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Introduction

University of New Mexico (UNM) has retained Technology Integration Group (TIG) to evaluate recent recommendations from Kurt Salmon & Associates (KSA) and make recommendations on the following at UNM's main campus:

- Central IT Organization
- Role of Central IT/Role of Departmental IT Services
- Role of CIO
- IT Governance
- Short Term Improvement Plan including any Outsourcing Opportunities

This report outlines the findings, observations and recommendations including the deliverables.

This report excludes branch locations and the Health Sciences Center (HSC).

Executive Summary

TIG Consultant conducted over 30 interviews/meetings/open forums which included over 300 employees to assess Central IT and departmental IT. The top issues identified almost unanimously are as follows:

- Lack of Trust in Central IT – The users outside of IT in various colleges, almost at all levels, felt they did not trust that Central IT had the leadership and will to serve the University effectively. They felt that the CIO in particular, did not have strategic vision to lead IT. This stemmed from lack of open communications from IT more than the fact that there was anything covert going on within IT. The lack of open communication and leadership led to lack of trust.

- Lack of Leadership in Central IT – The general opinion amongst both internal IT staff and external users, including decentralized IT staff, was that UNM did not have a strong IT leadership. They felt the current leadership lacked the confidence of the IT staff, trust of the end users, and any strategic direction. Some of the comments stated that the leadership was passive rather than active. This led to IT being reactionary rather than proactive.

- Central IT as a Cost Center Vs Service Center – Given that IT was charging the end users for most services, it was evident that IT was looked upon as a vendor, rather than internal resource. Even Central IT had instances including, but not limited to, security issues. These instances include scenarios where some users were denied services because they did not have the budget to pay for security support from Central IT. Whenever support was needed, the conversation always began with cost and budget. This has led to IT being seen as a shop over a service or utility center for end users.

One conclusion from the interviews and observations was that UNM was not getting full return on investment on its IT spend. While spending a higher amount of money compared to national statistics, the satisfaction level in IT Services was very low. In comparing with public doctoral institutions nationally using EDUCAUSE data, UNM was spending more than $650 or more, per full time equivalent user. Like any institution there is room for improvement in the infrastructure.
and there are unmet needs of the institution, however the IT spend has not shown any significant return on investment, meaning, although the financial structure and spend is there, the return on investment, measured by end user satisfaction, is not.

IT needs to be centralized, under a strong leader who will gain the trust of the UNM community as a whole and the internal IT staff. The leadership needs to be collaborative, forward-thinking and strategic.

There is lot of duplication of services and often IT spend. Many of these can be centralized and save UNM money in the long run.

A new funding model needs to be outlined so UNM Central IT is not an IT Shop and becomes an IT Service center just like a utility.

The IT Governance needs to be defined and be more inclusive. It should have a well-defined scope and charter.

**Observations & Findings**

The TIG Consultant met with over 300 employees from all sections of UNM, including some faculty and staff including all levels of IT staff over the course of two weeks. These meetings included the following:

- Executive Leadership at UNM
- IT Leadership
- IT Managers
- College/Division IT Managers
- Deans
- Administrative Heads of Key Administrative departments – Finance, HR, Enrollment Management, University Communications & Marketing, Institutional Support Services, University Press, Internal Audit
- HSC Leadership
- Academic Affairs including Associate Provosts, Research, Library, NMEL, CARC
- IT Staff

There was a consensus across the board that the current IT service structure was broken, doesn’t serve the University well, and there is no trust in Central IT. Everybody who attended the sessions was of the opinion that IT needs to change; the current set up doesn’t work. The feeling was consistent with the internal IT staff as well. Each college/division is managing their own IT needs. There are departments that compete for the same service as a provider and often are able to provide the same service to other colleges/divisions at a lower cost than IT. The University has multiple licenses for same tools in some instances, and in some instances multiple providers for the same services.

The, “Pay for Service” offerings from Central IT seems to be a sore point. There are colleges/departments offering the same services at a lower price and often with better service. This has resulted in Central IT becoming less competitive in price and service. There are two
colleges who use outside third party services for the same services offered by Central IT because they can get better service at a lower price from third party contractors. This was a consensus – “we can get better service at a lower cost from others, including other colleges and yes, the finance department at the University”. An example of this occurring is with desktop support being provided by the Library at what seems to be a lower cost than Central IT. The finance department is also providing less expensive desktop support to Internal Audit compared to Central IT. Similarly, many divisions/colleges maintain their own data center, where they house their servers. This leads to replication of core services and underutilization of expensive skill sets. System/Network Administrators that support these functions can be part of the larger Central IT team and gain some efficiencies.

The issue is not that UNM doesn’t invest in IT. In fact, UNM invests more in IT than peer institutions.

When compared to other public doctoral institutions across the country, IT spend per FTE is higher than the average. Here are some observations based on EDUCAUSE Data:

As illustrated above, UNM has 9.1 IT staff FTEs per every 1000 FTE of student, faculty and staff. The average for a doctoral public institution is 7.0. Similarly, the median IT spend for UNM is $2,209 per FTE of faculty, staff and student, while the median for a doctoral public institution is $968.
The issue is not that there isn’t enough staff in IT, or that there isn’t enough money invested in IT. The issue is UNM spending wisely on IT. There is a Director of IT in some of the major colleges; some have multiple Directors/Managers. In addition, some of these managerial/director positions are managing just one FTE. On the other hand, we have Central IT that feels they don’t have enough staff to address the needs of the University. This has resulted in inefficiencies. It also has resulted in CIO by committee – many Directors of IT at the colleges are “CIOs for that college”. This would work if UNM had a strong participatory governance in place and trust between Central IT and the rest of the campus. There are 21 Directors/Managers outside of IT excluding the Health Sciences Center (HSC). Central IT has 32 managers. That is, 53 managers supporting IT functions within UNM, excluding HSC.

Most of the shadow IT operations stemmed from lack of service from Central IT or the cost model for Central IT was too expensive. Given that departments were going elsewhere for the services, the cost of delivery from Central IT became more expensive. This was detrimental specifically in the security area; colleges would opt to not report or address security incidents because it was expensive to engage security services internally from Central IT. Again, this creates a dangerous cycle where incidents go unreported and could lead to escalated issues of great severity if not addressed upon discovery. The cost model has become disincentive to use Central IT, especially given the perceived quality of service.
The IT Governance committee, or IT Agents Group, felt that they didn’t have any say or the opportunity to express their needs/concerns. The committee meetings were usually one sided with the IT leadership giving a report. There was no open dialogue on any issue or projects. A similar comment was made by the IT Staff about their meetings with the IT management as well.

There is no single ticketing system at the University, making it very difficult to track actual IT work load/demand. Central IT, itself, does not have one single ticketing system. Instead, Central IT uses two different systems causing a number of inefficiencies. For instance, when a ticket needs to be reassigned to another team within IT or rerouted, a new ticket has to be created, if the new assignee team uses a different ticketing system. This causes delay and lag in serving clients. It also makes resource demand analysis and projections difficult. Combining ticketing systems into one will result in savings and an ability to pull real time metrics to measure the performance of end user support on a regular and consistent basis. The ticketing system should also be transparent so the users know the status and progress of their tickets for increased customer service.

Combining helpdesks will also result in savings. There are six different helpdesks in operation, and in some cases, students have to call multiple helpdesks to get a resolution. This leads to a dissatisfied and frustrated end user.

Given the siloed nature of IT, departmental heads often end up meeting with three different managers/staff from IT to discuss one project. This leads to extra meetings and managing their own IT needs. This has resulted in some departments hiring their own managers and project managers to manage their IT needs, rather than using a project manager form the Office of Project Management.

**Recommendations**

The purpose of these recommendations is to gain efficiencies and build a robust IT organization that the UNM community as a whole will trust and will engage for most of its core IT services. The central principle behind these recommendations are based on the following guidelines/framework:

- Central IT provides core IT services that all of University of New Mexico would benefit from
- Data is owned by the users and not IT
- Core IT services should be funded as a service center just like any utility on campus and function as such

Central IT needs robust leadership, a leader who can “lead”, not just manage the Central IT. This person needs to gain the trust of all of Central IT, and the UNM community in general. A recommended job description for the CIO is included in Appendix A.

To respond well to the new IT environment, an IT organization needs to be resilient and ready to explore and take on new challenges, all on increasingly short timelines. With tighter budgets and more managers focused on management these days, the number of middle managers is decreasing, to help have a larger staff who focus on service delivery rather than on
management. This is a popular service model that is being utilized by other educational institutions, with successful results and return on investment.

It is recommended that all core IT services (Appendix B) be centralized. A recommended organization chart is included in Appendix C. The principle behind this structure is reporting to Central IT if it is a service that impacts a majority of the University. However, the Data Analyst and Web Developers remain within the colleges and each college will have a College IT Officer who will be the point person for that unit’s IT escalation point. This person will represent IT at the administrative meetings of the college and represent the college to the IT leadership. Each college will have embedded Tech Support Staff reporting into Central IT.

It is recommended that the Helpdesk and Ticketing Systems should be centralized. This is the first step towards a, “One IT” solution. This will also help to speed the transition of the change. In addition, the desktop support staff should be placed in colleges, even though they report to Central IT. Industry standard, according to the Help Desk Institute (HDI), is to assign one technician to every 180-200 units, depending on the age of the equipment. Having techs stationed physically in the same location as the devices, will help build relationships with end users and also allow the techs to get to know the environment and provide a sense of ownership within that location. The techs will work closely with IT Officers, their managers and local leadership with the colleges/departments.

There is room for consolidation and simplification of processes, tools, and skillsets. As mentioned before, a prime example is the ticketing system used to track workloads. Even Central IT doesn’t have one central ticketing system that is used by all IT. Within IT there are multiple ticketing systems. The non-management staff felt disconnected with upper IT management. The staff felt that Central IT doesn’t function as one IT unit and it shows. To gain trust of people outside IT, there is to be trust and pride within Central IT. The Central IT staff doesn’t trust their HR staff, because they report to the CIO. They felt they could not talk freely with HR given the reporting structure. It is recommended that HR functions of IT be consolidated with central HR with an assigned IT representative reporting directly to the HR leadership.

It is recommended to bring Academic Technologies, that is, the campus organization providing the services, be moved under the Central IT umbrella. The modern trend is blending of academic and administrative technologies – the line between the two is blurring. The two cannot survive without the other. A strong infrastructure is needed for a robust academic technology environment to be successful. This integration will help draw the lines at UNM.

Reporting needs to remain decentralized, yet a strong report writing functional team within IT, to help those that don’t have the ability or liberty of writing their own reports, should be assembled. A uniform reporting strategy should be institutionalized. The University should work towards a uniform reporting tool and strategy, so that all reporting is standardized and consistent across all teams.
IT Governance needs to include representation from academic and administrative units. The proposed Governance structure and framework is as follows:

**The Framework for IT Governance Council**

The IT Governance Council establishes the strategic, operational, and technical decision-making process necessary to ensure an innovative, reliable, and robust information technology. It is responsible for all major IT decision-making for the University and provides guidance as well as sets IT priorities in alignment with the University’s strategic goals and mission.

To ensure that significant opportunities for leveraging technology are considered, the IT Governance Council receives input from the Academic & Administrative Technologies Advisory Boards.

The primary goals of the IT Governance effort are:
* To align IT’s direction with the University’s Strategic Plan and the University’s business priorities
* To share awareness of the decision-making process that determines where IT resources are applied

For IT governance to be successful, the committees must hold the following values:
* **Transparency** — Governance structure and process must be clear. How decisions are made and who has input rights and decision-making rights must be readily apparent to campus.
* **Communication** — Communication must occur into, out of, and across the committees and with campus.
* **Accountability** — Committees and task forces must be held accountable for delivering their responsibilities. Clear escalation paths for issue resolution must be defined and outlined in charter documentation.
* **Responsibility** — Governance structure must focus on decision making and results more so than implementation and project management.
* **Appropriate representation** — Constituency groups across campus must be represented.
- **Active support** — Governance structure requires that the CIO’s staff support the process. Agenda setting, meeting logistics, issue tracking, and communication are all essential aspects of active support.

**Charter for IT Governance**

Information Technology Governance at UNM is comprised of an IT Governance Council and two advisory boards. This group represents individuals from all facets of the University. The collective goal of this group is as follows:

- Develop, review, approve and enforce policies, procedures and standards relating to information technology in use and information security at UNM
- Review, approve, prioritize and monitor all major IT Projects at UNM
- Maintain single repository of documentation related to information technology and information security
- Define, develop, strategic goals and priorities for information technology including information security
- Identify and establish sub-committees as appropriate to complete overall charge of this Group

**Advisory Boards**

Two advisory boards will support the IT Governance Council to carry out its charter. The advisory boards will rotate the Chairmanship of each of the boards on an annual basis so that equal representation is given at the IT Governance Council. While initially it may be required to have larger membership for each of these groups, optimal group for an efficient use of time and representation is anywhere from 10-12 members. The IT Governance Council may alter the advisory board memberships as it seems fit. The advisory board may appoint adhoc committees as necessary to support its functions with a set agenda and term.

The Network and Infrastructure policies and priorities are primarily driven by the demands of Academic and Administrative Technologies. As such, there is no separate advisory board for Network and Infrastructure Technologies. Should a need arise to address an issue outside of Academic and Administrative Technologies, it will be addressed at the IT Governance Council directly.

**Academic Technologies Advisory Board**

Academic Technologies Advisory Board is charged with making recommendations to the IT Governance Council on strategic directions, operational guidelines, policies, standards and project priorities related to Academic Technologies which includes but is not limited to classroom technologies, online learning, research technologies, pedagogy support tools, distance education and related innovative technologies.
Administrative Technologies Advisory Board

Administrative Technologies Advisory Board is charged with making recommendations to the IT Governance Council on strategic directions, operational guidelines, policies, standards and project priorities related to Administrative Technologies which includes but is not limited any technologies that support administrative functions of the university like Enterprise Applications, report writing, CRM, document imaging, telephony and email.

IT Governance Council Membership

- EVP for Administration
- Provost
- President’s designee
- Chair of the Administrative Technologies Advisory Board
- Chair of the Academic Technologies Advisory Board
- CIO (Ex-Officio)

Academic Technologies Advisory Board Membership

- Deans
- Associate Provost for Curriculum
- Vice President for Research
- Director for CARC
- CIO (Ex-Officio)
- Director for User Experience and Engagement (Ex-Officio)
- Director for Academic Technologies & Innovation (Ex-Officio)

Administrative Technologies Advisory Board Membership

- AVP for Enrollment Management
- VP for HR
- Controller
- Sr. Vice Provost
- Director for Internal Audit
- AVP for Institutional Support Services
- AVP for Planning, Budget & Analysis
- CIO (ex-Officio)
- Deputy CIO (Ex-Officio)

Service Level Agreements and Expectations for Central IT Services

All core IT services will be maintained with the following IT Governance approved (need to be approved) expectations:

- 99.9% System Availability as reported annually, excluding planned outages
- Central IT will maintain a standard pre-determined maintenance window
- Level One Support on standard tools and applications
• Currency within the last two major versions of any standard software, operating systems, applications

While Central IT will strive to attain 99.9% uptime, each of the following services will follow general guidelines for incident/issue resolution.

Priority One Issue: Typically, a Priority One issue is an issue that impacts the whole University in General, an isolated college, building, group, or a class in session. All Priority One Issues will be responded to within fifteen minutes of notification of an issue. Notification of an issue means either a central helpdesk or an IT staff has been notified.

Priority Two Issue: Typically, a Priority Two issue is an issue that impacts staff or faculty who have an issue during normal business hours and has no alternative source to work with. An additional example of a Priority two incident would be a staff member who has a personal UNM printer that is not working in his or her office. All Priority Two issue will be responded to within two business hours. Exception to this would be somebody who has two devices – a laptop and a desktop computer or a bank of computers in the office. In these cases, the Priority would be set at Priority Three.

Priority Three Issue: Typically, an issue that has alternate source/path that allows a user to continue working without any production impact. An example is one computer in a bank of four computers in a Registration Area or a user who has a laptop and a desktop computer, as mentioned above. Priority Three issues would be responded to within two business days.

Priority Four Issues: Typically, a project – ad-hoc, long term and short term, is considered Priority Four. A request for due diligence, analysis, recommendation etc. would also be considered Priority Four. Priority Four issues have a negotiated deliverable timeline.

Central IT should strive to attain a 95% or higher adherence to response time guidelines annually.

**Escalation Path for Issue Resolution:**

The following is the escalation path for issue resolutions:
Scope of Central IT Services

Industry Standards recommend that any IT services that impacts majority of the end users at UNM should be included in Central IT Service offerings.

Below is a high level catalogue of services offered by Central IT:

- **Network** – both Data and Voice including Security of any such infrastructure
  - Wireless Networks
  - Wired Network
  - IP Address Management
  - Network Management
  - Internet Connectivity
  - Network Security
  - UNM Campus Connectivity
  - Master Hardware Contracts
  - Emergency Notification Systems
  - Voice

- **Data/Application Hosting Infrastructure** including Operating Level System Administration including Database and Security of any supported systems
  - Identity Management
  - Database Administration
  - Data Level Security

- **Enterpise Level Applications** including any associated UNM Standard auxiliary support systems excluded is end user training on use of any such tools. This includes installation and maintenance of University accepted standard inquiry and analytical tools. Functional expertise and data ownership of such systems will be maintained by respective End User Departments and Data Stewards.
  - BANNER Systems
  - Report Writing Tools
  - Enterprise Level Document Imaging
  - Auxiliary Systems
  - Enterprise Level Application Maintenance
  - CRM
  - Enterprise Level Web Development

- **Collaboration Tools** – all UNM standard tools used for collaboration by the university constituents – email, voicemail, video conference, Document sharing and storage systems excluded is end user training on use of any such tools.
  - Email
  - Voicemail
  - Video Conference Tools
  - Share Point
  - Shared Storage
• Standard Office Tools – Installation, level one (preliminary, entry level) support of all accepted standard office tools used on a regular basis by the University, excluded is end user training on use of any such tools.
  o Windows
  o Apple OS
  o Microsoft Office
  o BANNER Navigation
  o Onboarding
  o Termination
  o Standard Image

Services such as reporting, data ownership driven processing functions, Web Development, Desktop Publishing, Adhoc Queries, User Testing and acceptance, Specialty software tools administration (an example is Library Catalog services or Law Schools’ specialty software) are not included in the scope of Central IT Services will be maintained and supported by individual departments. However, these systems will be hosted by Central IT. The functional expertise and Data ownership of these systems will be maintained by departments. Any expertise needed to install and configure non-standard systems hosted by Central IT will be provided by the System Owner (Department purchasing such a system) either through third party installation services or consulting services. Lexis Nexus is an example – Law school would purchase it, will hire expertise to install it on Central IT provided virtual servers/standalone servers as recommended by the vendor.

Functional onboarding Training is the responsibility of individual colleges/departments. When a new version of BANNER that is significantly different from existing version is released, professional training of the trainers is recommended. This training should be arranged by Central IT.

IT Funding

To simplify and help better serve the university constituents and streamline services, it is therefore recommended that a new funding model be instituted. The most common and best funding model is based on headcount based fees.

Below is how it works:

Summary "Funding Model"
FY15 data used for illustration purposes

<table>
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<th>EXPENSE</th>
<th>$ (millions)</th>
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<tr>
<td>Central IT Expenses</td>
<td>$31.4</td>
</tr>
<tr>
<td>Labor</td>
<td>$14.0</td>
</tr>
<tr>
<td>Operating</td>
<td>$5.8</td>
</tr>
<tr>
<td>Other</td>
<td>$11.6</td>
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Departmental IT Expenses
Labor $14.6
Operating $8.8
Other
Total Departmental IT $23.4

Total IT Expenses $54.8

REVENUE

Central IT Revenue $ (millions)
I&G Allocation $10.2
Student Fees $2.0
Internal Service (Main Campus) $8.4
Internal Service (Other) $8.5
Research, Contracts or Grants $0.0
Other $6.0
Total Central IT Revenue $35.1

Departmental IT Revenue
I&G Allocations $13.1
Internal Service $1.3
Research, Contracts or Grants $5.5
Other $3.5
Total Departmental IT Revenue $23.4

Total IT Revenue $58.5

Funding Base to be Allocated: $ (millions)
Current I&G Allocation (Central IT) $10.2
Current I&G Allocations (Departmental IT) $13.1
Current Central IT Internal Service (Main Campus) $8.4
Current Departmental IT Internal Service $1.3
Total Funding Base for Allocation $33.0

Users Supported
Main Campus Students (FTE) 21,971
Main Campus Faculty 1,258
Main Campus Staff 2,989
Total Supported Users 26,218
Annualized IT Levy per HC $1,258.68

It is recommended that the following purchasing be centralized and should be included in the Central IT Expenses:

- Network and Voice Connectivity to each location
- One Device Connection
- One End User Device (laptop, desktop etc.)
- Departmental Printers
- Central Software
- Third Party Service Agreements
- Licenses for All Software for all applications supported by Central IT
- Central Helpdesk/Ticketing System
- Central Document Imaging Devices
- Backup/Disaster Recovery for all core IT functions

The following costs would be the responsibility of the departments

- End User Training
- Functional Support Staff
- Office Supplies including but not limited to personal storage devices (thumb drives, CDs, DVD), personal printers, individual scanners, headsets, power devices, extra batteries etc.
- Personal Devices like smart phones

Departmental purchasing should be based on a standardized catalogue maintained by Central IT, which would include standard devices available to people who are due for a new equipment, peripheral devices, and supplies. This would give the user who is due for lifecycle renewal of devices the option of selecting the appropriate device, with the proper justification and approval of the direct supervisor. Device Lifecycles should be established based on leasing/purchasing decisions. The current standard these days is a four to five-year life cycle. This should be documented, updated, and made public, so the user knows when to expect a new equipment.

**IT High Level Staffing Recommendation**

It is recommended that the new IT organization have fewer layers of management to bring the senior management of IT closer to the users and the internal IT staff. The structure proposed is based on similar public institutions nationwide who also utilize BANNER. Their culture and state of IT can be mirrored at UNM.

The goal is to keep management layers to three or less between CIO and the staff. It also allows for the CIO to be more strategic and allow the top layer management to focus on delivery. The structure also has a close connection to key constituents in the form of IT Officers.
The suggested job description for the CIO and the proposed organizational charts can be found in the Appendices.

It is recommended that the end user device support staff be embedded within the departments, so that they develop close relationships with the constituents who serve and also understand the environment they serve. Gartner and Other IT Standards recommendation is to have 180-200 devices to a technician.

To better leverage PM services and to align them into functional areas that they support, each individual PM should be reassigned to the functional teams as a dedicated PM for that area, rather than have an office of the Project Manager. With the embedding of the PM in those teams, it makes logical sense to move the management of the PM to the service area they serve. Under the new structure, the PM will be managed by team manager they serve under. This is also in line with the recommended reduction of management layers within IT. This model is done to strengthen the functional teams with industry standard concepts and overall culture of Project Management principles, as set by the Project Management Institute (PMI).

It is also recommended that the security services focus more on preventive and educational initiatives than on micromanaging devices. A general security directive/framework should be developed and proposed to IT Governance for approval and acceptance. This framework should be guiding directives for departments to follow to reduce the number of incidents.

**Outsourcing Opportunities**

In the following paragraphs we have outlined high level descriptions of a few of the Outsourcing Opportunities we have identified during our analysis at UNM. For each opportunity we have listed the benefits to UNM, our high level assumptions about that opportunity, attributes the University should look for in an Outsourcing Provider and a very rough budget estimate.

In all instances, additional detailed information would need to be gathered to provide more accurate outsourcing budgetary figures to compare against current expenditures. TIG stands ready to conduct additional discovery on behalf of the University to more accurately scope the Outsourcing Opportunities described below.

**Area of Opportunity: Help Desk**

**Benefits to UNM:** Consolidates multiple help desks into a centralized model providing increased optimization of resources, reduced overall cost and a more standardized support model. Centralized support will also allow for better metrics to identify trends and problems in the UNM IT support infrastructure, both long and short term, and allow for proactive analysis of metrics for process improvements. Outsourcing the help desk also provides a dedicated workforce which helps to avoid using highly paid IT staff from other departments to backfill positions if needed.

**Assumptions of Opportunity:** Phased approach starting with departments with small or non-existent help desks. Add in other departments as any contracts with outside providers expire. Once model is in place and integrations with deskside and other UNM IT groups are refined, larger departments such as the Law School, Library, and Continuing/Distance
education, can be integrated into the outsourced help desk. This is limited to only the academic and operation side at this point, no student support.

**Resource Attributes:** Local help desk to allow for closer more efficient interaction with UNM IT, for cross training and change control coordination. Off campus to reduce need for a location that can accommodate entire help desk staff and reduces need for on campus location. Experience in supporting academic environments. Adheres to standards such as Help Desk Institute, ITIL and ISO.

**Annualized Cost Projection:** $346,000.00

Based on 15,000 calls per year. Hours of operation of 7:30am-6pm M-F and 10am -2pm Saturday

**Area of Opportunity:** Managed Print Services

**Benefits to UNM:** Collaborating with UNM Hospital, who is already sourcing printers and consumables from an outside source, UNM could consolidate this program to a CPP and save money on both consumables and printers. Using a Managed Print Service model, there will be a reduction in hardware cost over time, along with a reduction in costs of at least 25 percent University wide. An all-encompassing plan would also provide Standardization University wide.

**Assumptions of Opportunity:** Similar to the Help Desk model, this would start with certain departments such as the Hospital then expand through the University as other contracts expire.

**Resource Attributes:** Able to leverage existing contract and support multiple manufacturers. Local technicians for efficient and expeditious service. Preferred, a vendor with a four hour SLA available and local facility. Ability to create custom service packages for non-standard devices such as plotters and scanners if requested. First time fix rate of 90% or better.

**Annualized Cost Projection:** Pricing for Managed Print Services varies on current print volumes and requires further discovery and real time print metrics and current spend to provide accurate cost savings and cost projections.

**Area of Opportunity:** Wireless as a Service

**Benefits to UNM:** Reduces need for Network staff to support access points and infrastructure. Move to cap ex vs. op ex to refresh/ build out currently under-capacity and inadequate environment. Allows for periodic refresh (3-5 year) without large capital outlay. More secure than current approach of individual department purchasing non-standard and non-supported solutions. Provide a robust, reliable, SLA driven service. Also provides single point of management contact. Advanced analytics and planned growth for continued expansion of wireless services.

**Assumptions of Opportunity:** Phased approach. Commitment to standardize environment. Can be “as a service” or one-time purchase that includes three or five years of service and support.
**Resource Attributes:** Local call center and engineers to ensure ease of access to support if needed. Vendor with established Wireless practice and experience with academic and multi campus environments. Partner with ability to bring next gen wireless features such as analytics to the solution.

**Annualized Cost Projection:** $2,480,000.00

Based on 2000 Access Points (AP’s)

**Area of Opportunity:** Security

**Benefits to UNM:** Off-load resource-intensive security operations to certified security experts, freeing up internal resources to focus on 24x7x365 protection of networks, endpoints, applications and data from cyber threats. Reduce the burden of compliance and deploy key security controls for PCI DSS, GLBA, HIPAA, FISMA, NERC CIP and other regulations. Recognize emerging cyber threats and proactively manage security risk. Reduce costs due to security breaches, infections and IT downtime. Save time and effort. Identify which data, apps or resources are critical to control. Test procedures and collect evidence. Verify implementation of controls and processes.

**Assumptions of Opportunity:** Use client Engagement methodology approach – beginning with discovery and following with design, develop, deploy, operate and optimize. This methodology will provide a full understanding of how to solve or apply a solution within the environment. It will also set the framework for ongoing operations, maintenance and optimizations for future requirements.

**Resource Attributes:** Local guidance and operational support based on deep security and compliance expertise. Experience with multi-campus environments and a wide ranging of portfolio security practices.

**Annualized Cost Projection:** Annualized cost projection cannot be provide without further discovery. This opportunity is highly customizable and specific assessments would need to be completed to provide accurate range pricing, as each environment differs.

**Area of Opportunity:** Data Center Relocation

**Benefits to UNM:** Capital and operational expense savings for datacenter facilities, maintenance and power consumption. Both physical and logical security including multiple challenge points, video surveillance and biometric readers. Increase the time to recovery in the event of an outage. Bandwidth on demand for easy scalability.

**Assumptions of Opportunity:** Phased migration of the entire datacenter infrastructure to an off campus location.

**Resource Attributes:** A local facility is required to allow UNM personnel reasonable access on a day to day basis. Local project management and engineering support with higher education experience and adherence to ITIL and ISO standards. Tier 1 network provider with multiple ISP options with the option to add bandwidth on demand. Focusing on a datacenter with current ISO, PCI, SSAE16, HIPAA security certifications. The availability of power generation for backup power. Physically secure site with multiple challenge points, including biometrics, video surveillance, etc.
Annualized Cost Projection: $793,387.50

Based on a term contract length and assuming average power usage and additional environment details of institutions of similar size.

Area of Opportunity: Network Operations Center (NOC)

Benefits to UNM: By outsourcing this important function, UNM will reduce the need for onsite NOC staff. This will free up IT resources which can be used for other IT projects. Reduce the need for a building or location on campus to house NOC staff. Standardized method for network management, reporting, and remediation which aligns closely to UNM’s SLAs, policies and procedures.

Assumptions of Opportunity: Outsourced, local NOC to provide 24x7x365 network monitoring, management and issue remediation for the University’s core servers, storage and networking equipment.

Resource Attributes: A local, New Mexico based operations center will provide better engagement with UNM IT resources than out of state or offshore support. Experience providing effective network management to higher education institutions. Adheres to standards such as ITIL and ISO.

Annualized Cost Projection: $2,390,000.00

Based on 800 servers, 600 network edge devices (switches), 100 core switches/firewalls/load balancers/etc. and 200 storage arrays.
Appendix A – Recommended Job Description for CIO

Chief Information Officer
University Staff

Description

The University of New Mexico invites nominations and applications for the position of Chief Information Officer at the University of New Mexico (UNM). The CIO will advance the University’s IT transformation including: establishing a Cross-University, shared vision for IT, positioning technology to be a differentiator for the University, and improving the effectiveness and efficiency of technology and harmonizing resources, infrastructure and architectures. UNM seeks a visionary and collaborative leader who will instill confidence and trust across the Technology Services Unit and the University as a whole.

Job Duties

The Chief Information Officer (CIO) is the senior administrator at the University of New Mexico responsible for academic and administrative technology planning, implementation and support. This position reports directly to the Executive Vice President for Administration. This position is expected to be an information technology visionary capable of innovative strategic leadership who can translate vision into action in applying, developing and implementing information technologies in support of the needs of the university both academically and administratively.

The CIO directs the information technology services, and is responsible for a multi-million-dollar budget and leads campus strategic planning in the areas of academic technologies, communication technologies, research computing and support, campus commerce, IT architecture and networking, IT policy, and IT security.

All campus information technology decisions are coordinated by and flow through the office of the CIO. This includes, but is not limited to, purchase of information technologies, hiring of information technology positions and support staff, and policy decisions relating to academic and campus information technology. The CIO is expected to meet regularly with the campus leadership, governance bodies, faculty, staff and students to develop a collaborative, cooperative, supportive and forward-looking technology environment. The CIO is also expected to collaborate with the CIO’s on the University’s Health Sciences Division.

Relationships

In order to effectively deliver campus technology services in a fiscally responsible manner, the position works closely with the Executive Vice President for Academic Affairs, Other Senior Leadership at the University, Deans of the Colleges and Faculty governance.

Job Competencies:

- Completed coursework, training, or experience to demonstrate knowledge of information and computer technologies as they relate to the higher education environment.
• Demonstrated ability to translate academic needs into technology solutions that seamlessly support students and faculty.

• An understanding of the compelling mission, challenges, and governance of public higher education that influence budget, policy and programmatic decision making.

• Extensive knowledge of telecommunications and information systems architectures, principles, and practices, in relation to higher education and research intensive health sciences environment.

• Ability to effectively recruit, retain, manage and supervise human resources involved in a variety of technical management and service functions including professional and technical university staff and student employees.

• Ability to manage multi-million dollar budgets for multiple auxiliary and general funded areas. This includes fiscal management of cash resources annually as well as the physical inventory of technology resources.

• A demonstrated record of progressive administrative experience in budget management that is appropriate in scale and years of experience is required including experience integrating financial and strategic planning.

• Ability to communicate effectively, both orally and in writing.

• Ability to negotiate with vendors for critical IT services.

• Ability to effectively manage and/or direct major and complex projects, including all planning, design, and implementation activities.

• Ability to work collaboratively in a dynamic University environment with multiple colleges and complex affiliate relationships.

• Demonstrated effectiveness in working with individuals from diverse backgrounds, the ability to lead by example and foster behaviors that support a diverse workforce, that is inclusive of race, national origin, gender, sexuality, religion, or age.

• An ethical leader committed to making principle based decisions with integrity and transparency.
Qualifications

Minimum Requirements

- Bachelor’s degree required.
- Minimum of five years of experience in higher education technology management.
- Minimum of five years at a significant level of management in information technology at a public institution or corporate structure that is comparable in size and complexity.
- Demonstrated success in hiring, training, and leading a professional technology staff in the delivery of academic and educational technologies to support students, faculty and staff.

Preferred Requirements

- Master’s degree preferred.
Appendix B - Current IT Organization
Appendix C - Proposed IT Organization

- Exec Vice President
- CIO
- Deputy CIO Enterprise Applications
- Director for User Experience & Engagement
- Director for Innovation & Academic Technologies
- Director for Infrastructure Services
- Security Officer
- Director for Academic Technologies & Innovation
  - Manager for Multimedia Services
  - Manager for Learning Management Systems
  - Manager for Research Technologies
  - Manager for Online Pedagogy
  - Manager for Class Room Technologies
Appendix D - Short Term Improvement Plan

A short term improvement plan needs to be implemented. The recommended components and a suggested timeline for the improvement plan is included below:

**IT Leadership Transition**
A search for a new CIO be initiated in the coming months. To facilitate the transition, it is recommended and interim CIO be appointed. A new CIO could be in place by July, 2017.

**IT Governance**
Formalize the IT Governance and institute regular meetings effective immediately to help with a smooth transition.

**Centralize IT as Recommended**
Initiate the process for formalizing the changes recommended. The following framework/timeline will help with ease of transition.

1. Interim CIO by 8/31/16
2. New CIO by 7/1/17
3. New Management Structure in Central IT by 10/31
4. Transition of non-central staff to central IT by 12/31
5. New IT Organization formally rolled out 7/1/2017

**Centralized Helpdesk**
The current Central IT helpdesk should be expanded to include support for all centrally supported technologies to all constituents. Consideration should be given to include support for academic tools used by students across colleges to gain synergy and optimize helpdesk resource utilization. This should be completed by 10/31.

**Centralized Ticketing System**
One helpdesk ticketing system that meets the needs of all constituents and helps manage resources effectively and help communicate should be instituted. This should be completed by 10/31.

**Customer Service Training**
All Central IT staff should be trained in customer service. The new IT organization is going to be service driven and customer focused. This will be a shift in culture for some. Included in the training should be a refresher on mission/vision of Central IT.

**Leadership Training**
All current IT Managers should undergo management training to help develop leadership skills. Leadership training should include customer service management, listening skills, people management, and project management.
Strategic Planning

Once the new CIO has come on board, a five-year strategic plan development effort should be initiated. The plan should be a campus wide exercise with faculty, staff and student involvement. Once the plan is developed, the plan should be refreshed annually to adjust to changing needs of the University. A tactical plan should be developed that aligns with the strategic plan annually.

Appendix E - Communication Plan

A formal communication plan should be put into practice so all UNM constituents have set expectations on the state of IT. A baseline communication plan is recommended below. This can be enhanced by the Governance Council as needed.

<table>
<thead>
<tr>
<th>Event</th>
<th>Owner</th>
<th>Target Audience</th>
<th>Mode</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Announcement</td>
<td>Governance Council</td>
<td>All UNM</td>
<td>Email, Web</td>
<td>As needed</td>
</tr>
<tr>
<td>Strategic Plan</td>
<td>Governance Council</td>
<td>All UNM</td>
<td>Email, Web</td>
<td>As Developed and as updated</td>
</tr>
<tr>
<td>Procedural, Operational Updates</td>
<td>CIO</td>
<td>All relevant UNM stakeholders</td>
<td>Email, Web</td>
<td>As needed</td>
</tr>
<tr>
<td>Major System Outages</td>
<td>CIO or designated Directors</td>
<td>All impacted UNM clients</td>
<td>Email, Web, VM Broadcast</td>
<td>Within 15 minutes of outage, followed by updates every 60 minutes or resumption of normal services</td>
</tr>
<tr>
<td>Scheduled Maintenance</td>
<td>CIO or designated Directors</td>
<td>All impacted UNM clients</td>
<td>Email, Web</td>
<td>Quarterly or when changes to previously announced schedule occur</td>
</tr>
<tr>
<td>Annual Report</td>
<td>CIO</td>
<td>Governance Council</td>
<td>Presentation, Report</td>
<td>Annual</td>
</tr>
<tr>
<td>Security Incident</td>
<td>CIO</td>
<td>Governance Council</td>
<td>Email</td>
<td>Within 15 minutes of notification and updates as warranted</td>
</tr>
</tbody>
</table>
Appendix F - Technology Purchasing Recommendations

For a successful implementation of the centralized IT recommendation, it is recommended that the following guidelines for any technology purchasing be considered for UNM.

**Hardware Purchases:**

All hardware, including but not limited to, laptops, desktops, printers, scanners, multifunction printers, wireless access points, and any network equipment, should be purchased through the UNM Central IT department. The exceptions to this should be all “consumables” like USB drives, additional mouse, keyboards, individual backup devices, and cameras. These consumables should be purchased by the individual departments directly just like any office supplies. Departmental purchasing, again, should be based on a standardized catalog provided by Central IT.

In addition, it is recommended that UNM use a centralized printer maintenance contract that covers all printers, copiers etc. This would help UNM leverage pricing for toners, maintenance kits etc. It will also help in managing copying/printing costs.

Servers, Desktop and Laptop purchases should be on an annual pricing basis. An RFP for competitive bids for pricing should be considered every three years if not annually. The top three Intel platforms to be considered are Lenovo, Hewlett Packard and Dell. The lifecycle for these hardware in higher education are noticing a shift from three to four year cycles and in many cases to five year cycles. Network Equipment also should be put on a five-year life cycle.

Procurement should be centralized through an online B2B webstore, integrated with the Universities ERP system, BANNER. This will help standardize equipment and streamline approval.

**Software Purchases:**

All software supported by Central IT should be all purchased through Central IT. In almost all cases, one site license per University will work and would be economical.

Any software that is specialized for a single unit use, should be purchased in consultation with Central IT. Central IT will evaluate the requirements to successfully use the software tools in the prevalent environment at UNM or the unit in terms of processing power, adherence to security requirements and make recommendations on any potential additional training required to support and use the software.
**Services Purchases:**

Any third party services required by a single unit would be acquired in consultation with Central IT and required by a single unit, unique to a department or school. This should include any maintenance contracts, implementation contracts and hosting contracts.

Central IT will evaluate the contracts in terms of technology environment requirements, security requirements, training requirements and access control. Central IT will make any recommendation to the requesting unit head on any potential changes needed to the contract being considered.