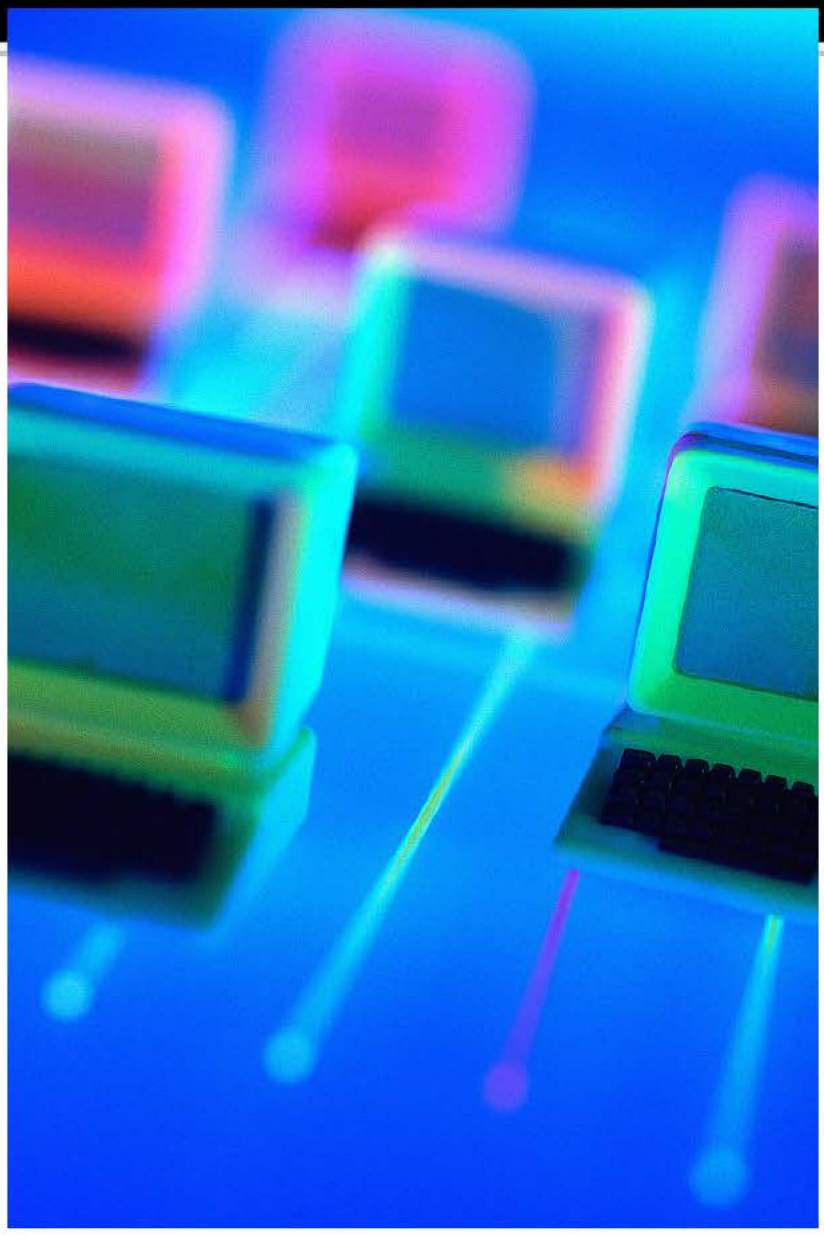
LAKE MICHIGAN COLLEGE

Information Technology 2014-2017 Strategic Plan



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Introduction

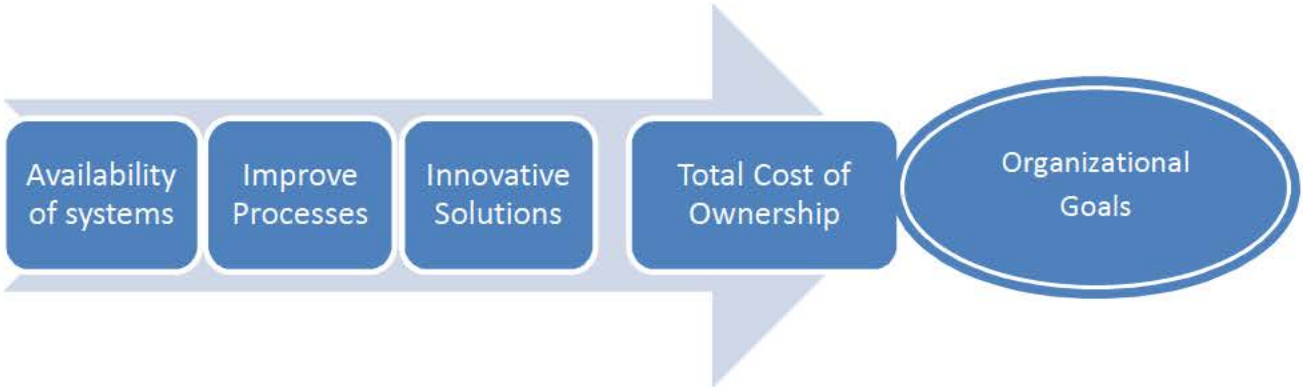
Information Technology is vital to the success of any organization and involves arranging the right mix of skilled individuals who share common objectives and defined processes to deliver services and solutions that support the mission of the organization. Lake Michigan College is served by a team of individuals whose purpose is to strive toward the delivery of technology to students, faculty and staff in an accountable and cost effective manner.

Mission of IT

Information Technology is a service organization that works in partnership with members of the College to provide technical solutions, systems and services that support the faculty and student relationship, improves business processes, protects informational assets, and kindles innovation that advances Student Success.

Primary Service Delivery Objectives

IT has four constant objectives as it provides services and solutions for the organization. The first objective targets the availability of key information services and systems. The second objective is a progressive focus on improving processes that enables the organization to be more efficient. The third focuses on growing the organization through the deployment of innovative solutions that allows the organization to offer new services and applications. The fourth objective focuses on the total cost of ownership within the college's budget lifecycle.



Availability of Systems

IT must ensure the availability of vital information services to the organization at all times. This is accomplished through capacity planning, requirements validation and solution design, project management, risk management and through the monitoring of critical systems and processes. The lack of vital services can harm the reputation and effectiveness of the organization and result in financial loss and missed opportunities. It is also critical that the confidentiality and integrity of information be maintained for all systems. This requires traceability and strong access controls. Without confidentiality, information is not secured and without integrity, information cannot be trusted.

Improve Processes

IT must also work closely with key business process owners to improve operational efficiencies. In many cases this relates to the discovery, understanding and documentation of key business processes and the defining and documenting of business rules. The goal of IT is to assist the organization in the development of effective processes that are repeatable, sustainable and transferable. Improvements are also realized through the full utilization of existing technology investments and through the alignment of software solutions with the needs of the business. Improvements may also include the procurement and deployment of new technical solutions.

Innovation

IT must partner with key organizations within the College to select and deploy innovative solutions that grows and furthers the mission of the College. Traditionally, IT organizations spend 70% of their operational budget maintaining what they already have. It is essential that IT allocate part of its budget to support growth opportunities for the College.

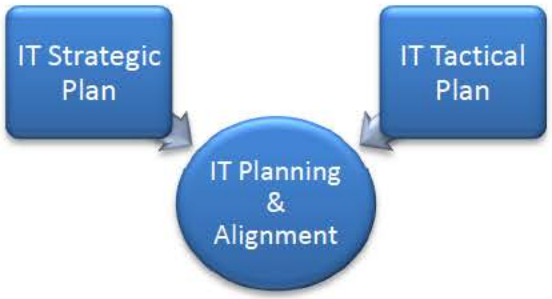
IT Planning & Alignment Process

One of the key roles for IT is to align its internal goals and objectives with that of the organization. This is a continuous process that involves developing a constructive dialog with members of the College. A key element of success involves IT building trust with members of the College to work collaboratively to solve problems and build solutions. IT must listen collectively and embrace positive tension as an opportunity for building a more effective organization.

IT must not only align with the organization goals, but must also develop agility and capacity to respond to unplanned needs and opportunities.

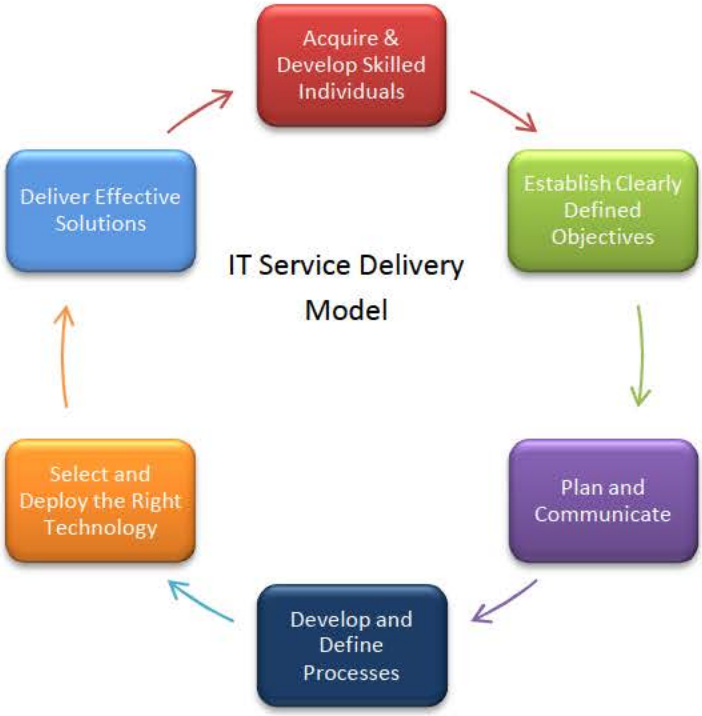
Planning and Alignment

IT publishes an annual strategic plan and a tactical horizontal plan. The strategic plan is a multi-year view that is broad in nature and addresses key deficiencies with IT services, aging and emerging technology, cost of ownership and critical needs within the organization. The tactical horizontal plan is a granular plan that focuses on projects for the upcoming academic year.



IT Service Delivery Model

IT is refining its Service Delivery Model to continuously align projects and services with the needs of the organization. The goal of this model is to deliver cost effective solutions and services that enables and furthers the mission of the College. IT must develop an approach of meeting the goals of the organization in a timely and cost effective manner. This model is a methodology used to build structure within the organization for executing and for measuring results.



2014 – 2017 High Level Objectives

The strategic plan covers six broad categories for 2014 to 2017 that include:

1. - Virtual Desktop Infrastructure
2. - IT Risk Management & Security
3. - IT Helpdesk & Instructional Support
4. - Network and Telephony
5. - Cloud Computing, Data Center and Computing Resources
6. - Enterprise Applications

Virtual Desktop Infrastructure

LMC IT has selected, and will develop, a Virtual Desktop Infrastructure computing model to lower the acquisition cost of PCs and provide computing services on demand through thin and thick clients. The objectives of this strategy include:

1. - Lower desktop infrastructure acquisition cost and total cost of ownership - Lower acquisition cost through the use of thin clients and bring your own resource (BYOR).
2. - Lower provisioning and support cost - Provide an on demand computing resources to any client without the need to provision software apps to a physical PC.
3. - Strengthen controls around information assets – Move staff PC consumers to VDI services to safeguard data against theft and unauthorized access.
4. - Extend VDI to BYOD devices to expand computing services to end user devices.
5. - Extend VDI services to the smart TVs for our new Student Housing (Dorm). This will provide baseline access to computing services and lab within the dorms.
6. - Support new computing form factors – Tablet based computing has emerged in 2012 as a major shift in how computing resources are consumed and used. The tablet models with detachable keyboards offer an optimal platform for some users proving mobility and new functionality through a touch interface. LMC plans to provide full VDI support on tablets for users to gain remote desktop access to traditional computing resources.

IT Risk Management & Security

Continue to manage compliance and reduce risk across the organization to safeguard IT assets and information.

1) - Continue to manage business continuity plan using or existing Comvault investment and high availability service model for virtual Servers.
2) - IT plans to complete the implementation of Dataguard for protecting transitional data within our Student Information System and ERP system
3) Maintain the IT risk management plan to safeguard IT assets and to reduce exposures.
4) Implement the BESecure security awareness campaign at LMC. Educating our internal stakeholders is a key component of have an effective information security program.
5) - Extend the security program to include deep packet inspection using our unified threat management firewall.
6) - Implement a logging system for Network devices and Servers that support critical applications and information. Implement an event correlation solution to better manage security incidents.
7) - Select a Mobile Device management solution for safeguarding informational assets on BYODs.
8) - Incorporate an Internal audit process that allows the inclusion of checks and balances to verify key processes are not overlooked.

IT Helpdesk / Academic Team

1) - Maintain the 5 Year PC refresh plan – Refresh systems as needed to ensure that there is adequate hardware to support the infrastructure as it ages. IT has selected Dell as our manufacturer of choice based on pricing, support, reliability and platform stability. Target to lower the desktop acquisition cost to below $400 if possible.
2) - Select and Implement desktop virtualization solution to increase the productivity of IT staff and to provide more effective access to academic software applications to students.
3) - Start the Windows 10 Migration Plan and review options for the Post PC Era.
4) - Establish Quality Gates for key processes within IT to deliver effective services and to provide accurate information.
5) - Assist the Academic team in maintaining an instructional support model for students in the library.
6) - Develop a new IT customer service model for strengthening services provided by IT.
7) - Implement a new QA process for managing academic software applications.
8) - Continue to monitor and optimized our print and copying services.
9) - Focus on building a customer service model that allows for tracking of projects and helpdesk tickets to ensure timely communication of processes.

Networking & Telephony

1) - Replace end-of-life Network Components - 7 year life-span for all new components… expandability. Approximately one half of our LAN switching infrastructure lacks both future support and a feature set that will adequately embrace new technologies such as voice over IP and network access control. Over the next 3 years, a predictable and closely monitored phase-in of up-to-date switching technology will be implemented.
2) - Expand WIFI density within the classroom to support BYOD and new Academic applications.
3) - Expand Network drops within the classroom to support data projection remotely, expand coverage of WIFI Access Point.
4) - Expand WIFI density to the dorm to support on campus residents
5) - Continue to expand outdoor WIFI for all LMC campus to support BYODs and other WIFI applications.
6) Continue to expand security cameras across the campuses where needed to support campus safety.
7) LAN Connectivity Expansion and Improvement
    a) Implementation of network-based telephony will necessitate cabling upgrades and new cabling implementations on all of our campuses that have not been necessary until now.
    b) Electric power for the telephones in the upcoming network-based telephone system will have to be provided by newer LAN switching technology.
    c) - An increasing need for network connectivity in classrooms, labs, office areas as well as customer-service and one-stop areas will also require future expansion of cable runs and expanded LAN switches' port capacity. Some of this can be supplemented with wireless (802.11) LAN technology; however, wireless bandwidth capacity does not scale nearly as well as wired.
8) - Continue to ensure survivability for core levels - Provide support for a "new level" of fail-over and survivability within the core infrastructure to support connectivity to the data center and Internet for core business services. In 2010, we implemented an enterprise-class network switch capable of switching many hundreds of gigabits of data per-second. This solution has provided wire-speed transfer of data for:
    a) Closet Connectivity
        I. Increased Fiber port density means we can greatly leverage the Napier campus's large fiber infrastructure to deliver much more bandwidth throughout the campus.
    b) Server connectivity
        I. - Today, numerous servers are attached to the network using dual Ethernet connections – added Gigabit port density means this will be expanded to all critical systems and tested.
9) - Ensure survivability for some distribution and access zones- Today, Core switches are interconnected and cross-connected. The new network core switching infrastructure will employ a much improved fiber switch backbone redundancy and dual-connections to many electrical (network access) closets that will increase bandwidth and reliability.
10) Leverage our new unified threat management Firewall

a) - Provide deep packet inspection for common web application injection attacks and provide scanning at the gateway for common malware.

b) - Our newly acquired next generation of Internet firewall technology employs granular filtering capabilities, greatly enhanced remote-access security authentication features, with improvements in all popular VPN technologies.

c) - Internal Firewall Services –Most network and data security breaches originate from within the organization; not from the Internet and our internal network is virtually open to the public. Implementing a firewall on our "inside" network will allow us to quickly and easily put a very secure barrier around our server network as well as around less-secure areas of our network, both wired and wireless.

11) Implement Meaningful Network services metrics - IT is continuing to develop the means for reporting on a monthly basis critical and meaningful metrics which will best represent the level of success and quality of our product of our changes and implementations. The main goal is to provide a means to easily spot trends which might over time affect service levels. This will help capacity planning and resource development. The key to this is not quantity of information, but appropriately selecting the few metrics that best represent our service level.

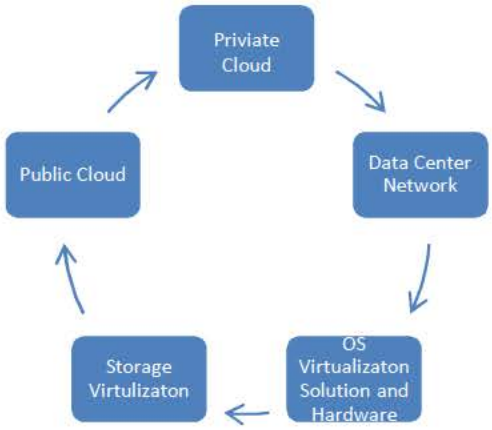
12) Improved Internet bandwidth and bandwidth management - Improved bandwidth metrics have made it clearer than ever that the growth of Internet traffic has been exponential. Most of this traffic; however, is entertainment and social networking content requested by student client workstations attached through the wireless networks or in open labs and the library. We now employ technology that allows us to guarantee Internet bandwidth for mission critical hosts and applications by dynamically limiting the size of outbound requests for Internet-based content. Although the need for this type of bandwidth management is critical, the exponential growth in demand for those critical applications continues.

13) Increased Local Area Network Reliability. Adding switch ports and interconnecting switch-to-switch links will allow us to multiply bandwidth to select areas in the school by simply using the available fiber connectivity. This has the added benefit of increasing the reliability of the network areas that connect directly to the classrooms and office user's computers. 2010 will be a big year for IT delivering Local Area Network bandwidth and network reliability to all of our classrooms and offices.

14) Telecom Cost Reduction Bid- In an effort to continuously cut cost within the college, the IT Department is working with AT&T to reduce telecom cost via investigating an option to move to an IP Flex environment which will replace ISDN PRI with Ethernet IP Flex, increased call paths, convert AT&T ASE switched Ethernet, eliminate Internet VLAN, and include enhanced disaster recovery features. The anticipated savings will be approximately $6700.00 per year.

Cloud Computing, Data Center and Computing Resources -

LMC IT desires to continue to develop an "IT as a Service model" using private and public clouds strategies to lower operating cost and improve agility.



"IT as a Service" includes the dynamic provisioning of computing services within a managed framework for the following class of services:

- Infrastructure as a Service (IaaS) - Delivery of raw, virtualized computing infrastructure such as servers and storage as a service to build applications. (Windows Server / Linux Server / Virtual Desktop)
- Platform as a Service (PaaS) -Delivery of a virtualized application runtime platform that has a software stack for developing applications or application services. PaaS applications and infrastructure are run and managed by the services vendor.(IIS / HTTP / SQL)
- Software as a Service SaaS - Cloud based delivery of complete software applications that run on infrastructure the SaaS vendor manages. SaaS applications are accessed over the Internet and typically charged on a subscription basis. (Email / CRM / SharePoint)

Cloud Infrastructure Architecture Considerations

1. Continue to build upon our Dynamic provisioning of Servers using Microsoft Hyper-V
2. Leverage our new dynamic provisioning of storage using Dell's Equal logic 10G storage solution.
3. Continue to leverage our new 10G High speed backbone for storage and virtualization.

Enterprise Applications -

1. - Upgrade SharePoint to 2013 to support tablet users and implement electronic workflows.
2. - Migrate email to Office 365 using Microsoft cloud services.
3. - Continue the migration of document scanning to other areas within the college.
4. - Maintain and expand a digital signage solution across the campus that supports effective communication with students.
5. - Document business rules and key business processes to retain knowledge of core business processes and to improve operational efficiencies.
6. - Plan and prepare for the next generation our student information system (Banner XE) within the 2014-2015 timeline.
7. - Upgrade the student portal in 2015 and implement a mobile solution.
8. - Complete the implementation of our Degree Auditing solution Degree Works.
9. - Implement Automic to automate banner process flows and reduce the amount of time spent on manual processes and better manage electronic workflow.
10. - Implement Eprint, for banner, reducing the amount of paper used in printing and allowing indexed .PDF copies of important and integral documents.