

Serving Academic Units Through IT Consolidation

Report of the Academic Unit IT Workgroup

University of California, Irvine

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EXECUTIVE SUMMARY

Executive Vice Chancellor and Provost Gottfredson asked Chief Information Officer Dana Roode to coordinate a campus discussion regarding how the academic units, the Libraries, and University Extension should participate in UC Irvine's IT Consolidation Initiative. CIO Roode established the Academic Unit IT Workgroup to assist in understanding opportunities and issues related to this. The group comprised 5 unit IT directors, a faculty member, an assistant dean, an OIT Director, and the CIO; it met between September 2010 and February 2011 (see *Appendix A*). This report summarizes Workgroup conclusions and recommendations.

Approach and Observations

The primary focus of the Workgroup was identifying IT services and activities that could potentially be shared more fully on campus, both those already being met by local and central IT groups as well as those that are not being sufficiently addressed. Sharing "met" needs would lead to greater efficiencies in IT service delivery; addressing "unmet" needs would lead to greater overall workplace efficiencies.

The Workgroup solicited information and perspective from each unit through written questions to Deans, Assistant Deans, and IT Directors. Workgroup members also met with each Assistant Dean and IT Director to further discuss the information provided and explore opportunities and obstacles with sharing (see *Appendix B*).

It became clear early in the discovery process that UCI's IT infrastructure is in many ways behind that of comparable institutions, particularly with respect to administrative systems. Systems commonplace elsewhere are either dangerously old or frail at UCI, or simply do not exist at all. Extreme decentralization of IT contributed to this situation, as there was no integrated campus strategy or large pool of resources that could be used for major initiatives. It also became evident that by sharing services and applications, UCI could do more with both existing and future IT resources.

Recommendations

Opportunities to reduce costs are outlined in the first section of the report. There are a number of activities in academic units that could and should be shared across campus. Sharing a service allows IT staff time to be redirected to addressing unique local needs; "saving through sharing" forms the overriding recommendation of this report.

We also have unprecedented new opportunities to replace several important on-campus services with those offered through "the cloud." Google and Microsoft are both offering high quality email, calendaring and productivity tools at very low cost. Using these services would reduce infrastructure costs and free staff time otherwise spent on maintaining and evolving campus services.

There are significant challenges in sharing services, including making central services responsive enough and of sufficient quality to meet unit needs. Successful sharing will require well-understood Service Level Agreements, effective governance mechanisms, and appropriate incentives for units to take part. It will also be important to preserve the ability of units to innovate as they now do in the current decentralized environment.

Administrative software applications are the single most critical area of shared IT needs across academic units. The campus needs to replace a myriad of local “shadow systems” with robust applications that allow for better student information tracking, financial management, grant administration, and human resource management campus-wide.

Configuration and deployment of standard desktop and laptop computers should also be shared. Although personal computers are ubiquitous, they are still purchased and configured “one at a time,” as if each needed to be unique. A subset of our researchers will always have specialized computer needs, but almost all staff and most faculty could be better served through a set of standardized computer configurations.

Similarly, the provision of hardware and software to provide server functions in support of file-service, web hosting, and other needs can be centralized, as can operation and maintenance of instructional computing labs. There are a number of additional central services that units already rely upon, including email, calendaring, and file-sharing. These services need to be enhanced or outsourced to keep up with evolving user demands.

Finally, to enter a new era of formally sharing IT across campus, the Workgroup recommends a modified IT reporting structure. Specifically, IT staff would remain in schools, but a new “dotted line” reporting relationship would be established between school IT directors and UCI’s CIO. This proposed arrangement reflects the Workgroup’s optimism that units will effectively collaborate and can balance local and campus needs. Other alternatives are described as well.

1. EFFICIENCIES AND COST SAVINGS

Given the looming budget deficit, it is appropriate to begin our discussion of changing campus Information Technology strategy by highlighting opportunities to improve efficiencies and reduce costs. Below we summarize these, which we have collected through our own experiences, input from others, and review of similar initiatives at other universities.

1.1. Move to Common Services Where Possible

Salaries are by far the largest component of IT spending at UCI, and thus the biggest “budget win” will stem from doing more with our IT staff. Many IT services scale well: the more users on a service, the lower the cost per user of that service. Staff time that is freed through the use of shared services can be brought to bear on local efficiency enhancement efforts and other priorities, generating a positive cycle of cost savings and avoidance. Recommendations on what services to share and how to go about sharing them are presented in subsequent sections of this report.

1.2. Leverage External Resources in the Cloud

An important part of the campus strategy to survive current budget challenges is to attract external resources, in addition to cutting costs. Any future IT plans should follow suit. Fortunately, we have unprecedented opportunities to do so, by taking advantage of opportunities from companies (such as Microsoft and Google) to replace, update, or supplement components of UCI’s IT infrastructure with cloud services at minimal cost to the University. We recommend aggressively pursuing these opportunities.

The recent UCI “Individual Faculty and Staff Use of Third-Party Email Risk Workgroup” assessed the risks of using cloud email services, and concluded that risks are manageable as long as a contract is in place to ensure privacy and protect the University’s legal and regulatory obligations. Many cloud-based services provide better functionality than equivalent services currently in place at UCI and at lower cost.

IT costing is notoriously imprecise, especially when trying to estimate “benefit” of a service versus cost. Determining exactly how much would be saved if, for example, we opted for an online calendar from Google rather than a campus-hosted commercial product, could be difficult. But many IT services are started based on “a leap of faith”- it just made sense that email eventually would save money. Similarly, migrating services like email, calendar, file sharing, and backups to outside providers, especially at no cost or low cost, will free up time and funds that could be used elsewhere. This includes:

- staff time to maintain systems,
- servers and infrastructure to host them,
- licensing costs to upgrade software, and
- periodic significant staff time investments in moving to newer versions.

Leveraging opportunities from vendors in effect brings outside resources inside, and can offer better services, at lower costs, than the University would otherwise provide.

1.3. Consolidate Server Rooms

Currently, departmental and research group IT equipment is housed in numerous server rooms or larger data centers spread throughout the UCI campus. These rooms are expensive to build and operate due to power and air-cooling requirements. We must discontinue the practice of adding distributed server rooms in favor of using centralized

data centers. We should also carefully examine the cost savings that would result from consolidating existing server rooms into central facilities. Consolidated data centers would facilitate shared server hosting, lead to a better and more consistent backup and disaster recovery model, and reduce campus energy costs.

The primary central data center located in Engineering Gateway must be expanded to house additional equipment, perhaps through redirecting funds that would otherwise be used to build or upgrade distributed server rooms.

1.4. Standardize Computer Purchases

The establishment of desktop and laptop standards, as described in Section 3.2, will allow lower hardware costs, and lead to a more predictable replacement cycle that will force energy-inefficient equipment to be retired.

1.5. Strategically Manage Print Services

UCI spends significant sums of money each year on paper, printer suppliers, and energy consumed by printers. Significant cost savings could be achieved by:

- Consolidating printers, copiers and scanners into energy efficient, networked, multi-function machines, reducing the number of single-user printers;
- Consolidating printer service/maintenance contracts;
- Implementing a central document management system;
- Reducing the amount of printing by removing campus requirements for paper forms through implementation of electronic alternatives.

1.6. Shut Off Desktop Computers When Not In Use

Some units have installed software such as Verdiem Power Management to reduce the energy consumption of desktop computers during off-hours. We recommend carrying out a cost-benefit analysis for the implementation of such a power management system for all campus desktop computers.

2. ELEMENTS OF SUCCESSFUL SHARING

The Workgroup identified numerous activities that unit IT groups had in common including maintaining desktop and laptop computers, operating instructional computing labs, maintaining file, web and other servers, and maintaining administrative applications. However, despite the commonality of services there is considerable variance in how they are provided by each unit. Some of the differences relate to important individualized school requirements.

Almost every school raised concerns about being able to maintain central services at a level of quality and responsiveness that could meet unit demands. This is understandable, as a historical motivation for creating local services was the inadequacy of central services, or the inability to influence how they evolved. Schools also raised concerns about the need to “move quickly,” and to be “close to the faculty and students.” Several raised concerns about the need to “experiment and innovate.”

Based on interactions with deans, assistant deans, faculty focus groups, and IT directors, the Workgroup identified several factors vital to making increased sharing a success at UCI:

1. **Service Level Agreements:** Each service needs a well-understood and agreed upon written “Service Level Agreement” that clearly defines what is to be provided and how.
2. **Broad Governance:** Effective governance mechanisms must be established that grant units appropriate influence and control over how services are maintained and evolve. The IT Oversight Committee, Academic Senior Managers group, OIT Faculty Advisory Committee, and the Academic Senate are important parts of this. The level of granularity and detailed planning required to transition away from duplicated services dictates that the School IT Directors play the most critical and active role in that process.
3. **Incentives to take part:** There must be due consideration given to how units are encouraged to take advantage of shared services. Some are in the best interest of the campus as a whole and their use should be mandated, while others may be encouraged through financial incentives or disincentives. There is also a class of services that should be optional, where the net attractiveness and value of the service to a given unit determines whether or not they utilize it.
4. **Preserving what worked in the decentralized environment:** The decentralized approach to IT at UCI did yield advantages, and these must be preserved in a new shared model. Small IT groups sitting among faculty and staff within schools were often the innovators, running experiments that eventually grew to important capabilities. For example, applications to track graduate students (GATS) and support faculty recruitment came from school IT groups. So did a student-wide laptop computer program, and recording and streaming live every class and TA session in a program. Distance learning enabled classes sprouted from Criminology Law and Society and University Extension. School-wide standardized PCs and a

regular replacement cycle also came out of an individual school.

To encourage future innovation, it is important that IT staff remain in the schools, with both a degree of autonomy and time to invest in experiments that could become innovations. It is also important that when appropriate, successful “experiments” flow to the campus as a whole.

3. WHAT SHOULD BE SHARED

There is a range of common IT needs across units that present opportunities for greater sharing. The single most critical category of these is administrative software applications in support of student, human resource, financial, research administration, and other processes. Addressing these needs will go well beyond improving IT effectiveness and will directly impact overall efficiencies and productivity in units.

In addition, we should create a set of standardized campus desktop platforms, with a goal of simplifying support requirements and enhancing the user experience. We should adopt common server hosting and instructional computing lab strategies, and look at outsourcing email and calendaring services. Finally, there are hosted central services that should be enhanced or created, some of which are in support of the proposed new standardized desktops.

3.1. Administrative Software Applications

Software applications are built to automate campus processes and to collect and manage information from a variety of sources. They allow information retrieval, reporting, and the integration of multiple sources of information to support processes and decision-making. Academic units depend on the information collected through central campus application systems, but where they fall short, units build their own systems and repositories to capture additional information they require. This results in areas of redundancy among central and unit systems and presents opportunities for sharing IT solutions. These opportunities exist in academic areas across the broad categories of student tracking, financial information, and human resources, as well as in other areas.

This document explores areas of administrative need, but it should not be considered a definitive and fully complete account. We recommend that an OIT staff member be identified or hired to serve as the “Academic Unit Business Systems Analyst.” The Analyst would work with units to develop a comprehensive view of administrative system needs and scope out an integrated approach to addressing them, taking into account current UC and UCI application development plans. He/she would work with a group of unit administrative staff, faculty, and IT staff to guide and prioritize efforts.

Student Tracking

Student tracking is perhaps the most significant category of common administrative application needs among academic units. Every unit has some flavor of student tracking because central campus systems have missing functionality, do not allow for cross retrieval of information, and do not work with each other seamlessly.

Below is some of the key information academic units must track:

- Application information – the application to the school, associated documents, the review of the application through the admissions process, and the data once admitted
- Resident, non-resident status
- Student course enrollment, degree progress, academic probation
- Graduation and alumni information
- For Graduate students: teaching assistant eligibility, full scope of funding support, courses they serve as a teaching assistant for, faculty advisor, degree candidacy status

Some student information that units track is unique and needs to be maintained independently of central systems. If common student information was easily accessible in real-time, it would allow units to use it in conjunction with local data without having to create redundant information repositories.

Some examples of unique information include:

- Law – bar passage information
- Business – MBA career management
- Nursing Sciences – Clinical nurse education program tracking
- Education – teacher credentialing program
- Engineering – ABET accreditation of engineering undergraduate programs

Academic units have worked together to share some application needs, with the Graduate Applicant Tracking System (GATS) being an example of this. It may be possible to leverage systems that have been built by units by transitioning them to central systems for further enhancement and utilization. Quali Coeus is an example of how this approach can work, where the Quali foundation took the successful COEUS research administration system from MIT and used it as a basis for building the Quali Coeus (KC) product. KC has greater functionality and will be adopted by many more institutions as a result. An example on our own campus is the faculty recruitment system originally built by Information and Computer Science, which has been re-factored as a central campus system, Recruit. Recruit is also being looked at for potential UC-wide use.

Financial Applications

Current limitations of campus financial systems have required academic units to create local tools to combine multiple data sources for comprehensive financial reporting and management. Some of these needs, such as tracking of graduate student financial support, require a tool that will link student information with financial data. Creating mechanisms that tie together financial transaction tracking with other systems and provide real-time information with drill-down capabilities would be ideal. Systems should not require duplicate data entry and should automatically feed other systems where appropriate (for example, purchasing tools should feed the inventory system).

Examples of disjointed functions are:

- Recharge, Payquest, Payroll, General ledger
- Purchasing/Procurement (initiated by the user)
- Contracts and Grants
- Revenue (donations, endowments, sales, conferences)

Units need an application that combines functions for budgeting, forecasting, reporting, analysis, and other uses. Units also require a way to access financial data to generate specialized reports without programming intervention. The proposed Quali Financial System shows promise in meeting campus needs; it will be essential to include academic units in this project.

Human Resource Applications

Missing human resource system functionality results in significant inefficiencies in academic units, with one example being the difficulty of retrieving staff personnel history. There are multiple central campus repositories of faculty information, including the Faculty Profile System and the Academic Personnel MyData system. Academic units build their own repositories of information to tie together information about their personnel.

To alleviate the requirement to maintain local systems, central HR systems must include key capabilities, including the following:

- Maintenance of personnel employment history, including salary, title history, and reviews;
- Tracking of personnel status/classification changes, including those that impact benefits, leave accrual codes, union representation, etc.;
- Maintenance of information representing how appointments are funded;
- Tracking what facilities/space are being used by personnel;
- Management tools that support recruitment and hiring, taking corrective action, and help evaluate salaries and manage equity issues;
- Automate academic personnel processes, storing the large amount of required paperwork electronically, eliminating duplicate central and unit copies.

We are optimistic regarding the success of the UC effort to replace the Payroll Personnel System (PPS) with comprehensive new systems that include significant Human Resource capabilities. In addition, current UCI academic personnel automation efforts should be reviewed and expanded.

Integrated Data Needs

In addition to meeting campus needs in the above areas, units will require that retrieval of information across systems is possible and straightforward. As an example, in the course of supporting faculty activities, units require the ability to look up an individual and determine the following:

- What was his title when he was hired?
- When was he first hired?
- What is his history of employment?
- What classes is he teaching?
- What is the enrollment for that class?
- What facility/space is he using?
- How much grant money does he currently have?
- Has he ever left the campus and then come back?

Currently, much of this information is available but units build systems for their use that integrate it from multiple sources. Ideally all key information would be accessible through one portal or other mechanism, avoiding the need to access multiple systems to retrieve it. One approach would be to expand data warehouse capabilities to include all student, financial, staff, and other data with abilities to access, sort, drill down and generate reports for any given time period.

Additional Application Needs

Again, this document is not a complete list of all unit administrative needs. Some requirements in addition to the ones listed above include:

Document Management: Document imaging and management is critical and must provide the ability to store and access any related document from any system. If a unit retrieves a student record, they should be able to access associated applicant documents, financial documents, and employment documents. A central electronic document management system should be implemented to maintain backup documentation for all transactions and enable authorized users to pull up necessary files easily and consistently.

Research Administration: The units require the capabilities that the Kuali Coeus set of applications will provide, including proposal and budget development, and award management. Additional functionality to support compliance requirements is also needed.

Facilities Management: Units need access to a facilities project management system that includes pricing estimates (updated as projects evolve), billing information, and project tracking. The current Tririga system in use by Facilities Management may have some of these capabilities assuming unit access can be arranged.

Space Management: A system that tracks space utilization, assignment, renovations, and related information, and compiles information in a format to address UCOP reporting requirements.

3.2. Standard Desktop Platforms

Many interviewed by the Workgroup felt that offering a standardized personal computer, bundled with a fixed set of services, and replaced on a regular schedule, would generate savings. Buying in volume reduces acquisition cost, however the most expensive component of computer ownership is ongoing support. Having larger numbers of faculty and staff using the same models of computers, loaded with the same (or similar) software, could increase the quality of support while decreasing support costs. This could make it possible for fewer numbers of support staff to service larger numbers of users.

As an example, several UCI schools have issued standardized PCs to all staff for a number of years. Instead of buying PCs a few at a time, they get better pricing on a volume purchase and finance that purchase over time. Staff typically participate in the selection of the standardized system, and a competitive evaluation is done. Computers are replaced on a regular cycle, with a few extras being held in storage for new employees.

The largest advantage of this approach has been better desktop support at lower cost. For example, the school's IT staff invests time building a master image for the standard desktop, then duplicates that across dozens of PCs. If a problem arises on one, it makes sense to devote significant staff time to address it, as the effort will benefit many users. A corrupted system can easily be re-imaged to resemble what it looked like when it was initially deployed, and failed hardware can be replaced within an hour using spares on hand. Finally, as support calls come in, IT staff have access to the identical system (hardware and software) as the caller, making diagnosis and response easier.

A voluntary standardized computer program at UCI would provide similar benefits campus wide. Via this program, a small number (4-6) of standardized computers would be made available to the campus community every year, perhaps in Summer. Macintosh and Windows options would be included, as would laptop choices. Each would come bundled with:

- a standard set of productivity software (word processing, spreadsheet, presentation, video chat, file sharing),
- anti-virus software,
- remote assistance applications,
- online backup,
- automated operating system and software patching, and

- energy management.

The standard configurations would take advantage of central or cloud services to operate, rather than depending on services set up independently by each unit. The selection of these systems would be coordinated with the UC strategic sourcing initiative, and a group of faculty and staff would participate in the process. At least one “high end” Macintosh and Windows system would be included for researchers to consider.

Schools could opt to use local staff to support standardized systems, or could utilize a centralized help desk, which would only offer support for standard configurations.

Advantages to a school for selecting a standard:

1. Costs are even and split over 4 years,
2. The program would be coordinated with the Faculty Desktop Computing Initiative,
3. A failed system could be repaired the same day, as replacement units would be available on campus,
4. It would be unnecessary to obtain quotes for specific PCs, and have those flow through the budget process,
5. Proactive support would flow to users, via regular communiqués,
6. Help desk personnel could spend more time becoming “experts” on a small number of standard systems, rather than trying to diagnose problems on “everything under the sun.”

Certainly, not everyone would be well suited to a standardized computer, however the goal would be to define a program that would benefit the vast majority of staff and a significant subset of the faculty. Energy consumption would be an important consideration in selecting computer models, and standardized systems would be deployed with optimal and standardized energy saving settings.

“Thin-client” desktop workstations should be investigated as an alternative to traditional desktop computers. These devices rely on central servers for all software, making maintenance easier, and reducing energy costs.

3.3. Server Hosting

A significant amount of unit resources are currently used to implement, operate, and maintain a range of server equipment and software in distributed server rooms. While some units have needs for specialized or strategically located servers (e.g., a high demand video streaming server adjacent to a production location), most campus servers are similar enough to allow efficiencies by maintaining them centrally, minimizing the staff time required while improving security and availability.

Virtual server capabilities allow servers to be provisioned in such a way that basic server system administration functions like operating system configuration and maintenance can be done by central staff, so that local staff can concentrate on server

applications and services units require. Increased reliability also results since virtual servers can be re-provisioned “on-the-fly” in case of hardware or software problems that arise. Certain types of server functions, such as Web and file service, are widely used on campus; central services should specifically address these functions, removing additional duplicative efforts.

Some uses require dedicated physical hardware servers. We can share server deployment, operation, and maintenance of those servers by using common infrastructure in central data centers. The development of a centralized Active Directory infrastructure would allow OIT to manage servers centrally while providing necessary control and access to units. As with standardized campus desktops, patching, anti-virus, and other services would also be shared for servers.

Clear and comprehensive Service Level Agreements between OIT and units are essential for centralized server hosting. We have also identified two additional requirements:

- A new pricing model for virtual servers service (tiered levels of service, including a “bundled” price for larger virtual server installs, as well as a very low-cost low-end tier), and
- An improved security model, including firewalls for virtual servers.

3.4. Instructional Computing Labs

The continued need for student instructional computing labs is a common discussion topic in academic computing circles. While the need for drop-in computing labs for routine student computing tasks (email, document production) has certainly declined due to the prevalence of student-owned computers, the need for scheduled computing labs used in a classroom setting (e.g., teaching statistics, GIS, mathematical, and topical subjects with specialized software) has been growing. As such, we do not expect to see labs close, but to instead have to expand them.

The care and feeding of instructional computing labs involves common tasks done by campus IT staff, usually as a fraction of someone’s time. With the prevalence of Windows based labs (the campus has only a few Apple labs), building and managing instructional computing labs is very similar across schools, thus making it a good sharing opportunity.

Over the past few years, many computing labs, proposed to be built or pre-existing, have become OIT’s responsibility to operate for the campus and specific units (Arts, Humanities, Athletics, Master in Public Health program). OIT-operated computing labs established in the Social and Behavioral Sciences Gateway are open to all campus users but have particular benefits to the tenants of the building, Social Sciences and Social Ecology. Their respective IT staffs will not have to manage and operate these labs while the schools gain the benefit of new facilities.

We propose centralizing the operation and maintenance of the majority of existing campus instructional computing labs. One central group would be responsible for

hardware/software maintenance, regular hardware refresh, and addressing overall instructional needs. For the most part, labs would be available to all units, but priority or dedicated access by specific units will be required in some cases. In addition, discipline-specific software assistance would continue to be supplied by academic unit IT groups where appropriate.

In addition to lowering support costs, we may be able to avoid or delay lab expansion by utilizing unused lab capacity that may be available in some facilities with currently restricted access.

3.5. Email and Associated Services

The majority of campus units use centralized email services, but these services could be further improved. However, an alternative approach is to rely more on external email services and their rapidly evolving feature sets and capacities.

The current proliferation of external e-mail services available to undergraduate students has removed the need for UCI to provide this service for them. It is difficult for UCI-provided services to keep up with rapidly expanding storage needs and evolving email functionality and access methods such as smart-phones and tablets. In Fall 2010, OIT made available a UCI-branded, “no advertisement” Google Mail service to students, at very low cost to the campus. As part of a new email strategy, OIT plans to eventually stop providing campus-hosted e-mail services to incoming undergraduates in favor of the new Gmail service. Services similar to Gmail from Microsoft and others are also available for UCI’s potential future use.

As covered in Section 1, the campus could save additional costs by using external services for faculty and staff email as well for student email. This may not be advisable for all campus users, due to privacy, feature-set, or other requirements. External systems such as Google Apps also provide highly functional calendaring, file-sharing, and collaboration feature sets. Using them would offset expected future costs that will otherwise be required to replace current dated calendaring and file-sharing systems.

3.6. Other Central Services

The Workgroup identified additional services that are currently provided by individual schools, but could generate efficiencies if provided centrally. Some are already provided by OIT, but do not currently have sufficient capabilities to meet the needs of all units. These services include:

- Web site and content management services. Provide central Drupal content management services to complement existing support for the Hannon-Hill content management system. Hannon-Hill support should also be extended, by providing the service to additional campus units.
- Standardized mobile phone support. Provide recommendations on the purchase of mobile phones that ensure reliable operation and compatibility with campus IT

systems; maintain configuration documentation, and provide assistance with the use of mobile devices.

- Robust File Sharing Replacement to Webfiles. Provide file-sharing features similar to popular cloud-based services such as Google Apps and Dropbox (seamless file sharing and syncing, drag and drop, mobile compatibility, etc.). This is another clear opportunity for outsourcing.

Strengthened central anti-virus, patching and related services are also a component of the standardized desktop strategy outlined in section 3.2.

3.7. Deploying Central Services

After services to be provided centrally have been identified, we will need to plan implementation and deployment. Attributes to help define the services we want to establish include:

- effective - delivering solutions that well address client needs;
- flexible/agile - able to be adapted quickly to an ever-changing academic environment;
- innovative - incorporate new technology and more effective uses of existing technology;
- scalable - able to cost-effectively grow as campus needs evolve;
- affordable - have lower cost than if the service is provided locally; and
- high availability - having a high level of operational reliability.

A cost analysis should be performed for each service that will be developed, comparing it with the cost of separate services in each unit, and with outsourcing. In order to properly assess actual total costs to the campus, we have to take into consideration that some service costs are hidden from units. For example, servers have power and HVAC requirements that do not come directly out of individual unit budgets.

The implementation priority for determining which shared services to develop first must be based on the ratio of expected benefits to the cost of implementation. Ideally, efforts that provide maximum benefit at lowest cost should be our top priority. Enhancing existing services to provide greater functionality to existing users and to make them available to additional units may be the place to start. Outsourced services should be used where more cost-effective than in-house services.

After determining what the priority shared service priorities are, the general process for deployment is as follows:

Assessment/Design. Develop an inventory of service requirements from the schools that will use the new/improved service, and establish clear metrics that will help ensure quality of service. Put together service design specifications and make them available for review. Pay particular attention to efficiency, availability, and scalability, and follow a standard project management lifecycle with established projected development and launch dates.

Development. Develop or enhance the service using a combination of OIT and unit staff who are available and have requisite experience. Document metrics and support model for the service.

Implementation/Deployment. Take a phased approach to implementation:

- *Phase I:* one or two pilot units are selected. Criteria for selecting these might include having IT staff from those units available as part of the development team, and units having previous experience with deploying the service.
- *Phase II:* after the successful transition of pilot units to the service, adjustments are made based on lessons learned, including results of load testing.
- *Phase III:* the service is incrementally deployed to remaining units.
- *Phase IV:* lessons learned from implementation of the service are documented, and then used for consecutive service deployments. Based on unit feedback, start to build a list of improvements/features for next version of service.

4. ORGANIZATIONAL STRUCTURE AND TIES

Currently, school IT staff report through an IT director to school leadership such as an assistant dean. Several schools also have faculty/end-user computing committees that provide oversight and coordination. Unit IT staff maintain long-term working relationships with faculty that allow them to provide advice and assistance tailored to specific academic needs. Staff knowledge of research, educational, and administrative activities enhances their ability to effectively respond to them. However, not everything IT staff do is unique and a subset of their attention oversees support activities that could be shared with other units. This would free them to work on higher priority local activities.

The ideal organizational approach is one that will maintain the important relationships IT staff have with home units while establishing new, formal ties to OIT and other IT groups. These ties are what will allow us to consolidate campus IT strategy and incrementally increase the deployment and use of shared services.

4.1. Recommendation – Dual Reporting

The organizational approach the Workgroup recommends is maintaining existing organizational ties between IT groups and units while creating secondary relationships between them and the IT enterprise as a whole. A “Unit IT Director Chair” would be identified to provide academic unit IT leadership, coordinate school activities, and serve as part of the OIT Directors Group. Unit IT Directors would have “dotted-line” reporting relationships to the Chair, who would in turn have a dotted-line relationship to the CIO. The Chair would be appointed by the CIO, through an appropriate collaborative process involving the IT Directors and school leadership, and with the approval of the home unit. The Chair could rotate periodically as needed.

IT groups would remain part of their current units in terms of budgetary control and overall priority setting but strategic IT coordination would occur through the new dotted-line relationships. Dotted-line reporting is a flexible approach but would require careful role definition to make it as effective as direct reporting. Although different than what is being proposed here, the “affiliate” reporting relationship that exists between OIT and IT staff in several administrative units (*Appendix G*) is one example of how secondary reporting relationships can be defined.

The Workgroup also discussed two variations of the proposed dual reporting structure:

- a. Creating several "clusters" of academic IT units based on similar unit requirements and assigning a "cluster chair" for each. The unit IT directors in each cluster would have a dotted-line reporting relationship to their cluster chair, who in turn would have a dotted-line to the CIO. IT Directors within a cluster would work together to support each other's activities and find synergies among the needs of their respective units.
- b. Establishing secondary reporting relationships between each unit IT director and an OIT Director who would serve as a key point of coordination between IT groups and OIT.

Regardless of which reporting approach is selected, there are several critical requirements in establishing effective working relationships among everyone involved in providing and utilizing IT services. These include:

- Clear definitions of central IT staff, unit IT staff, IT leadership, unit, OIT, and advisory/oversight committee roles and expectations.
- Identifying OIT personnel who are responsible for helping to support academic units and for facilitating collaboration, communication and overall interactions with them.
- A comprehensive plan that outlines which services are to be provided locally and which are to be provided centrally.
- Establishing policy regarding what IT decisions are made or reviewed centrally and the process for doing so. For example, software/hardware acquisitions over a threshold amount, establishment of a new service that would replace the school's use of a shared service, hardware and software standard setting, etc.
- Understanding the consequences to a unit that decides to go it alone and not participate to a sufficient degree in consolidated campus IT activities.

The intent of increasing the use of common services is to improve the overall robustness of our IT environment and allow local IT staff to focus on unique needs of value to their units. However, it is possible that staffing for some shared services might draw on some staff currently in unit IT groups. The secondary reporting scenarios do not directly address this, but it is something that should be considered by OIT and the affected units as specific opportunities arise. Another approach to call on as needed would be using teams comprising unit and OIT staff to help implement and possibly provide ongoing support of shared services.

4.2. The Alternative of Combining IT Groups

There are downsides to creating secondary reporting relationships, including the potential for them to be largely disregarded in favor of primary ties. They also could result in conflicting direction being given to IT staff due to different priorities among units and the campus IT enterprise. Making organizational changes that combine IT groups would address these issues and also present opportunities to reassign staff to support shared services or to make the overall most effective use of their time and skills.

Although the Workgroup recommends taking one of the secondary reporting approaches described in the previous section, it did discuss two scenarios for merging IT staff:

- a. Combine multiple academic unit IT support groups into several larger teams based on similar school requirements. This would create larger staff resource pools to allow greater flexibility in assignments and cross-training of staff who play key roles, and would allow more specialization. The manager of the combined units, selected through an internal recruitment process, would report jointly into the schools he/she serves as well as to OIT.
- b. Take the same route as administrative IT consolidation and organizationally move unit IT staff into OIT. It would be essential for staff to maintain existing ties with home units, and most would stay located with them for the immediate future. Unit IT directors would become liaisons between units and OIT and remain a part of school management groups and similar local coordination mechanisms. OIT is still in the process of integrating central IT units that joined its ranks in 2009/2010, and would include academic units in current planning efforts. To ensure positive results, integration of the majority of academic unit support activities would wait until administrative IT integration successfully completes.

4.3. Other Notes

When considering organizational change, it is important to note that there are some major differences among academic units, the Libraries, and University Extension. In addition to the possibility of including all of these units in potential restructuring, it may be appropriate to focus on subsets instead. In addition, IT groups that are not of sufficient size, such as the two-person team in the Department of Education, should become part of larger teams.

The expectation is that the Program in Nursing Science, and the Program in Public Health, who have close ties with Health Affairs, will continue to rely on Health Affairs Information Services (HAIS) for central IT services. The Department of Pharmaceutical Sciences, however, will rely on support from the Office of Information Technology. All three of these former units of the College of Health Sciences will also have access to services OIT provides.

APPENDIX A - WORKGROUP MEMBERSHIP

Steve Carlyle, IT Director, School of Biological Sciences

John Clarke, Assistant Dean & CIO, Merage School of Business

Patty Furukawa, IT Director, School of Law

Carol Jun, Assistant Dean, Henry Samueli School of Engineering

Professor James Meeker, Associate Dean, School of Social Ecology

Adrian Petrisor, IT Director, UCI Libraries

Dana Roode, CIO & Assistant Vice Chancellor, Office of Information Technology

Allen Schiano, Director of Academic Services, Office of Information Technology

Jason Valdry, IT Director, Claire Trevor School of the Arts

Nyma Cain, Office of Information Technology (Administrative Support)

APPENDIX B - FEEDBACK MECHANISMS UTILIZED

The Academic Unit IT Workgroup collected input from School IT Directors, Assistant Deans, and Deans through written questionnaires and in-person interviews, and from discussions with others identified by schools.

School Leadership Questionnaire – Academic Leadership

1. What are the most important local or campus information technology (IT) resources and services that faculty in your school depend on in research and instruction?
2. Where do you see IT making the biggest difference in your school's research and instructional efforts in the future? For example, are you considering new programs that will depend on IT, such as distance education?
3. How well do you feel the combination of local and campus IT services are currently supporting your unit? What changes or additional IT support, services, or applications would enhance your unit's effectiveness?
4. If there is one or more faculty members you would recommend representatives of the workgroup meet with to gather a more complete understanding of your school's current or future IT needs, please list their names.

School Leadership Questionnaire – Administrative Leadership

1. What are the most important local or campus information technology (IT) resources and services that your faculty and staff depend on for ongoing school/unit operations?
2. Where do you see IT making the biggest difference in your School's operations in the future? For example, are there time-consuming processes that you believe IT should be called upon to help make more efficient?
3. From the administrative perspective, how well do you feel the combination of local and campus IT services are currently supporting your unit? What changes or additional IT support, services, or applications would enhance your unit's effectiveness?

Discussions with Deans

In-person discussions were held between Dana Roode and each of the Deans or Chairs. Discussions included immediate issues and opportunities as well as leadership feedback regarding how OIT can assist their school.

IT Director Questionnaire

1. *Please list the services provided by the IT staff in your school.*
 - a. *Rank the importance of each service: 1-very important, 2- important, 3-less important.*
 - b. *If you have student IT staff, how many total FTE of work do they provide on average, and how is their time utilized?*
2. *IT Staff – for each IT staff member fill in the following:*
 - a. *Name, Working Title, Major Responsibilities*
 - b. *High level summary of your IT infrastructure; operating system used, quantity*
3. *For each major application maintained by your school, please identify the following:*
**Criticality should be defined as: If your school cannot function if this application was down for more than 24 hours, then it should be listed as critical.*
 - a. *Application name*
 - b. *What business need is this application fulfilling?*
 - c. *Criticality* – Is it critical for the functioning of your school*
 - d. *Home grown (HG) or commercial (C)?*
 - e. *Programming Language(s) it's written in*
 - f. *Database technology that it depends on*
 - g. *How many FTE needed to keep alive?*
4. *Web Site support:*
 - a. *Do you use a Content Management System? If so, what do you use?*
 - b. *Approximately how many sites does your school support or host?*
 - c. *Who maintains the content of the web site?*
 - d. *Who maintains the design of the web site?*
 - e. *Is the design, development or support of any of the sites outsourced?*
 - f. *What challenges do you find with web site support?*
5. *What do you currently use or have you previously used contract IT services for? Please indicate whether or not the contractors you use are internal or external to UCI.*
6. *How well is your current IT situation serving your unit's needs? Please indicate what your current challenges are, where your IT strengths lie, and any IT manpower or skill sets you are missing due to staff attrition or other reason.*

IT Director Interviews

During interviews with IT Directors, grids were used to track shareable and non-shareable items among met and unmet needs. See sample grid below:

| | | School Name/Date | | |
|---------------|--|------------------|---|--|
| Unmet IT Need | Can Be Shared... I.e. ... Probably exists at many other Schools/Depts | | Poor Candidate for Shared... I.e. ... Unique to my School/Dept | |
| | Met IT Need | | | |

Assistant Dean Interviews

In-person interviews were held between two members of the Workgroup and each of the Assistant Deans to evaluate data and compare thoughts/opinions obtained from the IT Directors survey and interviews with the overall opinion of the Assistant Dean's.

Faculty Focus Groups

Several faculty group discussions were held with individuals suggested by school leadership. Each session was an hour and a half long and attended by members of the Workgroup along with participating faculty. Discussed was the role of IT in education, research and daily tasks, as well as opportunities for improving work efficiencies through sharing existing or new IT services. The questions below were used as a starting point for discussions.

1. What are the most important local or campus information technology (IT) resources and services that faculty in your school depend on in research and instruction?
2. Where do you see IT making the biggest difference in your school's research and instructional efforts in the future? For example, are you considering new programs that will depend on IT, such as distance education?

3. How well do you feel the combination of local and campus IT services are currently supporting your unit? What changes or additional IT support, services, or applications would enhance your unit's effectiveness?
4. What are your concerns about more shared support of IT between OIT and School IT groups? What services and support do you see as being improved through this process?
5. Overall, what areas of overall (OIT and school based) IT service and support do you see as working well or needing improvement?

APPENDIX C - IT GROUP MANPOWER SUMMARY

The unit IT Directors were asked to estimate the amount of time that their staff spent on average in supporting each service their unit provided. The table below summarizes the total manpower spent on each category of activity.

| Activity Category | FTE | Total FTE by Unit | |
|---------------------------|-------------|--------------------------|-------------|
| Academic Support | 4.7 | Unit | FTE |
| Application/Database | 11.4 | Arts | 4 |
| Audio/Video Streaming | 2.1 | Bio Sci | 5 |
| Desktop/Helpdesk | 26.8 | Business | 14 |
| Grad. App. Tracking | 4.8 | Education | 2 |
| Instructional Lab | 7.6 | Engineering | 5 |
| Local Network Support | 12.5 | Humanities | 7 |
| Classroom/Conference room | 0.5 | ICS | 8.6 |
| Training | 1.8 | Law | 4 |
| Web/CMS Hosting/Devel | 16.5 | Libraries | 16 |
| Miscellaneous IT Activity | 1.7 | Nursing Science | 1.5 |
| Non-IT Activity/Services | 3.9 | Physical Sciences | 6 |
| | | Public Health | 1.2 |
| | | Social Ecology | 4 |
| | | Social Sciences | 9 |
| | | UNEX | 7 |
| | | Pharm Sci | 0 |
| Total | 94.3 | Total | 94.3 |

APPENDIX D - IT GROUP SHARED SERVICES TALLIES

During interviews with unit IT directors, IT needs were identified as to whether or not they were shareable if quality of service requirements were addressed, and as to whether or not they were currently being met. The major support activities are listed below along with a tally of the number of times they were placed in each category by the units.

| Met/Sharable Service | # Units |
|--|---------|
| Website Hosting and/or CMS | 11 |
| Desktop Support (Staff) | 10 |
| Instructional Lab Maintenance | 10 |
| Virtual Servers management | 10 |
| Physical Servers Management | 9 |
| Graduate Student Tracking & Finance (GATS) | 7 |
| Email | 6 |
| Backup Services | 5 |
| Network Security & Admin | 5 |

| Unmet/Sharable Service | # Units |
|--|---------|
| Financial Reporting Tools | 6 |
| Document imaging and workflow | 4 |
| Software Distribution and Licensing & Tracking | 4 |
| Comprehensive SIS Grad and Undergrad | 3 |
| Instructional computer lab support | 3 |
| Distance Education | 3 |

| Met/Non-Shareable Service | # Units |
|---------------------------------|---------|
| Local support -Labs | 8 |
| Local Support-Faculty | 7 |
| Local support-general | 7 |
| Web services, website | 7 |
| Applications - unique to school | 5 |
| Database administration | 4 |
| Local support-classrooms | 4 |
| Research Support | 3 |

Note: Units also had Unmet/Non-Shareable service requirements.

APPENDIX E - FACULTY FOCUS GROUP OBSERVATIONS

Desktop/Equipment Concerns

- Would like replacement of outdated computers every 3 years
- Concern over labs having old computers with legacy software
- Faculty need computers that are under warranty as there are no funds to repair those without warranties.
- Distinguish research computers from those used to support education
- Consistency among schools is an issue; not all classrooms have the same equipment, software, etc

Importance of Local Support

- Responsiveness – will centralization meet expectations?
- Faculty rapport with IT staff is very important.
- Some faculty require more “hands on” support than others.
- Researchers have specialized computers that need unique local support (i.e., robotics).
- Some computing applications are tailored to the school’s programs.
- Research functions need local support.
- A satellite location on each side of campus may help improve timeliness of classroom support.
- Support staff having an overall knowledge of the systems of the school is important.

Other Concerns/Considerations

- Software licensing- there is some confusion on buying software vs. purchasing through the department. Faculty are unsure of who to go to for buying software licenses. Costs are very high for some standalone programs.
- There is a need for more software training.
- Administrative Systems should be centralized.
- Retention and quality of staff is a general concern.
- Innovation may not occur in a centralized environment.
- OIT needs to provide a liaison with the schools.
- OIT currently provides services at reasonable rates. Will costs remain low if we consolidate?
- If centralized, a formal reporting line would be beneficial. How would the reporting line be constructed?
- Sharing applications across campuses should be done more often.
- The needs of the campus versus the needs of individual schools should be considered.
- Process maturity within OIT - How mature is the process that is currently in place in OIT? Is it mature enough to support everyone on campus?
- Quality threshold - Is the quality of the service equal or better than the service that they are already being provided? Are they even capable of providing the level of service necessary?
- Look elsewhere for solutions - We need to look to other campuses for solutions to problems not just within our own campus.

- Economies of scale need to be considered - improve on those things that are absolutely critical to the campus

IT Needs for the future:

- Shared platform, “Cloud” services may want to be considered in the future
- Data record requirements
- Calendaring system integration with better smart phone sync ability
- Clickers may be used more as classroom sizes increase.
- Possibility of moving to more web apps for services such as GIS software, browser toolbars, social media, etc
- Possible increase in the need for storage clusters.
- Off campus data backup/commercial backup services
- Distance Education
- Instructional Classrooms-Faculty may benefit from having a “practice classroom” where faculty can go through the equipment and practice their session before going in front of students.

How might Collaboration Benefit Schools?

- Administrative Applications
- Website Management
- Content Management System
- Graduate Admission Tracking

APPENDIX F - SUMMARY OF UNIT OBSERVATIONS

Listed below are some high-level observations from the two-person Workgroup teams that interacted with each school or unit.

Claire Trevor School of the Arts

- Needs more support for computing labs, research, streaming video and development of new services and features
- The cost of software for computing labs is higher than cost of software at other schools; limited funding for software limits their growth of programs for School of Arts majors as well as the broader education of non School of Arts major students
- Since school is short staffed in all areas, additional application development could help by making more office automation possible
- IT staff has strengths in of the unique challenges faced by Artists in a digital word
- Provisioning virtual servers from OIT would better meet the needs of the School for file storage and video streaming
- A faculty desktop refreshment plan is needed to augment aging desktops which place large time demands on IT staff

School of Biological Sciences

- Much of the locally built software applications are dependent on one programmer. They are hoping that the majority of those can be phased out with central campus solutions. They are concerned on how quickly the central campus services can provide an alternative.
- They are happy to move things like administrative desktop support to central services but they must be able to retain some control to continue to be able to assist locally. The “cookie cutter” approach to desktop deployment will not work for about 10% of the machines within Bio Sci. The other 90% may work with some modifications, so local control will need to remain.
- Management of the server infrastructure – both physical and virtual – are okay to move to a central service as long as less expensive than local services. However, quality-of-service, including response time and cost, are an issue. In addition, researchers on limited grant funds may not be able to continue to pay an annual fee that may be charged by a central service when the grant ends.
- If they can leverage more of the centralized services, they can better serve their community with expertise needed to keep up with the biological research technology needs of their faculty.
- IT staff to support research must remain local because they have the expertise and the relationship to with the faculty which is critical. There is a sense of trust between the faculty and the IT staff and who is knowledgeable on the needs of the faculty.
- Reporting structure must remain in the school. Differing priorities between the school and a central administrative unit can cause problems. The trust between the school and a person who is not reporting directly to the school is difficult to attain.
- There are good opportunities where all academic units can leverage a central system from, such as better software applications that merge various information from Human Resources, facilities, course enrollment, financial, etc.

The Paul Merage School of Business

- Control of classroom environments and technical support of those rooms is integral to the program and is not something that should be consolidated.
- Financial viability is heavily dependent on student/customers in the evening and weekend programs.
- Innovative and nimble response to the IT demands of students is key to their success, especially with their laptop(PC & Mac) program.
- Topical knowledge from the IT staff(50% have MBA degrees) is critical to understanding the curriculum as well as faculty research needs
- Merage Graduate students pay a premium and expect a high level of service for that.
- Merage favors some IT service consolidation as long as support levels are not compromised
- Systems like Quali are a step in the right direction.

Department of Education

- Department of Education has a very small IT unit: only 2 staff plus 2-3 students
- Relies heavily on collaboration with OIT on a range of services
- Concerns about support of credential program for teachers (unique program to Education)
- Need more support for research, including infrastructure (especially server storage and data backup), data analysis and solution analysis
- Very interested in sharing desktop support; server infrastructure in need of urgent improvement
- Currently adopting Hannon-Hill web content management system but is getting demand to support Drupal from research efforts in department
- Continuing move from a Mac-based shop to a Windows-based desktop and server environment

The Henry Samueli School of Engineering

- Engineering has tried to obtain services from OIT, but it has not met the quality-of-service required, therefore Engineering has kept things in house.
- The school would be happy to move many local services over to OIT provided the quality-of-service and response time is equal to or better than that provided by local IT staff.
- The school would like modernization of administrative systems (financial, personnel, payroll, purchasing).
- In addition, the campus would benefit from a unified, open, campus-wide document management platform that can be integrated into local applications.
- The combination of local and central IT services can be greatly enhanced if the two could collaborate to strengthen existing programs such as GATS. They would like to see a student information system which includes scheduling, course outcome surveys for accreditation, tracking student progress, and graduate student funding.

School of Humanities

- School is supportive of IT collaboration across the campus
- Faculty and staff are satisfied with the current IT support, and close and immediate support of faculty is important

- Is trying to move from in-house built content management system to Drupal
- Not able to provide specialty programming due to lack of resources; desktop infrastructure is old, with no funding for replacement
- Due to recent staff losses there is a strong need for programming resources to develop or upgrade school systems. At same time, IT staff are doing some administrative work previously done by others (web content creation)
- Strong need for an upgraded student information system to replace local development of school based systems
- Demands on local IT staff to support mobile devices is growing

Donald Bren School of Information & Computer Sciences

- Research groups in the school make extensive use of computer clusters and frequently have extensive data storage needs. The faculty rely heavily on the ICS Computing Support staff which does an excellent job.
- On-line degree programs are not in the immediate plans for ICS but are seen as being an important need that will have to be addressed in the future.
- Administrative web-based programs are essential for the school to operate and manage as efficiently as possible. Campus and local IT can make the biggest difference by developing campus-wide systems for graduate and undergraduate student information systems, modern purchasing/procurement system, time reporting system which interacts with PPP, equipment tracking system, and calendar/room reservation system.
- There is a need for a comprehensive graduate/undergraduate student information/management system. Both ICS and Engineering are working together to develop a local system that can be shared with other schools.
- Communication between IT and other schools on campus is a concern. There is a need for more formal communications between local IT group and central campus IT.

School of Law

- The Law School is the newest school on campus and the only unit that operates on a semester basis which makes many of their student activities and reporting requirements unique.
- The school works with the Paul Merage School of Business and OIT to leverage IT resources as much as possible. The school is taking maximum advantage of what OIT can currently support. They are outsourcing many services to OIT such as network/server administration, calendaring/email, and virtual servers.
- Local IT staff provide immediate response for classroom technology and faculty/student support which is critical to their teaching environment. Response time is so critical that instant communications have been provided via an intercom system.
- The school would like to see central IT provide more support for central campus systems (financial, personnel, payroll, purchasing, document management) so the local IT can focus more on applications unique to their school such as those relating to admissions and American Bar Association requirements.

Libraries

- Current IT staff have topical knowledge in managing and using the Integrated Library System(ILS). IT Staff have undergone specialized training in various ILS modules.
- Works closely with Librarians to develop all internal applications including financial systems that integrate with campus billing and the ILS system.
- AntPac and web services are critical to the Libraries
- Infrastructure and administrative support are good candidates for OIT consolidation for example, file storage systems like WebFiles and MS Office software.
- Concerned about lack of control when OIT and Libraries' priorities differ.
- Quality of consolidated services must be so good that departments won't want to spin-off local implementations. Library would use any service that is better and cheaper.

Program in Nursing Science

- Expected growth in distance education for Nursing program
- Many services require protected health information security, which makes collaboration challenging for faculty
- Currently all IT services and development is dependent on one IT staff member.
- Centralized Software licensing could be improved for common applications like SPSS.
- Would like to see HAIS and central campus using one system. Students have trouble when transitioning between the two systems
- Would like to see central campus training for common apps like SPSS, Office, and OS

Department of Pharmaceutical Sciences

- They feel much of the systems on campus are antiquated, proprietary and do not work well with the other. Ideally, systems that deal with student data, faculty data, payroll, and financial data should all be interrelated in one system.
- The department currently does not have any local IT support but they are willing to share anything and everything with a centralized campus service and feels that the campus is better served going with a more centralized model.
- Better distribution of commonly used software from a faculty perspective would be ideal.
- Their experience has been that the OIT helpdesk needs to have better communication within their own organization. They have found that in a couple of instances, two people ended up working on the same problem.
- They would like to see better support of research labs, more educational technology support, and the ability to "design projects that can be completed online".
- Networking of lab computers may be somewhat unique to Pharmaceutical Sciences because the users are higher level users and not the usual administrative desktop users.

School of Physical Sciences

- The “Webworks” application used by school undergraduates to turn in their math assignments should be taken over by OIT since it is a natural extension of EEE.
- Server support can be moved to a central service but is concerned that OIT may make a change later on down the road that breaks their business process causing them to shift back to them running it on their own.
- They have various specialized software that can possibly be shared with other schools like Biological Sciences and Engineering. However, the user level is much more sophisticated than what a central service is used to providing.
- Their experience is that the central service doesn’t adapt to change quickly and is often slow responding. A central service is often not accountable to the clients that they serve. They seem to only be accountable to the process not the people.
- They have made the conscious choice to spend very little staff time on administrative IT support.
- They have made a large investment in IT staff to support the research needs of the school and the IT staff is integrated with the research efforts of the school. The expertise and the investment in IT for the level of service that is provided for research is critical for the functioning of the school. They do not want this to be affected by any consolidation plans.
- They already share resources with others on campus. Examples are server clusters: Green Planet (a server cluster shared with Medicine, Engineering, and Bio Sci), MPC, and BDUC. They are willing to work with others to expand this.
- It is critical that IT continues to report to the academic unit so that they are accountable to the school and its needs. If reporting relationships change, it would create road blocks and priority conflicts.

Program in Public Health

- They are in the middle of the accreditation process, and need IT programming support to develop and maintain current student affairs processes for management and reporting. They have specific need for adequate computer lab space for accreditation.
- The Program is considering distance learning in response to campus interests in this area.
- Their data may contain patient-related information; some of their web-based applications are very course specific.
- Need a better data backup process and backup support for the website
- Provides IT support for Pharmaceutical Sciences as well.
- Difficulties have occurred between access to data via IT services provided by either H AIS or OIT. Data with patient information is often used by faculty.

School of Social Ecology

- Due to lack of staff, IT Department is currently in 'maintenance mode', putting out fires rather than introducing new services or improving existing services, with limited staff knowledge and lack of cross training among them
- Needs more research support; IT support is more for graduate students than for undergrads
- Social Ecology has unique desktop support needs, with faculty expecting immediate support response

- Interested in GATS, but do not have the resources to install and support the application
- They are already involved in distance education, but want to extend it
- Expressed need for more coordination across the campus on data definition, collection and sharing.
- Faculty and TA evaluation system is legacy software and could break anytime, therefore it needs to be replaced
- Interested in central services, but would like to see clear Service Level Agreements and the quality and features of existing services to be improved before adding new services

School of Social Sciences

- The school has a high diversity of user requirements (many departments, centers and labs); they have used DCS service before, but returned to internal service to be able to provide more flexibility and responsiveness
- School growth will be mainly in graduate programs, leading to need for application development and support for these programs
- Expressed interest in finding ways to augment instruction with online information and activities (distance education is an option)
- Emphasis on desktop support - users expect high quality desktop support, and IT has allocated significant percentage of resources to this area
- More research support needed, since in Social Sciences is very hard to get funding for technology in grants
- Need for a more robust disaster recovery service

University Extension

- In general, UNEX runs quasi “for profit” educational programs which cover costs and returns residuals to the university. Everyone interviewed at UNEX stressed that no actions regarding IT sharing should be mandated that could adversely affect their business lines.
- If shared central services were offered at attractive rates, UNEX would gladly reduce their costs by adopting those services, provided quality of service was above a threshold.

APPENDIX G - ADMINISTRATIVE UNIT AFFILIATE REPORTING

March 5, 2010

As a part of UCI's IT consolidation initiative, IT staff in administrative units will be moved organizationally into the Office of Information Technology, along with their positions and funding, and unit IT budgets. However, in a few cases, unit IT will initially report into OIT through an "affiliate" reporting relationship. The long-term goal remains to integrate all administrative IT services and staff into OIT.

Affiliate reporting will be utilized in a few units that have one or two IT staff who perform a wide variety of specialized and unique functions, in addition to routine IT functions. These unique functions are difficult to immediately integrate with other IT functions, although this will become more viable in the future. It is important that the business of the unit not be disrupted through a flawed integration.

In an affiliate reporting relationship, salary and IT budget stay within the unit and IT staff continue to be supervised primarily by unit management. However, OIT provides secondary direction of unit IT through an OIT manager who serves as the unit's Affiliate Contact. Unit management continues to make IT decisions but with the additional consultative support of the OIT Affiliate Contact.

The responsibilities of each party are summarized below:

Unit Management

- Continued supervision and funding of unit IT staff.
- Periodic meetings with OIT Affiliate Contact regarding IT operations and plans.

Unit IT Staff (or Unit OIT Contact)

- Actively participating in regular meetings with their OIT Affiliate Contact and others in OIT to facilitate the flow of information about unit IT to OIT, and campus IT activities to the unit.
- Sharing IT concerns and options with OIT to maximize results, to understand how unit services integrate with other campus services, and to leverage adherence to campus IT standards.

OIT Affiliate Contact

- Meeting periodically with unit management regarding IT operations and future plans with special emphasis on impact and incremental benefits of IT consolidation.
- Meeting regularly with unit IT staff regarding unit IT requirements and activities, including professional development.
- Facilitating access to expertise in OIT to assist and guide unit IT projects.
- Providing advice and support on making unit IT decisions, helping to integrate unit IT services into overall campus services, and encouraging the use of IT standards.
- As resources allow, providing backup assistance to unit IT staff to cover absences.
- Assisting with IT staff recruitment if current staff leave.