 high school students to campus for a weekend day during a regular academic quarter. The Outreach staff plan to conduct workshops to show the students how to complete college applications. The group will need a classroom, a computing lab, and tech support.

Urgent requests...client perceives help is needed NOW.
• A faculty scientist is at work on a Saturday night preparing a presentation. The data is resident on another computer not in her office. The network goes down, so the scientist can’t access the data. Who does the scientist call on a Saturday night when the network fails?
• I’m a faculty and I’m standing in front of 300 students. My presentation is on the computer and I can’t get the computer to work at all. Who do I call? What are my options?
• It’s 2AM; I’m a resident assistant in College 9, and have a door security alarm that won’t stop. Who do I call? Who will turn off the alarm?
• I think all my computers are infected because NTS has disconnected them from the network. What do I do?
Client Feedback.

- The specialist I’m trying to contact has taken a six-month leave of absence. Who is the backup? The more general question is how to track and maintain institutional knowledge across an organization.
- I’m a staff or faculty member, and made a request to my “client service representative”, but didn’t get satisfaction out of my first request. Where do I go to escalate my request? What is my recourse if I’m not satisfied with the service provided?
- I’m a faculty member and the last three times I’ve asked for assistance, the response has been slow, and insufficient. How can I get satisfaction and to whom do I express my grievance?

Workflow Process and Communications.

- I’m a staff member in the Information Resource Center. There is a planned network service outage. How do I get the word out to the campus community?
- I’m a specialized employee (not in IT) on campus and I need to disseminate an important piece of information out to all the IT staff on campus. What is the procedure, and how do I know that when I send out info to the IT staff, they are further distributing the info to their clients?
- How do you prevent having the faculty and staff who know each other from doing “end-runs” or not following a model’s client service procedures?

Consultation or Project Management Services.

- The Vice Chancellor of University Relations wants an ad-hoc report that displays data from the ADFS system in 2 days. The programmer has to gather the specifications for the report, code and test the report, and deliver the final report on time. What resources are available?
- Dining Hall staff wants a consultation to find out what tools are needed to run an auxiliary business like Dining Services. Where does the staff member go to get technical and operational advice?
- I’m a new faculty member, and I need a computer set up in my office, and generally need to understand how IT works at UCSC. Who will help me? Where is the information available?
- A student who is part of a registered student organization needs to put up a web site but the organization has no resources to develop the web site. How does the student proceed?
- A faculty member has been out of the country in Italy for three years. He says he had a video copy of a 16 mm black-and-white film, “The Young Dr Freud”. Now the faculty member has neither the film nor the video, and asks for another copy, and wants it in European PAL format rather than the NTSC format used in the US.

Staff Training.

- I’m a base-level support staff and want to expand my IT skills to enhance career opportunities. Where would I go for training, and how will training be funded?
6.3 References

In the work sessions and email discussion threads the team made use of a variety of ideas, articles and best practices gleaned from other educational establishments and business organizations. Some of the major sources are listed below, others may be found on the team WebCT site.


