Information Technology Strategic Planning
Core Group Meeting

7 April 2015
Agenda

Background
Planning Framework
Vision
Guiding Principles
Peer Survey
Key Terms
Core *information technology* examples
Next Steps and Wrap Up
Adjourn
Appendix
Background
Background

› The University of New Mexico (UNM) is embarking upon an *information technology* strategic planning process to
  △ Enhance alignment of UNM information technology services delivery across the campus
  △ Improve efficiency, enable effective use of university resources, and support the broader university mission

› To be successful, the planning process must
  △ Encompass and involve leadership and stakeholders from across the university
  △ Engage the existing information technology service delivery units, other university providers of information technology services, and information technology services consumers
  △ Build consensus throughout the planning process
  △ Be viewed as objective and transparent

› UNM requested assistance from Kurt Salmon

› Information Technology Strategic Planning Initiative Phase I:
  △ Key stakeholder representatives interviewed
  △ Two Stakeholder meetings held to review and build consensus on the planning framework, information technology vision, define guiding principles, and key terms
  △ Establish the foundation for subsequent information technology strategic planning efforts
## Planning Process – Phase I

<table>
<thead>
<tr>
<th>Task One</th>
<th>Task Two</th>
<th>Task Three</th>
<th>Task Four</th>
<th>Task Five</th>
<th>Task Six</th>
<th>Task Seven</th>
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</thead>
<tbody>
<tr>
<td>Kickoff</td>
<td>Initial Data Gathering</td>
<td>Preliminary Framework</td>
<td>UNM IT Services Survey</td>
<td>Peer Survey</td>
<td>Finalize Framework</td>
<td>Final Phase I Report</td>
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<tr>
<td>• Define core group</td>
<td>• Conduct interviews</td>
<td>• Create preliminary framework</td>
<td>• Survey design</td>
<td>• Topic focus</td>
<td>• Finalize framework</td>
<td>• Final Phase I Report</td>
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<tr>
<td>• Kickoff call</td>
<td>• Review data from data request</td>
<td>• Draft Guiding Principles</td>
<td>• Identify recipients</td>
<td>• Identify peer institutions and participants</td>
<td>• Second stakeholder meeting</td>
<td>• Review final report</td>
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<td>• Identify initial interviewees</td>
<td>• First stakeholder meeting</td>
<td>• Conduct online survey</td>
<td>• Conduct online survey</td>
<td>• Invite participants</td>
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<td>• Facilitate executive leadership discussion</td>
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<td>• Plan stakeholder meetings</td>
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<td>• Summarize results</td>
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<td>• Telephone meeting with peer survey participants</td>
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<tr>
<td>• Survey approach</td>
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<tr>
<td>• Data request</td>
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*Completed*
Planning Framework
Vision
Vision Statement (updated)

UNM stakeholders will actively collaborate to deliver state-of-the-art *information technology* services to meet the needs of our customers, advance the missions of the university and its constituent elements, and ensure the security of university assets and privacy of sensitive data.
Guiding Principles
Guiding Principles (updated)

Guiding principles establish a common framework for assessing how information technology will be delivered

Information technology delivery will

1. Support the mission and goals of the university and its constituent elements
2. Be conducted at a level of aggregation/distribution that appropriately balances needs, costs, and control
3. Be deployed and used in a manner that supports compliance with all laws and regulations
4. Assure appropriate security of university assets and privacy protections
5. Be provided in a manner that adheres to UNM standards and policies, which will be enhanced through collaborative, inclusive, transparent and representative governance processes
6. Be executed in a manner that balances effectiveness, reliability, stability, and cost with innovation
7. Balance common approaches and solutions with differential entity and customer needs
8. Be accomplished openly and transparently where one entity provides services to another
9. Meet agreed upon service levels and expectations; inclusive of approaches for monitoring achievement
10. Aspire to excellence in execution
11. Be funded based upon fair, equitable, and transparent cost allocations
12. Be acquired in an open/transparent manner supporting full disclosure and analysis of use of resources
Key Terms (updated)
Key Terms

A consistent vocabulary for discussing information technology service delivery is essential
Key Terms: information technology

Fundamentally, this is an information technology strategic plan, making the definition of the term *information technology* core to the process

The tools, services, systems, and resources that support the creation, manipulation, analysis, communication, exchange, storage, and management of data and knowledge

We are intentionally referring to this as *information technology* in lower case

› Not limited to any one or single unit of the university
› Broadly viewed
› Widely distributed
# Key Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>The processes by which all aspects of <em>information technology</em> are defined, prioritized, monitored and overseen</td>
</tr>
<tr>
<td>Risk Management</td>
<td>The identification, assessment, and prioritization of potential threats, likelihood of occurrence and magnitude of adverse outcomes to enable coordinated, balanced, and economical application of resources that minimizes, mitigates, and monitors to control the probability and/or impact of unfortunate events</td>
</tr>
<tr>
<td>Leverage</td>
<td>Those aspects of <em>information technology</em> where aggregation provides economies of scale, enhanced transparency, accountability, risk reduction, collaboration, enhanced capability and/or enhanced control</td>
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<tr>
<td>Service Level</td>
<td>The metric by which delivery of <em>information technology</em> is actively measured and monitored and against which performance is openly and transparently communicated, and the basis for establishing accountability</td>
</tr>
<tr>
<td>Standards</td>
<td>A set of requirements, operating procedures, or capabilities that specify the manner for delivery and/or use of <em>information technology</em></td>
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</tbody>
</table>
### Key Terms: Business Model

*information technology* may be provided at a number of levels

<table>
<thead>
<tr>
<th>Term</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Enterprise</td>
<td>Those aspects of <em>information technology</em> that are offered exclusively via a central entity</td>
</tr>
<tr>
<td>Supplemental</td>
<td>Those aspects of <em>information technology</em> that are offered via a central entity on a non-exclusive basis</td>
</tr>
<tr>
<td>Center</td>
<td>Those aspects of <em>information technology</em> that are provided by independent units to university components with shared needs</td>
</tr>
<tr>
<td>Component</td>
<td>Those aspects of <em>information technology</em> that are provided by colleges, departments or other university components</td>
</tr>
<tr>
<td>Distributed</td>
<td>Those aspects of <em>information technology</em> that are provided by individuals, work teams, and other less formal entities</td>
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</tbody>
</table>
Key Terms: Fiscal Model

The basis for funding *information technology* may take a number of forms

<table>
<thead>
<tr>
<th>Term</th>
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</tr>
</thead>
<tbody>
<tr>
<td>University Funded</td>
<td>Those <em>information technology</em> aspects funded at the university level</td>
</tr>
<tr>
<td>User Fee</td>
<td>Charges assess based upon a formula or algorithm (e.g., per user fee, headcount, per device)</td>
</tr>
<tr>
<td>Direct</td>
<td>Charges assessed to cover the cost of providing an aspect of <em>information technology</em> (includes cost recovery)</td>
</tr>
<tr>
<td>Sponsored</td>
<td><em>information technology</em> funded by special purpose or restricted sources that constraint the nature or type of information technology acquired (includes grant funded)</td>
</tr>
<tr>
<td>Alternative</td>
<td>A means of funding not encompassed by the foregoing terms</td>
</tr>
</tbody>
</table>

A given aspect of *information technology* may be funded by more than one basis
Peer Survey

The approaches taken by the peer institutions may inform the UNM information technology strategic planning process

› UNM selected two peer institutions
  - Arizona State University
  - University of Utah

› Overall
  - Requires robust decision making emanating from the top
  - Institutional culture plays a significant role in the approach to governance and provision of information technology
  - Opportunity for customers to have a voice
  - Increasing use of cloud-based solutions to enhance scalability
  - Will not distinguish a university by information technology
    - Will differentiate by creative chemistry
    - Of which information technology is a key enabler
Peer Survey

There are a number of lessons that may inform the UNM information technology strategic planning

Governance and management of central information technology organizations influences approach

› Divergence in Central Information Technology CIO reporting relationships
  - ASU – Dual reporting to Provost and Executive Vice President
  - UU – Direct report to Chief Financial Officer (informal reporting line to Provost)
› Overall governance – neither organization favors large scale governance committees and structures
  - ASU – information technology strategy primarily directed by Provost and EVP
  - UU—large complex governance was unworkable; moving to smaller executive decision-making group advised by working group (chaired by Provost); demonstrating direct link to UU overall goals and objectives
Peer Survey

Role of Central Information Technology

› Common theme of Central Information Technology taking sole responsibility for core services
  - Importance of single security approach
  - Ubiquitous common services (e.g., email, networking, premises distribution)
  - Drive to single shared platforms (e.g., learning management, master software licenses)
  - Managing institutional risk
  - Manage projects
    - Central Project Management Office for information technology projects
    - Contract for external resources, as needed

› Move towards centralizing or more centrally managing and providing information technology
  - Does not mean to a single information technology organization
  - Using fiscal levers to control independent spending
Peer Survey

Standards and control work together
› Set standards for information technology
  – Compliance failure leads to shutdown of violating systems
  – Use central tools to locate and address ‘zombie systems’
› Standard setting
  – Open process
  – Includes representatives from across campus
  – Collaborative process for technical issues
  – Recommendations made to CIO
  – CIO able to act independently; approved by leadership

Accountability
› Linked to funding sources
› Drive for bilateral service level agreements
Peer Survey

Innovation

» ASU has created a separate unit to address information technology innovation
  - Reports to President
  - Develops, pilots, explores; stable solutions transitioned to University Technology Organization

» UU migrating to distributed clusters for non-ubiquitous common services
  - Align information technology with clusters that share characteristics (above colleges/schools)
  - Pull duplicative resources from colleges, schools, and departments
  - Closer relationship between customers and service delivery organizations
UNM Survey
Survey Respondents Drawn From Across The Campus
General Dissatisfaction with IT Services

How would you assess information technology support and services provided by all organizational units in support of your institutional needs and requirements?
High Level Of Concern About Security and Privacy

Question: How concerned are you about the security of your workstations and servers?

Question: How concerned are you about the privacy of information stored on your workstations and servers?
Question: How many different sets of access credentials (user ID and password) do you need to access UNM-based systems to perform your function?
While Many Use Central UNM Email, There Are Still Departmental Systems In Use

Question: What do you use for your work-related email accounts? (select all that apply)
App Development Is A Low Priority For Most

Question: Do you develop (either with internal resources or external support) applications for smartphones and other smart devices (e.g., iPhone, iPad, Android)?

- Yes
- Not presently but we may in the near future (12-18 months)
- No response
- No with no intention to develop in the near future (12-18 months)
- Not in the invitee list
- All respondents
Question: How many individuals in your unit spend a large proportion of their time providing the following types of information technology support?

**End user support (including assistance with workstations, laptops, printers, mobile devices, and general office productivity software)**

- **Database support (including managing databases, supporting users in data analysis)**
Large Distribution Of In Department Resources

Support for specialized applications unique to your unit

Other information technology-related support

Question: How many individuals in your unit spend a large proportion of their time providing the following types of information technology support?
Do you utilize service providers, external to UNM, for providing information technology support in the following areas?

- **Routine User Support**
- **Support for Specialized Applications**
- **Other**

**Percent Reporting Yes**

- **0%**
- **5%**
- **10%**
- **15%**
- **20%**
- **25%**
- **30%**
- **35%**
- **40%**
- **45%**
Substantial use of locally-hosted and cloud-hosted solutions

Which of the following do you host, either on hardware located in your unit or through cloud-based services, for individuals external to your unit?
Substantial use of locally-hosted and cloud-hosted solutions

Which of the following do you host, either on hardware located in your unit or through cloud-based services, for individuals external to your unit?

- Basic information web pages (primarily one way communication)
- Interactive webpages
- Sharing files for specific research or collaborative projects (accessible to a limited number of individuals working on the project)
- Computational services
- Other
Do you utilize service providers, external to UNM, for providing information technology support in the following areas?
Significant user of Cloud Resources

Percent of Respondents Reporting “Yes”

<table>
<thead>
<tr>
<th>Service</th>
<th>Percent of Respondents Reporting “Yes”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage</td>
<td>40%</td>
</tr>
<tr>
<td>Computation</td>
<td>5%</td>
</tr>
<tr>
<td>Collaborative Workspaces</td>
<td>35%</td>
</tr>
<tr>
<td>File Transfer</td>
<td>40%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

Question: Do you utilize cloud based services for:
Initial Recommendations
Initial Recommendations

Phase I of the Information Technology Strategic Planning was geared to establishing a framework for further planning

› Information Technology Strategic Planning Framework
› Information Technology Vision
› Information technology Guiding Principles
› Key Definitions and Terms
› Forming a foundation for subsequent planning (Phase II)

During the course of Phase I, some initial recommendations were identified

› Initial recommendations would be validated and may evolve as part of further planning
› Initial recommendations form the basis for action to address some of the issues identified while the Information Technology Strategic Planning process continues
› Broad change will take some time
› Many of the steps may not yield top of line savings, as information technology costs are within every budgetary unit on campus
Initial Recommendations: Ownership

Senior UNM Leadership needs to own information technology decision-making

› Priority setting
› Make resource allocation decisions
› Define the two-three year roadmap with clear link to overall UNM goals
› Leverage informal governance
  – Ad hoc working groups
    – Small teams
    – Limited duration scope
    – Targeted focus
  – Reserve large-scale governance for long-term directional input
Initial Recommendations: Enterprise

- Define initial Enterprise information technology areas
  - Define initial areas of focus
  - Set base level of services
    - Define costs for incremental services (fully cost basis)
    - Define bilateral service levels
  - Define transition plan
  - Update/establish policies as necessary
  - Fund
  - Communicate
  - Enforce

- Enterprise information technology is not synonymous with University Funded
  - All base level Enterprise information technology is University Funded
  - Above base level Enterprise information technology is paid by the requestor from other funding sources (e.g., User Fee, Direct)
  - Services provided by a Center (e.g., CARC) may be University Funded in part to provide a base level to all researchers
Initial Recommendations: Enterprise

Enterprise information technology are those aspects of *information technology* that are offered *exclusively* via a central entity.

Enterprise information technology should focus on:

› Risk management
  - The identification, assessment, and prioritization of potential threats, likelihood of occurrence and magnitude of adverse outcomes to enable coordinated, balanced, and economical application of resources that minimizes, mitigates, and monitors to control the probability and/or impact of unfortunate events.

› Enhancing Leverage across the university
  - Those aspects of *information technology* where aggregation provides economies of scale, enhanced transparency, accountability, risk reduction and/or enhanced control.

› Delivery according to agreed upon Service Level
  - The metric by which delivery of information technology is actively measured and monitored and against which performance is openly and transparently communicated, and the basis for establishing accountability.
# Initial Recommendations: Enterprise

## A few examples of enterprise information technology

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Leverage</th>
<th>Risk management</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>✔</td>
<td>• Security</td>
<td>• Single email infrastructure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• E-discovery</td>
<td>• Defined minimum service level</td>
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<tr>
<td></td>
<td></td>
<td>• Retention</td>
<td>• Potential fee-based uplift for storage</td>
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<tr>
<td></td>
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<td></td>
<td>• Specific service level commitments</td>
</tr>
<tr>
<td>Wireless and Wireless network</td>
<td>✔</td>
<td>• Security</td>
<td>• Single point of responsibility</td>
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<td></td>
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<td>• Minimum investment</td>
<td>• Minimum capacity centrally funded</td>
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<td></td>
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<td></td>
<td>• Opportunity for college/school/unit to fund accelerated/enhanced upgrades/capacities</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Specific service level commitments</td>
</tr>
<tr>
<td>Security</td>
<td>✔</td>
<td>• Security</td>
<td>• Active and passive security infrastructures</td>
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<td></td>
<td></td>
<td>• Incident handling</td>
<td>• Security policies and procedures</td>
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<tr>
<td></td>
<td></td>
<td>• Breach reporting</td>
<td>• Active monitoring and disconnection</td>
</tr>
<tr>
<td>Master software licenses</td>
<td>Buying power</td>
<td>• Compliance</td>
<td>• Units pay for licenses used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Security</td>
<td>• No ban on using alternate software, but must inventory and report</td>
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Initial Recommendations: Efficiency

UNM needs to move to greater efficiency: distributed information technology in many cases is inefficient

› Exists, in part, because of dissatisfaction with Central UNM IT responsiveness and services levels

› Moving forward with UNM Human Resources reclassification will help surface distributed information technology resources
  – Will not reach all of the partial positions (under single full-time equivalent)
  – Create a dotted line reporting relationship to Central UNM IT
    – Will support greater compliance with UNM information technology policies and procedures
    – Enables improved information exchange on approaches to build synergies
  – Define minimum qualifications and ongoing competencies to assure qualified resources
Initial Recommendations: Efficiency

- Support creation of Centers of excellence for information technology services
  - Encourage sharing of expensive resources
  - Better match needs to appropriate resources
  - Leverage models of success (e.g., College Arts and Sciences)
  - Dotted line to Central UNM IT
    - Coordination
    - Compliance
  - Funding derived from customers (e.g., user fees, direct costs)
Initial Recommendations: Standards

For information technology not within Enterprise information technology, UNM must define appropriate standards to drive consistent use of information technology

› Guiding Principle Number 5: *information technology* will be provided in a manner that
  – adheres to UNM standards and policies,
  – which will be enhanced through collaborative, inclusive, transparent and representative governance processes.

› The evolution of *information technology* standards will need to continue to address the evolving
  – Threats faced by the UNM community
  – Needs of the UNM community – define in part by active engagement for broad-based input
  – Nature of technology

› Standards definition and rollout
  – Provide appropriate education
  – Consider transition periods
  – Recognize added costs of standards compliance
  – Consistent enforcement
Next Steps and Wrap Up
Next Steps

Phase I of the information technology strategic planning process creates a framework for subsequent planning

Immediate next steps
› Identify updates to this document
› Identify initial recommendations for near-term action and execution plan
› Review with UNM senior leadership
› Provide a summary to the campus community

Intermediate-term next steps
› Socialize planning framework
› Plan for Phase II
Thank You
Appendix
Participants

› Chaouki Abdallah, Provost & Executive Vice President for Academic Affairs®
› Dorothy Anderson, Vice President for Human Resources*##
› Wendy Antonio, Associate Vice President of Special Projects*^
› Duane Arruti, Director of Applications, IT*^*
› Susan Atlas, Director, Center for Advanced Research Computing*^
› Terry Babbitt, Associate Vice President, General Administration
› Bruce Cherrin, Chief Procurement Officer*^
› Rick Clement, Dean of University Libraries
› Kevin Comerford, Digital Initiatives Librarian*^
› Julie Coonrod, Dean of Graduate Studies*
› Jed Crandell, Associate Professor, Computer Science
› Andrew Cullen, Associate Vice President for Budget and Analysis*
› Michael Dougher, Vice President, Research & Economic Development
› Chris Dyer, Executive Director Gallup Branch^*
› Moira Gerety, Deputy CIO*^
› Gil Gonzales, Chief Information Officer®
› Tim Gutierrez, Associate Vice Provost for Student Services*^*
› David Harris, Executive Vice President for Administration®
› Greg Heileman, Associate Provost
› Michele Huff, Senior Associate University Counsel
* Participated in First Stakeholder Meeting
^ Participated in the Second Stakeholder Meeting
# Represented at Second stakeholder Meeting
@ Core Group Member

› Brad Hutchins, Senior Associate Athletic Director/ Athletics Marketing Manager
› Kevin Malloy, Associate Vice President for Research and Economic Development*##
› Elizabeth Metzger, University Controller*^*
› Monica Orozco Obando, Vice Provost, Extended University*##
› Carol Parker, Senior Vice Provost*^
› Manu Patel, Director, Internal Audit*^*
› Mark Peceny, Dean, College of Arts & Sciences®
› Alex Seazzu, Director, UNM Center for Information Assurance Research and Education
› Melanie Sparks, Executive Project Director, Office of the VP for Institutional Support Services Staff*^*
› Greg Stevenson, Director, Strategic Projects*^*
› Greg Taylor, Professor, Physics & Astronomy
› Walter Valdez, Technical Sciences Manager, College of Arts and Sciences*^*
› Chris Vallejos, Vice President for Institutional Service Staff*
› Lisa Wauneka, Internal Audit*
› Fran Wilkinson, Deputy Dean, University Libraries
› Amy Wohlert, Chief of Staff, Office of the President®
› Jeffery Zumwalt, Interim Director, Physical Plant

Gerard Nussbaum, Kurt Salmon*^^

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