Strategic Goals

1. Information Technology Infrastructure in support of University Strategic Goals

   a. Work toward building a modern data center and providing data services that support campus units and the strategic goals of the University.
      
      i. Implement an energy-efficient, secure data center for academic, research and administrative computing.
      
      ii. Design a data center services model to provide systems administration, backup & recovery, and other services.
      
      iii. Implement a centralized campus data storage facility.
      
      iv. Implement appropriate facilities for collaborative access and update of data.
      
      v. Write a comprehensive disaster preparedness plan.
      
      vi. Establish a disaster recovery site with adequate bandwidth and resources in line with the Montana State IT plan for use of state data centers.
      
      vii. Implement second/third shift coverage in Central IT.

   b. Develop and improve core network infrastructure including connections to affiliate and satellite campuses and pervasive wireless connectivity in support of a dynamic learning environment.
      
      i. Upgrade the campus network to take advantage of the Northern Tier bandwidth (e.g. firewalls, building links, Metro sites).
      
      ii. Maximize inter-campus bandwidth based on budget and requirements (e.g. Montana Tech, Western, Helena COT, BCP, FLBS).
      
      iii. Provide ubiquitous convenience wireless across campus buildings.
      
      iv. Implement high density wireless through the classroom cost model.
      
      v. Provide open guest wireless.

   c. Refine and expand systems and services to provide a robust and secure IT environment.
      
      i. Implement IT security systems to accomplish Intrusion Detection/Prevention (IDS/IPS) and Security Information and Event Management (SIEM).

   d. Investigate cloud computing and hosted services initiatives and implement these technologies where appropriate.
      
      i. Identify and rate application areas where cloud computing is particularly well suited, as well as very poorly suited, in both Enterprise and Research sectors.
      
      ii. Evaluate and rate the economics and pricing models of current cloud computing vendor offerings.
iii. Establish an internal hosted service for UM Missoula and affiliate campus use (e.g. lab software).

e. Meet ADA standards and campus policies for technology accessibility.
   i. In collaboration with the ADA Team, DSS and EEO develop a plan to address accessibility assessment, training and information dissemination.

f. Provide identity management services in support of a campus and system-wide unified identity for students, faculty and staff
   i. Become an InCommon identity and service provider.
   ii. Implement federated identity management across all UM campuses.
2. IT Enterprise: Structure, Governance & Funding

a. Create an enterprise-wide IT organizational structure that provides clear authority and responsibility. Integrate IT leadership and planning across the University into a consolidated decision making process that respects control of individual core activities while centralizing and standardizing the governance, funding, management and delivery of routine, commodity and enterprise-wide functions.

i. At the Cabinet level, identify clear, high-level priorities for each major computing area: academic, research, and administrative computing.

ii. Design and implement an enterprise IT organization:

1. Establish the CIO as the central Leader of IT at UM, with responsibility and authority sufficient to be an effective leader and integrator of IT efforts across the enterprise.
2. Establish clear authority and responsibility for individual units to lead and deliver their core functions.
3. Integrate central and distributed IT leadership, decision making, and staff as needed to reduce duplication and increase efficiency and collaboration.
4. Develop a model of IT Service Layers and use it to assign and align functional responsibilities between central and distributed IT units.

iii. Support the enterprise IT organization through:

1. Consistency of job descriptions and pay scales.
2. Availability of structured professional development and training opportunities to enhance job related skills.
3. Enhance career opportunities and productivity by enabling coordinated transfer and movement of IT staff between functional units through promotion, job sharing, and consolidation of duties.

b. Structure IT governance to unify planning, eliminate duplication, and coordinate budgeting, while allocating global resources across all segments of the campus population.

i. Establish enterprise IT governance framework with budget and operational authority to ensure:

1. Executive development and ownership of vision, and full integration with departmental and campus-wide priorities.
2. Regular high level participation of Deans and VPs in all major policy, high-level strategy, and budget decisions related to IT.
3. Rapid campus-wide coordination and collaboration of all routine functions aimed at maximum efficiency and consistent high quality service delivery.
4. Efficient resource allocation based on Cabinet-provided goals.
5. Ongoing review and revision of governance procedures to improve service delivery and eliminate duplication and conflict.

ii. Create and enforce clear roles, responsibilities, and authority across the enterprise and its components. Assure all units have fair representation in decision making processes, and maintain autonomy in delivery of their unique core IT functions and services.

iii. Assure all members of the Campus community, including those with additional accessibility needs, are accommodated and represented in decision making processes and governance structures.

iv. Establish mechanisms for the Cabinet to rebalance IT governance participation and authority to assure IT governance deals equitably with emerging needs and funding challenges.

c. Build an IT funding model that maximizes efficiency and sustainability and integrates funding decisions with enterprise strategic planning.

i. Maximize long-term efficiency and increase sustainability of enterprise IT funding
   1. Develop and adopt a model providing adequate funding for central IT functions identified by IT Governance as best suited for central delivery. (These may include providing hosting facilities, security, network service, wireless service, general helpdesk support, user authentication, video hosting, email hosting, web server hosting and emergent technology.
   2. Stabilize and formalize both distributed and central IT funding to ensure equity and sustainability.
   3. Identify all critical funding needs and define interim responses and long-term solutions.

ii. Integrate funding model decisions into the IT strategic planning cycle.

iii. Establish governance processes that deal equitably across the enterprise with funding limits, emergencies, and shortfalls.

d. Develop IT policies that meet both short term needs to conduct business successfully and provide a framework and support for the development of essential efficiencies and infrastructure consolidation and improvement

i. Conduct a policy gap analysis.

ii. Write draft policies modeled on peer universities and industry standards governing shared activities and the interfaces between departmental core functions and shared activities.

iii. Implement a coordinated policy suite with cabinet level endorsement.

iv. Empower CIO review and assure all IT activities comply with Enterprise policies.
3. IT for Teaching, Learning and Research

a. Involving Academic Affairs and Research work to develop a vision for academic and research computing, build out infrastructure and partnerships to enable education for the global century.
   i. Collaborate with Academic Affairs and UM Research leadership to provide an over-arching vision for academic and research computing.
   ii. Collaborate with the UM research community to provide a data archival facility with state of the art search and retrieval tools to satisfy grant requirements.
   iii. Collaborate with the UM research community to develop a shared advanced computing infrastructure service.
   iv. Collaborate with Academic Affairs to stay abreast of and pilot emerging teaching and learning technologies (e.g. etexts).
   v. Collaborate with Academic Affairs to assist in retention and advising efforts.

b. Involving sector expertise work to assess current technology offerings to students and identify technological barriers to student academic success. Collaborate and partner with sectors to explore and evaluate innovative ideas related to new learning spaces.
   i. Continue to expand wireless access to support student learning.
   ii. Centralize commercial off-the-shelf software licensing.
   iii. Design and implement a cloud architecture to provide broad access to academic applications.
   iv. Collaborate with all sectors to provide access to technology and enhance learning through the Learning Commons, Athletic Academic Center, Tech Lounges, and others as identified.
   v. Continue to implement classroom technology to reach 100% coverage.
   vi. Explore and evaluate innovative ideas for new learning space technology.

c. Partner with Academic Affairs to assess support structures and needs for emerging educational technology, student and instructor technology literacy, and application accessibility & consistency.
   i. Provide direct instructor support for technology inclusion and integration in classroom and online courses.
   ii. Support the Academic Enrichment office to plan for and provide support for emerging educational technology.
   iii. Collaborate with Academic Affairs to maximize student technology literacy.
   iv. Address the issue of consistency and accessibility in educational electronic resources through the enterprise application governance structure.
4. IT for Institutional Administration, Decision Making, and Innovation

a. Align enterprise computing systems with University and MUS strategic goals and policies.
   i. Work towards consolidating management of enterprise level software under a unified structure with broad knowledge of local and affiliated campus business practices.
   ii. Develop a Service Oriented Architecture designed to allow disparate systems access to Banner information in a standardized format where appropriate.
   iii. Collaborate with functional offices to move to baseline Banner.
   iv. Develop technology innovation initiatives for academic, research and administrative application.

b. Implement IT service delivery processes to achieve broad understanding of IT responsibilities and service levels while maximizing the customer service experience.
   i. Develop and Implement achievable and mutually acceptable Service Level Agreements between any campus entities who deliver or receive services and for the delivery of services to all campus users.
   ii. Implement Information Technology Infrastructure Library (ITIL).
   iii. Implement a single customer service ticket tracking system across campus and all service delivery teams.
   iv. Establish a Project Management Office responsible for project management of all large interdepartmental projects.

c. Collaborate with Business Services to achieve IT operating and purchasing efficiencies through economies of scale.
   i. Centralize software licensing for enterprise level applications.
   ii. Consolidate hardware purchases for discounts and standardization.

d. Align electronic business processes to maximize investments in enterprise level software and human resource capital.
   i. Analyze and prioritize potential business process efficiencies (e.g. document management, workflow management, online forms).
   ii. Utilize resources made available through movement towards baseline Banner increase support for other enterprise systems.

e. Provide a robust data warehouse and reporting/data analysis toolset to aid in assessment activities in support of strategic goals.
   i. Review/redesign data feed to campus data warehouse.
   ii. Utilize analytics technology and technology-supported assessments in support of academic and mission-critical administrative goals.
   iii. Increase access to data through dashboards as appropriate.
f. Establish a multi-campus approach to computing systems to ensure strategic alignment and to provide bulk purchasing opportunities.

   i. Create an affiliate campus IT working group to select/approve/implement enterprise applications.

   ii. Consolidate licensing across UM affiliate campuses.

   iii. Move towards similar Banner instances or a consolidated instance, working with functional offices to explore changes in business practices.
5. IT to Enhance the Student Experience

a. Involving student focus groups, assess current technology offerings to students, identify gaps in technology offerings on campus. Study and predict the expectations of future students and cutting edge technologies.

   i. Conduct an analysis to identify current technology (hardware, software, services) offerings and gaps in student needs and desires.

   ii. Working with students, establish a base level of expectations for campus provided technology for use by the student body.

   iii. Design / implement solutions for the gaps in student requirements and justifications for not doing so.

   iv. Analyze and develop recommendations for university use of social media, considering academic, programmatic, business and social implications.

   v. Provide an intuitive interface for students to access campus technology and a well-defined support model for that technology.

   vi. Establish a student focus group that will represent the student body in collaborating with staff to help determine the technology roadmap.

b. Guided by the results of this research, UM will take steps, such as allocating funds and prioritizing projects, to meet the expectations and ensure accessibility to all students. The transparency of this process is critical to its success.

   i. Analyze accessibility, which is the degree to which IT products, devices, and services are available to and usable by students.

   ii. Collaborate with stakeholders to address deficiencies in technology accessibility on UM campuses.

   iii. Standardize on a mobile application architecture for all campus custom applications built specifically for mobile devices.

   iv. Incorporate accessibility and into all application design and purchasing requirements and identify a mechanism for ongoing oversight of this incorporation.

   v. Standardize and regulate electronic communication to and from students.

   vi. Increase emphasis on student outreach and communication, implementing easy-to-use tools for faculty and staff.

   vii. Provide customization through technology and analytics for an individualized student experience.