University of Regina
Information Services
Strategic Plan
2015-2020

Introduction:

The University's approved strategic plan for 2015-2020 is entitled "peyak aski kikawinaw - together we are stronger". The University's strategic plan documents our vision, mission, values, strategic priorities, over arching themes, objectives and targets. All members of the University are expected to come to understand and embrace the university strategic plan and by working together achieve the strategic priorities within our plan.

Information Services (IS) has developed an IS vision, principles, strategic focus, management philosophy, and management areas that are critical to the success of IS. We believe this IS strategic plan for 2015 to 2020 fully supports the achievement of our University strategic plan. This document:

1. Demonstrates the alignment of the IS plan with that of the University.
2. Places the IS plan in context with the University strategic plan.
3. Outlines by management area the overarching direction planned and how this plan will be operationalized by IS over the next 5 fiscal years 2015-2016 to 2019-2020.

The purpose of this strategy document is to provide the University community the information necessary to understand and assess the future course planned by IS. The community can then comment on or take action to ensure the focus of IS remains on our University strategic priorities, overarching themes, objectives, and targets.

Information Services' Alignment with the University's Strategic Plan:

Information Services (IS) Vision and Mission statement reads as follows:

> As a recognized Centre of Excellence for information technology, infrastructure, and service delivery, Information Services is committed to the success of our people, the University, and the community.

The IS vision and mission is consistent with our University vision statement to be "… a national leader in developing educated contributors, career-ready learners, and global citizens, and in generating meaningful, high-impact scholarship". Without IS delivering world class information technology, infrastructure, and supporting services the University of Regina will be hard pressed to be a national leader in any aspect of the university vision statement and strategic priorities.

Achievement of the IS vision and mission and the resulting technological infrastructure and services that will be in place facilitates and directly contributes to the achievement of the following mission statements of our University:

- Provides high quality and accessible education, influential research, creative endeavours and meaningful scholarly experiences…
- Serves and engages a diversity of students, life-long learners, and communities…
- Offers a welcoming and rewarding academic and work environment…
- Fosters innovative learning, community engagement, and critical and independent thought.

IS has developed a set of guiding principles that all members of IS are expected to adhere to in the conduct of their work:

- Treat people with respect, consideration, and kindness.
- Participate in and support the career development, education, and training of staff and managers.
- Remain open, honest and prompt in all communications and conduct.
- Create a safe environment for the presentation of new ideas and opposing points of view.
- Remain a prudent steward of the University resources entrusted to us.
- Accept responsibility for our conduct and holding ourselves accountable.

The IS guiding principles echo our stated University values of:

- Mutual respect, integrity and honesty.
- Inclusivity and diversity.
- Pursuit of knowledge.
- Community and social responsibility.
- Accountability and well being.

The IS strategic plan leads IS towards achievement of the University's vision by focusing on the following four strategic areas:

- Service Excellence – provide a set of services that meet the expectations and needs of the university community.
- Stewardship – manage the resources entrusted to us resourcefully, with honesty and competence.
- People – assist people to learn, engage, communicate, motivate, and lead.
- Make a Difference – proactively and collaboratively empower our university community so together we may achieve the University's vision.

These four strategic areas of focus for IS align very well with our University's three strategic priorities of:

1. Student Success
2. Research Impact
3. Commitment to Our Communities, and as well

the two overarching areas of emphasis inherent in each of the above priorities. Those being:

    A. Indigenization, and
    B. Sustainability.

The IS strategic focus on service excellence and stewardship speak to significant aspects of what IS must deliver for our University to be effective in achieving its strategic priority of commitment to our university's communities. The IS focus on people speaks to how IS must engage students, faculty, and staff and help them achieve excellence in terms that benefit both themselves and our University. Finally, by making a difference IS speaks directly to how IS must, through innovation and creativity, support the academic, research and administrative work within our University and by doing so empower academics, researchers, students and staff to achieve the vision of our University.

Given the clear alignment of the IS vision, guiding principles, and strategic focus with that of our University's vision, values, and strategic themes, the following sections outline in greater detail the strategic plan of IS over the next 5 fiscal years.

Information Services' Strategy:

Information Services (IS) has established as its vision becoming a recognized centre of excellence in technology, infrastructure, and service delivery. IS believes that by becoming a recognized centre of excellence we will best support the strategic priorities of our university those being student success, research impact, and commitment to our communities.

The IS vision of becoming a centre of excellence means IS acknowledges it is not yet meeting the best practice standards that would be expected of a centre of excellence for information technology, infrastructure, and service delivery.

IS management firmly believes that in making the honest attempt to fully achieve its vision IS will significantly improve our University's technology, infrastructure, and IS delivered services. IS management believes that through this process all of IS both management and staff will evolve and improve as individuals and as teams that enhance the collective intellect and ability of our university community. In doing so IS best contributes to the achievement of our university's vision and strategic priorities.

To achieve the status of a centre of excellence IS management has identified four areas of strategic focus in which IS must excel. These are:

- Stewardship – IS must be managing the resources entrusted to us resourcefully with honesty and competence
- Service Excellence – IS must be providing a set of services that meet the expectations and needs of the university community
- People – IS must be assisting academics, researchers, students, and staff to learn, engage, communicate, motivate and lead

- Making a Difference – IS must be proactively and collaboratively empowering academics, researchers, students, and staff to achieve the university vision

These four strategic areas then become the framework for assessing IS achievement. See also Appendix A for additional information.

Information Services' Strategy Map[1] Description:

The four strategic areas of focus for Information Services (IS) underpin the IS strategy map for achieving its vision of being a centre of excellence.

First, for IS to achieve its vision it must prove itself an exceptional steward of its university entrusted resources. It is imperative to IS that we be fully transparent in our use and allocation of resources, honest with the university community about resource utilization and allocation, and prudent and skilful experts in the selection, management and use of resources.

IS must build and maintain an environment of observed expertise and trustworthiness within the university community and university leadership especially with respect to its stewardship of resources. Creating such an environment requires consistency and timeliness in service delivery. IS believes that once that service delivery environment exists the University can with full confidence allocate the resources to IS that will be needed to achieve this strategic plan.

First, as capital and operating resources are allocated to IS there are seven technology and infrastructure sectors in which substantial sustainable investment is required. Those sectors of investment are:

- Data, voice, and video transmission networks both analog and digital
- Servers, cloud computing, mass storage, backup capabilities and data centres
- Mobile computing, desktop computing, and peripheral device utilization
- Enterprise level software (including web service solutions) that facilitate effective instruction, research, administration, resource planning, and communication
- Security, disaster recovery, and business continuance capabilities
- Audio visual services for students, faculty, researchers, and administrators
- Print services for students, faculty, researchers, and administrators

Together the above investment areas must provide authorized, secure, ubiquitous, and uninterrupted access by students, academics, researchers, administrators and other stakeholders to infrastructure and services for software, web, communication, data, and information.

Second, for IS to achieve its vision it must leverage the investments that are made in the technology and infrastructure sectors by improving its delivery of customer support services. IS must move to proactively meet or exceed the service delivery needs of students, faculty, staff, and management. IS will create an environment in which exceptional service delivery can occur by investing time and money into staff development and process improvement.

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[1] See Appendix A Strategy Map for 2015 – 2020.

Staff development will focus on the following:

- Staff education, training, and skill development
- Succession planning, career path planning, and leadership development
- Knowledge management and continued elimination of single points of knowledge
- Team and individual performance goal setting, assessment, and recognition
- Adding performance assessments with respect to planned vs. achieved outcomes.

Process improvement will focus on the following:

- Development of IS management area guidelines, policy, and process
- Consolidation of support to customers across all IS lines of service
- Internal audit, risk assessment, Lean process and quality improvement programs

Third, for IS to achieve its vision it must focus on people and the relationships that must be built and maintained between IS and the remainder of the University community. IS must first and foremost demonstrate competence and trustworthiness in all aspects of its stewardship and service delivery. When IS successfully achieves its objectives in the areas of stewardship and service excellence it will be providing to the university community operational excellence, world class technologies and services, and a highly qualified and motivated IS staff. As those qualities of excellence are consistently demonstrated IS can then position itself to shift from provider of services to the university community to that of a consultant to or partner of the university community. It is with this transformation in perception and in reality that we begin to develop mutually empowering relationships between IS and the rest of the university.

Fourth, for IS to achieve its vision it must make a discernible difference to the university community with respect to the achievement of the University's vision and in the success of our university. IS must continue to engage the various stakeholders of the university and clearly facilitate their achievement of success. IS will strive to understand the issues facing our university community, anticipate the needs, and proactively respond with delivered value such that the university community attributes to IS the status of a "Center of Excellence in the delivery of technology, infrastructure, and support services and is clearly committed in word and action to the success of our people, the University, and the community".

Information Services Management Areas:

IS believes that to become a centre of excellence there are 15 separate but closely related management areas that IS must effectively address. It is within the context of delivering on our strategic activities within each of the management areas that we will as a department move ourselves towards achieving our university and IS vision. See Appendix B for additional information on our overall stated objective for each management area. The strategic activities IS intends to follow in each of these management areas is outlined in greater detail in Appendix C.

Information Services' Service Delivery Responsibilities:

In order for Information Services (IS) to effectively assess, plan, deliver, follow-up, and measure the outcomes of our activities there must first exist a well defined and generally accepted understanding of the role, responsibility, and authority of IS as funded for by the university.

Over the next 5 years from both a strategic and tactical perspective IS will be outlining in ever greater detail to our communities the IS understanding of its role, responsibility, and authority as funded by our university through the budget allocation process. The Grant Thornton led internal audit review of the IS security framework recommended IS ensure there be a clear understanding within the university with respect to the allocation of responsibilities for service delivery and the security of information and physical assets between IS and all other university units.

With respect to the delivery of information technology infrastructure, information technology services, communication technology and service, physical security of computer and related hardware assets, and security of electronically stored data and information, IS has a fairly broad service delivery mandate.

In very general terms we understand ourselves to be responsible for and having the authority to:

- oversee the selection, implementation, maintenance, support, and replacement of all information technology infrastructure and associated services technologies housed in classrooms, used in university administration, or provided as a standard campus wide communications methodology (eg. phones or e-mail). This would include all voice, video, data, network and communication hardware and operating systems. This would not include any hardware, operating systems, applications or software brought temporarily to the classroom for a specific teaching or learning need or as an alternative to that which is already present in the room such as a personal device used at work or non standard communications software or technology.
- Secure from theft or inappropriate access any technology, data, information or closely related asset that is housed in a computer room, wiring closet or in any other space allocated solely for the use of IS by the Space Allocation Committee of the university. This would include all servers, disk storage, tape drives, tapes, cabling, printers, computers and personal devices. This would not include fire suppression, HVAC, UPS, power conditioning equipment, or the like.
- Disclose or provide access to electronic data or information in the custody or control of IS to only those university faculty or staff who have appropriate authorization and to no one else.

Appendix C diagrams at a very high level what IS understands to be our responsibilities verses the responsibilities of the remainder of the university community with respect to information technology infrastructure, communication technology and services, information technology services, security of physical assets, data, and information, application selection and administration, reporting, analytical analysis and decision support. We also outline how staff positions within IS are allocated in order to meet our understood responsibilities to the university community.
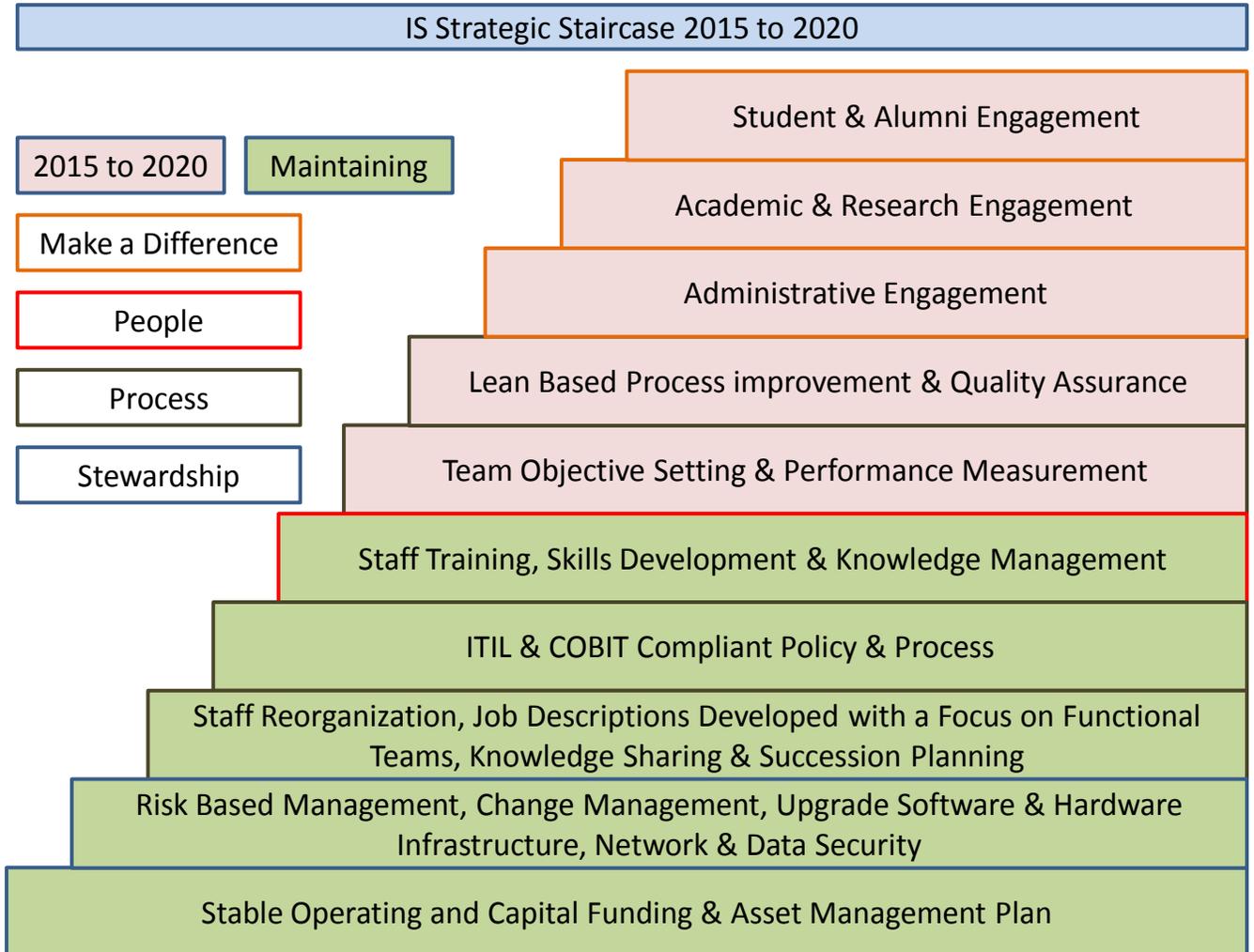
With respect to application selection, administration and support, reporting, analytical analysis and decision support IS has a fairly narrow service delivery mandate.

In very general terms understand ourselves being responsible for and having the authority to:

- Provide the technology infrastructure to allow other units to carry out their university funded mandates.
- Install appropriately authorized software on the university's infrastructure and computer systems for use by appropriately authorized units.
- Provide technical support in the creation and generation of specific reports as outlined or described by units and that have been reviewed and authorized by the Office of Resource Planning.
- IS provides no analytical analysis or decision support services to other units.
- Upon request and where appropriately skilled and or knowledgeable IS will provide advice on topics that are within the mandated responsibility and authority of another unit.

Appendix D diagrams at a very high level what IS perceives are the communication, reporting, analytical, and decision support needs for our university. We also highlight those areas in which IS understands it has both mandate and funding in order to lead, participate, or not be involved.

**Appendix A
Information Services
Strategy Map**

IS Strategic Staircase 2015 to 2020

2015 to 2020 | Maintaining

Make a Difference

People

Process

Stewardship

Student & Alumni Engagement

Academic & Research Engagement

Administrative Engagement

Lean Based Process improvement & Quality Assurance

Team Objective Setting & Performance Measurement

Staff Training, Skills Development & Knowledge Management

ITIL & COBIT Compliant Policy & Process

Staff Reorganization, Job Descriptions Developed with a Focus on Functional Teams, Knowledge Sharing & Succession Planning

Risk Based Management, Change Management, Upgrade Software & Hardware Infrastructure, Network & Data Security

Stable Operating and Capital Funding & Asset Management Plan

Appendix B
Information Services
Strategic Plan 2015
Strategic Areas of Management for IS

The following identifies each of the IS management areas and describes our overarching objective for each management area:

- Governance – Implement policies and processes that facilitate organizational alignment, oversight, responsibility and accountability assignments, with respect to carrying out the activities in both the approved IS strategic plan and in the ongoing delivery of all IS services.
- Plan – Implement planning methodologies that provide all levels of the University assurance that IS developed objectives and activities align with the University's stated strategic priorities and objectives. Coordinate and implement the stated objectives and activities of IS. Outline the methodologies for follow up to determine if intended outcomes were achieved.
- Risk & Opportunity – Enable IS managers and staff to identify significant risks and opportunities associated with the university IS technologies, infrastructure and services. Implement methodologies to allow IS to effectively capitalize on opportunities and mitigate risk.
- Customer Relationships – Create an environment and supporting set of methodologies that enable a continuing dialogue with faculty, students, staff and management regarding all aspects of IS service. Deliver the most needed IS services at levels of availability and quality that are both reasonable for a customer to expect and reasonable for IS to deliver.
- Staff – Attract and retain individuals with superior attitude and ability. Create an environment that is diverse, intellectually stimulating and is also socially, emotionally, and physically a safe place to work. Develop individuals through career path planning, educational development, and training.
- Asset – Implement processes that ensure the optimal use of the financial, informational, physical, and intellectual property assets entrusted to IS by the University. Utilize all assets allocated to IS to achieve the highest priority objectives of the university in the most effective and productive manner possible.
- Policy & Legal – Implement University policies that describe the expectations of conduct and practice that are mandatory for all faculty, students, and staff with respect to use of the University's technology, infrastructure, and services provided by IS. Implement departmental policy and process that communicates to all IS staff and managers the expectations of conduct and practice that are mandatory in IS. Implement methodologies that make IS management and staff aware of all federal and provincial law that either makes mandatory or illegal specific IS conduct or practice.

- Contract – Implement methodologies that will ensure all goods and services acquired by contract for IS are in fact received by IS for the benefit of the University.
- Change – Implement methodologies and process that eliminate or at least reduce the negative impact to faculty, students, and staff from required changes introduced by IS to the technology, infrastructure and services provided by IS.
- Project – Implement methodologies that will significantly improve the probability of successful implementation of new or upgraded products and IS services.
- Security – Implement policies, process, and methodologies that best provide for the economically reasonable protection of assets and information in the custody and control of IS.
- Information & Knowledge – Document, retain and make available the information and knowledge artifacts of IS for the long term use and benefit of IS and the University.
- Quality – Implement policy, process and methodologies that aid IS in doing the right thing, efficiently, effectively and in line with the product and service expectations of the university community.
- Performance – Objectively measure the achievement of anticipated outcomes expected by accomplishing the strategic and tactical objectives of IS. Assess the productivity, efficiency and effectiveness of IS in delivering its services to the university. Learn from both performance trends and specific results in order to identify and implement changes that lead to performance improvement over time.
- Communication – Implement methodologies that ensure effective and timely two way communication between and among IS management, staff, faculty, and students with respect the plans, activities, outcomes, and achievements that each individual and group desire be achieved and has been achieved.

Appendix C
Information Services
Strategic Plan 2015 - 2020
By Management Area

1. Governance:

We will continue our existing policy and process with respect to governance.

Our focus will be to maintain and where possible enhance the current level of engagement of existing committees in the current IS oversight structure. With respect to UITSC we will work to revitalize engagement of the committee in priority setting for IS projects, assessing acceptable levels of risk for the university computer assets and data, and acceptable disaster recovery and business continuance capabilities for IS. We will work to transition from ACRIC to ITAG as the committee identifying the academic, research and instructional technology requirements and needs of the university community necessary for the university to successfully thrive as an institution of learning, research, and community involvement.

As the data governance and reporting project unfolds in 2015-16 we will work with Deloitte to ensure that the data governance committee is established, members are appointed, and that committee members become engaged in the assessment and prioritization of the data gathering and reporting needs for the university. We will seek to install the recommended data and reporting governance structure as described by Deloitte. However if necessary we will in the short term compress the governance committee size in order to sustain progress within the second phase of the project data governance project. During the ULT retreat of 2014 we confirmed with all senior management that this project was to be the number one priority for IS. It was agreed that where necessary other IS projects of importance would be placed on hold or delayed in starting to ensure the data governance and reporting project progressed as quickly as possible.

The IS Customer Applications Support unit (CAS) will be seeking to implement a Change Advisory Board (CAB) to aid in review, approval, and prioritization of application change requests from the university community. At this time we anticipate membership on CAB coming from a subset of the membership of GASP.

Given our current understanding that additional staffing to IS will be unlikely CAS will seek to change the ratio of junior and senior tech support staff through job reclassification. Currently CAS is staffed with 4 - APT 6 positions and 4 - APT 5 positions. Over the years existing staff have gained skills and are now capable of handling a set of additional and more complex duties. By changing the ratio we will create greater technical capacity for dealing with complex activities and by doing so we believe we can improve our effectiveness. The ratio we will be seeking is 6 - APT 6 positions and 2 - APT 5 positions.

We will continue to review and restructure the IS organizational chart and will where necessary reallocate both staff and or internal operational responsibilities. We will adjust

responsibilities when necessary to best utilize existing managers and staff in achievement of the university's strategic plan and or to maintain an adequate in production service delivery.

2. **Plan:**

We will continue existing policy, process and documentation methodologies with respect to the creation of our annual budget submission and the creation of our operational/tactical team and individual objectives.

Within our planning and team objective setting process we will place greater emphasis on defining and where reasonable quantifying the anticipated outcomes that should result from effective plan execution and objective achievement. This will then require us to place greater emphasis on defining desired outcomes and measuring for those outcomes. This will occur as an addition to our current monitoring of the allocation and consumption of inputs against delivered outputs.

As a result the understanding of success within IS will begin now to shift. Our team and individual objective setting and performance assessment will over the next 5 fiscal years come to focus on assessing plan development and execution as it relates to achievement of desired outcomes. We will continue to monitor the allocation and consumption of resources and the outputs generated but this will no longer be the sole standard measure of success. This changing emphasis within IS will also be described under staffing, performance, and quality.

With a shifting focus to outcomes assessment we are confident that new learning will then be applied to the planning process in order that we make more effective our future planning methodology, planning decisions, and plan execution. This stays consistent with our management philosophy which is a continuous cycle of Think, Plan, Do, Follow up, Think…

3. **Risk & Opportunity:**

We will continue to expand on existing policy, process, documentation and reporting methodologies with respect to creation of our annual risk and opportunities assessment and risk mitigation plans for IS. Additional focus will be placed on performance assessment on risk mitigation and opportunity capitalization.

We will continue to work with Enterprise Risk Management on identifying and addressing university risk and its mitigation. Specifically we will build on the suggestions coming out of the Grant & Thornton internal review of IS security with respect to our role in enterprise risk management. Where appropriate we will build in new policy and process at the university and IS departmental level to ensure a mature risk management and mitigation framework is in place for the university and for IS.

We will seek to involve UITSC in assessing appropriate levels of risk to computer systems and data as well as the appropriateness of the IS disaster recovery and business continuance plan.

4. **Customer Relationships:**

We will continue existing policy and process with respect to customer relationships. However this management area will in future shift from being called Customer Relations to Stakeholder Relations. IS now intends to create service agreements that include external customer organizations such as URSU and ASPEN as well as internal suppliers of service to IS such as Facilities Management, Human Resources, and Enterprise Risk Management. This makes necessary a change in identification for this management area.

We intend to place greater emphasis on communicating our understanding of the service delivery mandate of IS and how that understanding relates to the funding supplied by the university to IS to carry out its mandate. There is a growing gap between the expectations the university community have of what the IS mandate needs to be when compared to the mandate IS is capable of providing based on funding. This growing gap is of significant concern to IS and needs to be addressed in a public forum. With respect to the delivery of any service there are 4 attributes that will ultimately determine the value or impact of a service. Those attributes of a service are:

- scope
- quality
- time to deliver
- money to invest in people, technology, and process

If the university community wants to see an increase in scope of IS services then it must expect at least one of the remaining attributes to change as well. For example if the IS scope of service must increase then quality must decline if the other two attributes are to be held constant. If scope must increase and quality is not to decline then time to deliver must lengthen or more must be invested in staffing, technology and or process for delivery of the additional service. If the university community wants the scope of IS services to increase and all the remaining attributes to as well stay the same or improve then the community must assume there is adequate existing idle capacity within IS that can or should be able to accommodate the demanded increase. This is a false assumption.

Continued focus will be placed on development of new service agreements for any new service we supply to our customers that falls outside the IS description of services. Also for existing service agreements annual reviews of their effectiveness will continue. In our opinion service agreements provide the best possible vehicle for IS and the customer to, from the beginning, understand the division of their respective responsibilities in the delivery of a service. In addition service agreements have the best opportunity to bring to light those areas of possible future disagreement and address these potential issues before they occur. Over the next 5 fiscal years IS will seek to make service agreements self funding. Service agreements reflect services to units that fall outside the IS Service Description and therefore fall outside the university's allocation of funds to IS to deliver the services described in the IS Service Description.

Building on the concept of stakeholder service agreements IS will begin discussion with support units that supply critical services to IS. This planned change flows out of the set of internal audit recommendations from Grant Thornton with respect to the division of responsibilities for security that exist between IS and those other units.

With respect to service agreements in general we will focus on developing a more sophisticated chart of responsibilities and assignments. This will in most cases flow naturally from our follow up review process with customers on the effectiveness of existing agreements. However specific attention will be given to clarifying in greater detail responsibilities in the areas of security and risk as categorized by Grant Thornton. Those security and risk categorizations by Grant Thornton are infrastructure, identity and access management, data management, data quality, and physical and environmental security.

Additional emphasis will be placed on the outcomes achieved in addressing customer concerns when measuring and assessing our performance. To identify concerns that a unit has with IS services we will continue the annual meetings of the Director of Customer Service with each stakeholder having a service agreement with IS. Identified concerns are recorded as customer/stakeholder relationship work tickets and assigned to a director or manager for follow up. In future the individual performance review of directors and managers will carry a heavier weighting on achievement of desired outcomes when addressing customer service work tickets.

With respect to IS customer services related to technology infrastructure we will continue our approach of not independently expanding or introducing net new services related to hardware or applications for administration, instruction, and research; hardware or applications for data analytics; and hardware or applications for decision support. IS will continue its existing practice of only implementing unit or committee sponsored technology projects. Projects must be properly documented, identify committed project funding, and have a recognized project sponsor. The project proposal must be vetted and endorsed by one of ITAG, GASP, UWGSC, ACRIC or UITSC committees and all projects will ultimately be prioritized for implementation by UITSC.

With respect to Printing Services we will be focused on the following customer service objectives:

1. Improving our archiving and cataloguing of photos.
2. Expanding to include video production services within photography.
3. Replace aging print equipment and improve overall quality of the product and service reliability to the customer.
4. Cross training staff to improve backup coverage and availability of knowledgeable staff for customer service and support.
5. Expand into hard cover binding services to reduce cost to the internal customers of the university.

5. **Staff:**

We will continue with existing policy and process. We will, when determined necessary, create new or amend existing policy, processes, procedures and work instructions.

Over the next 5 years we will work with Human Resources to implement policy and practice that promotes partnerships that lead to improved employment equity and indigenization within IS.

We will place greater emphasis on the measurement of performance and quality specifically as it relates to realization of or progress towards our desired outcomes. As a result we will be working with Human Resources to either amend the individual performance assessment template for directors and managers in IS or augment the existing assessments template with additional IS considerations related to our shifting priorities as described in this IS strategic plan.

 It is our intention to tie both team and individual performance assessments to the achievement of our IS and university strategy as well as the annual objectives set by each functional area's management team. We will develop a process for assessing team performance in conjunction with individual performance. We will outline the parameters and templates to be followed for team assessments and these team assessments will then reflect on each team member and also on each individual performance assessment. We believe by doing so we will motivate individual staff to function as an effective member of their team.

Continued improvement will be sought in both communication with and engagement of IS staff in current operational activities, problem management, and the future direction setting of IS. IS will actively participate in the university staff engagement review process and make adjustment in our interactions with staff based on the findings of future engagement surveys.

It is our intention to monitor and adjust our existing organizational structure and responsibility assignments as necessary to ensure we maximize capacity and the contribution managers and staff can make to the effective delivery of our strategy, annual objectives, outcomes, and ongoing operational service delivery. To this end we will be conducting LEAN process reviews of computing services either by functional area or on a cross functional basis as ISET determines appropriate.

As a cost management measure we will be placing greater emphasis on and investment in term consulting engagements. This will allow us greater flexibility to adjust our labour complement to meet short term spikes in demand for support without negatively impacting existing staffed positions and responsibilities. Once we determine an occurrence of increased service demand is not a spike we will then seek additional permanent staffing as the most effective long term solution.

With respect to the Customer Application Support team we will be shifting the focus and ongoing training away from report generation and in-house application development. We will be focussing staff training on three new service delivery priorities. These are intra

application and ASP/cloud message management and data synchronization, operational work flows (currently known as Banner workflow), Extract, Transform & Load (ETL) for standardization and synchronization of a data store(s) for management reporting.

With respect to security we will hire a person to fill the newly created position of IS Security Manager. This position will report to the Director of Infrastructure and Communications. The responsibilities of the new security position will align with those recommended by Grant Thornton in its internal audit report on IS security framework planning. We will adjust our organization structure and responsibility assignments to allow for the possibility of one additional security technician to support the new manager position. We believe, but will first confirm that the scope of responsibilities of the security officer are or will soon become such that additional technical support will be required in order for the manager to be effective.

Over the next 5 years we will be seeking approval from the budget committee for the following additional staff positions within IS as a result of the following:

1. There will soon be 60 smart classrooms outfitted across the university. This will triple our original capacity. We have made permanent the video conferencing room in AV services. With the 2018 Conference of the Humanities there will be significant demand to expand the number of smart classroom facilities at the university and we anticipate at least doubling our capacity to 120 rooms prior to the conference. As a result we will be seeking an additional two technical support staff within AV Services.
2. There has been a significant increase in the number of enterprise and vertical applications IS is now required to support. This application inventory continues to grow with each new project we complete. As a result we will be seeking two additional staff positions in the area of application support.
3. There has been significant increase in amount of hardware and software required to run an effective communications infrastructure. The need to add to this inventory is also growing as a result we will be seeking two additional infrastructure support staff positions.

With respect to Printing Services we will be placing emphasis on cross training staff to broaden their existing support and service delivery capabilities.

6. **Assets:**

We will continue existing policy and process with respect to asset management.

When transitioning to alternative infrastructure components and services IS intends to continue its existing approach of being an early adopter of in production proven technologies and services. We will seldom, if ever, be a leading edge adopter where we would be required to implement as yet unproven technologies or services. We knowingly choose this approach as we believe the risks and associated costs of leading edge adoption of potentially breakthrough technologies are simply too high for the university to tolerate financially should the technology or service fail.

With respect to the university's central application infrastructure IS will not be the catalyst for change within the university and thus we will not independently expand existing or introduce net new software, hardware or services as it relates to the areas of:

i.   instruction, research, community involvement, or administration
ii.   data analytics, or
iii. decision support

IS believes that for the above indentified areas the impetus for change and the responsibility for achievement of anticipated benefits through change are the responsibility of the various faculties and administrative units of the university. The role of IS then is to clarify for decision makers the risks and costs associated with any proposed change in IS infrastructure or service. IS will then facilitate the implementation of those proposed changes that are approved as projects by ITAG, GASP, UWGSC, ACRIC or UITSC and then prioritized for implementation by UITSC. Implementation of approved and prioritized changes involving IS will commence once adequate funding is provided for an implementation project to be undertaken.

On its own initiative, IS will continue to lead, assess, select, and implement internal to IS projects that upgrade or replace any hardware, software, or service associated with the network infrastructure operating systems, server, storage, data routing systems, VOIP and analog voice systems, Novell e-mail and staff scheduling system, and any related electronic security and access management system.

With respect to the evergreen program we will continue to monitor the useful life of evergreen computers. When we are comfortable that the useful life has again increased we will increase the cycle time for equipment replacement in the program from the current 5 years to 6 years. This extension once implemented will provide additional operational savings to the university on an ongoing basis.

We will also assess potential new or improved solutions that can address both the desktop and mobile needs of staff as well as the potential convergence of delivered services (voice, video, and data) to staff on a single device or platform.

As the telephony industry itself evolves IS intends to shift the university away from traditional telephone handsets and analog services towards other industry proven methodologies and technologies that allow for voice, video and data convergence. Some very interesting alternatives are currently in the leading edge and very early adopter stage. We intend to monitor the progress of these leading edge and early adopters and will then select the best proven solution for adoption at this university.

Over the next 5 years we will continue to expand our wireless access capabilities across campus. This expansion will provide for new or improved access at parking lots, playing fields and on campus bus stops. We also intend to increase the concentration of wireless access points across campus. The number of wireless users and amount of data transferred

per user are both steadily increasing and to meet this demand we are required to increase the concentration of access points and bandwidth capacity.

For the foreseeable future (3 to 5 years) IS intends to continue its investment in the Novell suite of network services. We will continue to take advantage of the operating system, access management, print management, file management, e-mail and scheduling capabilities provided by Novell. We also intend to expand our use to other Novell services within the suite. We continue this approach because of the significant cost savings to the university from use of the Novell suite of services and its associated pricing model. The savings to the university from having used and continuing to use the Novell solution suite are in the millions of dollars and are the direct result of lower maintenance and support costs. However given the size of the company and its relatively small market share we realize that it is always susceptible to either takeover or business failure. As such we continue to closely monitor the risks associated with using Novell and we will develop a transition strategy from Novell for use by the university should such a move ever become necessary. Unfortunately should such a transition become necessary there will be an associated large cost increase to the university to run its enterprise applications and services. As such IS will also be seeking to fund a contingency reserve to lessen the financial impact should such a transition become necessary.

IS will actively seek to improve the disaster recovery capability of the university with respect to the electronic data that IS manages. To that end IS will seek to create reciprocal agreements to house both UofS and Sask Poly Tech data backup and disaster recovery systems on our campus in return for their housing our backups and systems on their campuses in Saskatoon, Moose Jaw, or Regina. Should this approach prove unsuccessful we will then assess and if affordable implement a proven cloud based disaster recovery solution.

We will assess and were appropriately affordable implement additional layers of security at the application server, message transport, and database levels on our network. This may then include additional intrusion detection systems, firewalls, encryption strengthening, and data and audit vaults or the equivalent.

We will assess the value of and where appropriately affordable implement further segmentation of data, business and technology function, and network topology to both isolate and insulate network traffic and functions having varying levels of needed security. In general we believe that instructional and related academic data, artefacts, and functions require lower levels of security than do research and administrative data, artifacts, and functions. By applying a single security standard across instruction, research and administration we become too restrictive in the learning environment causing faculty and students unnecessary inconvenience and frustration. With improved security from network or business function segmentation, and or data stratification we believe we will better allow for an appropriate level of security for the set of data, artifacts and functions in question. This will hopefully relieve some of the frustration faculty and students now experience.

We will assess and implement technologies to allow handling of intra application messaging amongst internally developed, vendor in-house, ASP, and private or public cloud based

solutions. We will seek to identify appropriate messaging standards, messaging methodologies, processes and procedures to allow reliable data synchronization and consistency in reporting.

We will continue to monitor and, when determined appropriate and affordable, implement alternative service delivery solutions. These solutions must first be used in a production environment and have proven themselves of value to the university in supporting instruction, research, or administration. Specifically the services of current interest are the cloud based solutions for SaaS (Software as a Service), PaaS (Platform as a Service), IaaS (Infrastructure as a Service). There are several variations for service delivery being experimented with within the "cloud" environment these include using a public cloud, a private cloud, a blended cloud, and or container service delivery.

We will continue the print optimization program with the 2.0 initiative that started in early 2015-16. As of the end of 2014-15 the program has provided savings of $1.4 million. The 2.0 initiative could potentially add an additional $3.2 million in savings bringing a total potential saving of $4.6 million by 2019-2020.

We plan to continue our dark fibre projects to include redundant access from the main campus to the college street campus and from there to other connection points of current and potential future significance to the university. This will minimize the risk of communications disruption for the university between its two campus locations.

Within AV Services we will shortly have increased the number of outfitted smart classrooms on campus and supported by IS to 60. We will install permanent video conferencing capabilities within our conference rooms. We will seek to network all smart classrooms and place monitoring capabilities in each room and on our equipment so we can monitor all rooms remotely and possibly provide immediate remote support to each room.

Given that we are to host the 2018 Conference of the Humanities we will need to substantially increase the number of smart classrooms both permanent and temporary. As well there will be a very significant spike in short term demand for associated technology supports such as wireless microphones and in room wireless access during the conference. We will be starting the planning process for this conference by engaging Facilities Management in discussions during the fall of 2015. This will continue until after the 2018 conference has closed.

Within our IT Support Group we will be seeking to implement new service offerings and changes to existing services including:

1. Amalgamation of IT Support Centre and Desktop Support Group in one location on the main floor of the campus.
2. Implementation of a call centre phone system.
3. Blending of tier 1 and 2 support functions.
4. Using LEAN to improve service processes with a focus on ITIL ITSM standards of practice.

5. Enhancing online student service support capabilities.
6. Coordinating with other units such as the Library, CCE, CTL, Distance Education/Flexible Learning, and the office of the AVP Academic support to new faculty members specific to technology use for course delivery in the classroom.

With respect to Printing Services on a business case basis we will be seeking to acquire new equipment to:

1. Allow in-house hardcover binding and by so doing reduce the costs of procuring these service from outside the university.
2. Replace existing end of life print technologies with new less costly, feature rich, and easier to operate equipment.

7. **Policy and Legal:**

We will continue existing policy and process with respect to policy and legal management.

We will only add or update policy and process when an apparent need arises. We anticipate that there may be additional IS level policy and process developed as a result of the focus we are now placing on security, realized outcomes as the basis of performance assessment, and service quality.

With respect to Printing Services we will be seeking to have the photography services that are now part of Printing Services included in the Printing Service policy on first right of refusal. This will then direct most of the photography work of the university to our in-house photography staff staff and allow for full utilization of the service at a significantly reduced overall cost to the university. We are very comfortable pursuing this as we are fully confident in the quality of work produced by our in-house photography staff.

8. **Contract Management:**

We will continue existing policy and process with respect to contract management.

We do not anticipate any strategic or tactical changes in direction or practice in this area.

9. **Change Management:**

We will continue existing policy and process with respect to change management.

As described under governance, within the Customer Application Support unit we will be seeking to implement a CAB Change Advisory Board to oversee requests for change in IS supported applications. Beyond the introduction of an applications CAB we do not anticipate any strategic or tactical changes in direction or practice in the area of change management.

10. Project Management:

We will continue existing policy and process with respect to project management.

We do not anticipate any strategic or tactical changes in direction or practice in this area. IS will continue its practice of only implementing unit or committee sponsored technology projects when there is a documented project and funding proposal from the university community endorsed by ITAG, GASP, UWGSC, ACRIC, or UITSC and approved and prioritized for implementation by UITSC.

IS on its own initiative will continue to actively assess and implement internal to IS projects to upgrade or replace any hardware or software associated with the data, voice, and video network, analog voice system, e-mail and scheduling, and all related security.

11. Security Management:

We will continue existing policy and process with respect to security management. However with the introduction of the new security positions we anticipate additional IS and University level policy and process will be developed in the area of security management.

We will hire a person to fill the newly created position of IS Security Manager. This position will report to the Director of Infrastructure and Communications. The responsibilities of the new security position will align with those recommended by Grant Thornton in its internal audit report on IS security framework planning.

We believe the scope of responsibilities of the IS Security Manager are such that additional technical support will be required in order for the manager to be effective. As such we will be taking action to create from within our existing complement of staff a Security Technical Analyst position that will then report to the new Manager of Security.

Assignment of security responsibilities between IS and various departments will be established using a service agreement methodology in which roles and responsibilities of each department are negotiated, assigned, formally agreed to by both parties, and reviewed annually.

IS on its own initiative will continue to actively assess and implement internal to IS projects to improve the university's security posture.

We will assess and implement where appropriate and affordable additional layers of security at the application server, message transport, and database. This will include additional intrusion detection systems, firewalls, encryption strength, data vaults.

We will assess the value of and where appropriately affordable implement further data, function, and network segmentation to isolate and insulate network traffic and functions having varying levels of needed security.

Over the coming 5 fiscal years we will seek to actively engage UITSC in the review and approval of our security framework and practices, our disaster recovery plan and its annual update, and in establishing our university security risk appetite with respect to the physical and electronic assets under the management of IS. We anticipate that there may be additional IS policy and process developed as result of the UITSC focus we will now place on security and disaster recovery.

On an annual basis we will continue to complete disaster recovery table top exercises. As well on an annual basis we will review our business continuance plans by functional unit within IS those being Infrastructure Support, Customer Applications Support, and Customer Support Services which includes the Information Technology Support Centre, Printing Services, and AV Services.

12. Information and Knowledge Management:

We will continue existing policy and process with respect to the management of internal to IS information and knowledge.

We do not anticipate any strategic or tactical changes in direction or practice in this area. We will continue to use and expand our IS Archive and IS Staff Archive to retain knowledge and information artifacts of ongoing use and interest for IS.

13. Quality Management:

We will continue existing policy and process with respect to quality management.

We will be placing additional focus on the area of quality audits. This includes any internal audits with a quality focus. It will also include the LEAN value stream mapping (VSM) projects and resulting process improvement projects that we will implement. As well additional focus will be placed on conducting our own internal to IS quality audits and follow ups with a primary focus on ensuring and improving the quality of our customer service and change management processes.

Over the next 5 years we anticipate completing LEAN VSM projects in the units of Computing Services, AV Services, and Printing Services.

We will be placing ever greater emphasis on defining and where reasonable quantifying anticipated outcomes that should result from plan execution and objective achievement.

14. Performance Management:

We will be making all necessary changes in performance management policy and process in order to shift our focus from solely an input vs. output assessment to one that will also include planned outcomes vs. actual outcomes performance assessment.

Where reasonable we will be placing ever greater emphasis on defining and then quantifying anticipated outcomes that should result from plan execution and team objective achievement. This will then require us to place greater emphasis on defining desired outcomes and measuring for those as actual outcomes as opposed to describing and measuring input and output. As a result the understanding of success will begin now to shift in IS. Our team and individual objective setting and performance assessment will over time focus more on assessing plan development and execution as it relates to achievement of desired outcomes.

Additional focus will be placed on performance assessment with respect to risk mitigation and opportunity capitalization and resulting outcomes. We will begin now to set performance expectations and assess our performance with respect to our meeting the obligations we undertake within each customer service agreement. As well greater focus will be placed on planned vs. actual outcomes of asset utilization, implemented change, and project implementations.

Additional emphasis will be placed on addressing customer concerns. Annual meetings held by Director of Customer Service with each unit identify concerns that the unit has with IS services. These concerns are then recorded as customer relationship work tickets and assigned to a director or manager for follow up. In future individual performance reviews of directors and managers will carry a heavier weighting on outcomes achieved in addressing customer service work tickets.

We will be working with Human Resources to either amend the individual performance assessment template for directors and managers in IS or augment the existing assessment template with additional IS considerations related to our shifting priorities as described in the IS strategic plan. It is our intention to both tie team and individual performance assessments to the achievement of our university's strategy as well as the IS strategy and the annual objectives set by each functional area's management team.

We will develop a process for assessing team performance that compliments individual performance assessment. We will outline the parameters and templates to be followed for team assessments and these team assessments will then reflect on each team member and also in each individual performance assessment. We believe by doing so we will motivate individual staff member to function as an effective team member.

15. **Communications Management:**

We will continue existing policy and process with respect to communication management.

We will undertake an internal review to ensure that IS is effectively communicating to the university its 2015 - 2020 strategic plan. Also as recommended by the Grant Thornton review IS will continue to communicate with all components of the university our area of responsibility verses that of the other units and individuals at the university. Emphasis will be placed on:

1. Improving communication with staff and gaining their insights on current operations, problem management, and direction setting for the future of IS.
2. Engaging the university community in a discussion of the service delivery gap between expectation of services to be provided by IS as held by the university community and what can actually be delivered within the existing funding to IS.
3. Early identification and resolution of customer concerns with the actual services provided by IS and as described in our IS service description as well as concerns customers have with the delivery of service as described and agreed to by IS in individual customer service agreements.

With respect to Printing Services we will be focus on developing and implementing a marketing awareness campaign for print and photographic services to both our internal and external communities and customers.

We will as well focus on maintaining the university community's awareness of all university policies that relate to their responsibilities when they interact with the computer systems of the university and with IS itself.

Appendix D
Information Services
Service Delivery Responsibilities

IS High Level Current State Service Accountability Map	

Information Services Authority, Responsibility & Accountability	
End Unit or User Authority, Responsibility & Accountability	
Shared Authority, Responsibility & Accountability	

Network Storage	Network Servers	Network Transport	End Use Devices	Applications	Data & Information
Disk Arrays, Tape Backup Systems, Disk Redundancy Management, Electronic Storage Capacity Management	Server Blades, Stand Alone Servers, Virtual Servers , Server Redundancy Management, Server Capacity Management, Server Access Management, SUSE Linux OS, Windows OS, Server Facilities, & Physical Security	Switches, Routers, Cable, Wireless Connections, Wired Connections, Internet Connections, Ethernet, Novell, Bandwidth, Telco PBX &VOIP, Capacity Management, Redundancy Management, Network Access Management, Network Facilities, &Physical Security	Evergreen Machines, Telephone Sets, Video Conferencing Units, Course Capture Devices, Multi Function Devices, Printers, FAX Machines, Scanners; BYOD, Unit & APEA PC's, Laptop's, & Handhelds	1. Infrastructure Apps: Sophos, GroupWise, Papercut, SPAM, Firewall, ECHO 360, Oracle, Cascade 2. Enterprise Apps : Banner, Nolij, FAST, Moodle 3. Service Agreement Vertical Apps: Voyager, Class, StarRes, Book Store, InfoSylem 4. Non Service Agreement Vertical Apps: SPSS, ArcGIS; Facebook, Twitter, Notes, End Use Device Security	Physical Data, Physical Data Redundancy, Physical Data Management, Records Management, Data Extract, Report Development, Business Analytics, Reporting, Evidence Based Decision Making, Business Continuance, Disaster Recovery, Knowledge Management, Policy Development

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Information Services
Service Delivery Responsibilities

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Information Services Authority, Responsibility & Accountability	
End Unit or User Authority, Responsibility & Accountability	
Shared Authority, Responsibility & Accountability	

End Use Device

| For Evergreen (EV) & Supported End Use Devices:

University Policy on Supported Devices, Connectivity & Connectivity Technical Support to the Network Transport, Network Servers, I/S Supported Server Applications, & Network Storage | For EV Devices:

University Policy On EV Devices, Basic Device Training, EV Deployment, Security Management, Upgrade, & Device Technical Support | For Existing Classrooms:

Replacement Technology Selection & Upgrade, Basic Device Training, Device Technical Support, Connectivity & Connectivity Technical Support, Security Management | For Networked Printer, Scanner, Fax, Multi Function Devices (MFD), Video Conferencing Units , & Telephone Sets:

Policy Development, Selection, Deployment, Connectivity, Technical Connectivity Support, Supplies Inventory, Security Management, Upgrade | For EV Devices:

Device Use & Advanced Functionality Awareness, Learning, & Usage | For Non EV I/S Supported End Use Devices:

Device Use, Basic & Advanced Functionality Awareness, & Usage, Device Upgrade & Learning, Device Technical Support, Security Management | For Non Supported End Use Devices:

Device Use, Basic & Advanced Functionality Awareness, & Usage, Device Upgrade & Learning, Device Technical Support, Security Management , Connectivity, & Connectivity Technical Support |
|---|---|---|---|---|---|---|

IS High Level Current State Service Accountability Map

Information Services Authority, Responsibility & Accountability	
End Unit or User Authority, Responsibility & Accountability	
Shared Authority, Responsibility & Accountability	

Applications

For I/S Administered Infrastructure Applications :	For Enterprise Applications on I/S Server & Evergreen End Use Devices:	For Vertical Infrastructure & Vertical Applications With a Service Agreement:	For Enterprise Applications:	For Vertical Applications & Vertical Infrastructure Applications With a Service Agreement:	For Vertical Infrastructure Applications With No Service Agreement:	For Vertical Applications With No Service Agreement and all Non Evergreen End Use Device Applications:
Selection, Installation, Upgrade, Internal and External Application Security, Application Basic & Advanced Training, Application Support, Technical Support, & Disaster Recovery	Implementation Project Management, Application Installation & Upgrade, Basic Training, Technical Support, Connectivity, External Application Security, & Disaster Recovery	All Services & Support as Outlined & Agreed to in the Service Agreement	Selection, Learning Basic & Advanced Use, Internal to Application Security , Advanced Application Training, Application Upgrade Acceptance Testing & Approval, Business Continuance During an I/S Disaster Recovery	Selection, & All Services & Support as Outlined & Agreed to in the Service Agreement	Selection, Installation, Upgrade, Training, Security, Connectivity, Application & Technical Support, Business Continuance, & Disaster Recovery	Selection, Installation, Upgrade, Training, Security, Connectivity, Application & Technical Support, Business Continuance, & Disaster Recovery

IS High Level Current State Service Accountability Map

Information Services Authority, Responsibility & Accountability	
End Unit or User Authority, Responsibility & Accountability	
Shared Authority, Responsibility & Accountability	

Data & Information

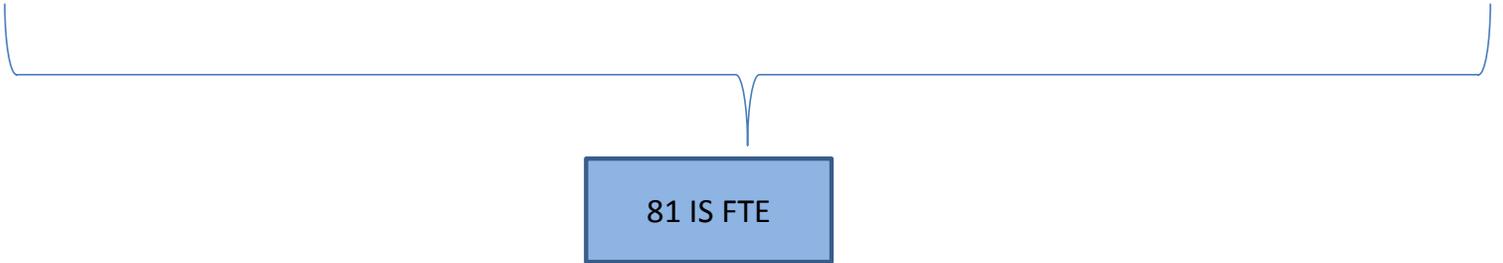| For the Electronic Bits & Bytes of Data, Records, & Information as Stored on the I/S Administered Network Server & Network Storage Infrastructures: Security, Data Management, Database Management, Data Extraction, Report Development, & Disaster Recovery	For I/S Departmental Data, Records, and Information However Stored: Policy Development, Collection, Accuracy, Validity, Reliability, Analysis, Interpretation , Update, Use, Report Development, Reporting, Disclosure, Archiving, & Destruction, & Business Continuance	For University Data, Information, Records Stored Locally on any End Use Device and or Non I/S Administered Network Transport, Network Server, or Network Storage Infrastructure: All Security, Data Management, Electronic Data Redundancy, Report Development, Business Continuance & Disaster Recovery	For University Data, Records, and Information Wherever stored and However Stored: Policy Development, Collection, Accuracy, Validity, Reliability, Analysis, Interpretation, Update, Use, Reporting, Disclosure, Archiving, Destruction, & Business Continuance During a Disaster Recovery

IS High Level Current State Service Accountability Map

Information Services Authority, Responsibility & Accountability	
End Unit or User Authority, Responsibility & Accountability	
Shared Authority, Responsibility & Accountability	

Network Storage	Network Servers	Network Transport	End Use Devices	Applications	Data , Information & Security
2 FTE	6 FTE	7 FTE	22 FTE	22 FTE	4 FTE

AV Services	Print Services	Administration
5 FTE	9 FTE	4 FTE

81 IS FTE

**Appendix E
Information Services
Information Needs Responsibilities Matrix**

University Administrative Information & Decision Making Needs Matrix

BUSINESS NEED→ _____ TOOLS Available ↓	Communication	Transaction Processing & Workflow	Assessment	Decision Making
Hardware & Network Infrastructure	**IS Led**	**IS Led**	**IS Led**	**IS Led**
Application Software		**IS Involved** Upgrades & Problem Resolution	**IS Not Involved**	**IS Not Involved**
Data Management	**IS Involved** Physical Storage & Security	**IS Involved** Physical Storage & Security		
Records Management	**IS Involved** Physical Storage & Security	**IS Involved** Physical Storage & Security		
Transactional Reporting & Interpretation	**IS Involved** Report writing	**IS Involved** Report writing		
Analytical Reporting & Interpretation	**IS Not involved**	**IS Not Involved**		
Decision Support				

University Academic Information & Decision Making Needs Matrix

BUSINESS NEED→ _____ TOOLS ↓ Available	Communicate	Educate	Research	Decision Making
Hardware & Network Infrastructure	**IS Lead**	**IS Involved** Selection Assistance	**IS Involved** Selection Assistance	**IS Involved** Selection Assistance
Application Software	**IS Involved** Email & Telephone	**IS Involved** UR Courses Upgrades & Problem Solving	**IS Not Involved**	**IS Not Involved**
Data Management	**IS Involved** Physical Storage & Security	**IS Involved** Physical Storage & Security		
Records Management	**IS Involved** Physical Storage & Security	**IS Involved** Physical Storage & Security		
Transactional Reporting & Interpretation	**IS Involved** Report Writing Banner Student	**IS Involved** Banner Student & Web Mark Entry Support		
Analytical Reporting & Interpretation	**IS Not involved**	**IS Not involved**		
Decision Support				