

Strategic Technology Plan

2008 - 2013

Miami Dade College, Information Technology

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Background

Introduction

Miami Dade College must continue to leverage technology in its plans for the future if the College's mission of providing accessible, affordable, and high quality education is to be accomplished. As technology has become a fundamental component of the education landscape, the strategic application of technology must be leveraged. As the organization charged with the task of planning, developing, implementing, maintaining, and managing technology, Information Technology's role has changed dramatically in the past ten years. Historically, IT has been a behind the scenes infrastructure cost-center providing automation of core business process. In today's paradigm, IT must evolve to become a partner in education, delivering strategic value directly to the students, faculty, staff, and community. This strategic plan, and more importantly the collaborative planning process itself, is designed to facilitate and document the services and processes that will guide and ensure that technology is strategically applied and in alignment with the College's goals and objectives.

Overview

The Strategic Technology Plan for Miami Dade College is intended to provide an effective framework for the strategic implementation of technology at the College. This plan is meant to provide an update to the 2000-2005 strategic technology plan and based on Master Plan for Technology initially developed in 1996-1997.

It is recognized and acknowledged that if this plan is to be relevant, effective, and successful it must solicit and incorporate the feedback of the broader College community. It is only by leveraging the collective insight, knowledge, and experience of the faculty, staff, and students of this college that we will be able to achieve this goal. However, to accomplish the more pragmatic and tactical needs of this plan, the development of the strategic technology plan will be an iterative process that will be broken into at least two phases. In the first phase we will develop an initial draft and framework for categorization; the purpose of this phase is to mitigate the urgent operational needs of Information Technology. The second phase will extend the scope of the Strategic Technology Plan by including a broader, college-wide representation, thus ensuring all aspects of technology and its impact on the college are adequately addressed.

In the first phase, it is our goal to develop a taxonomy and initial technology plan that ensures Information Technology's alignment with the College's strategic goals and objectives, as well as, to comply with the findings of the Auditor General of the State of Florida. The existing Strategic Technology Plan was developed by the College-wide Technology Committee for the 2000-2005 fiscal years and was last revised in 2002. Given these time constraints it is necessary to implement the first phase with narrower scope and with a smaller subset of participants.

In phase two, we will extend the plan beyond its initial technology-focused scope and incorporate broader academic and administrative aspects into the plan. To accomplish this, we will enlist the support of the broader college community by garnering input and insight from the faculty, staff, and students. We will also revive and update the College-wide Technology Committee as a means to manage the continued development and maintenance of the Strategic Technology Plan and ensure the needs of all areas of the college are understood and addressed.

As this plan is a living document and our process an iterative one, it is the planning process itself that is of value. The Strategic Technology Plan document itself is not an end-goal to be achieved, but rather a chronicle of the process and a repository of the knowledge gained. To that end, throughout the course of development, we will continually publish updates to the plan and share our progress with the college community. It is through a process of sharing and the incorporation of feedback received that we hope to involve all willing participants into the planning process, and ultimately develop a culture of strategic planning.

Purpose

This section outlines the key goals of the Strategic Technology Plan. It is believed that by clearly understanding and documenting the intended outcomes, all participants in the planning process shall be able to share in these common goals and unite in a collective effort. The primary goals of this strategic planning process are to:

- Align the application of technology to College Mission, Vision, and Strategic Goals and Objectives.
- Provide Strategic Direction to ensure Miami Dade College's continued Leadership in Education and Technology.
- Empower employees by showing how their efforts directly support the strategic goals of the College.
- Develop a culture where the strategic vision is woven into the fabric of each employee's day to day function.
- Define a framework for all technology initiatives undertaken by the college for the next 5 years.
- Ensure financial resources are used in a manner that effectively serves our mission, vision, and goals.
- Provide for a major revision of the College Strategic Technology Plan.

Document Layout

The Strategic Technology plan is divided into three main sections, Strategic Drivers, Technology Solutions, and Enabling Infrastructure. Each of these sections are interrelated in that they provide guidance for the sections below and support for the sections above (see figure 1). The first section, Strategic Drivers provides a mapping from the College-wide Strategic Plan into the Strategic Technology Plan. By defining the College Strategic Plan as the primary driver, it is our intention to show alignment between this strategic technology plan and the College-wide Strategic Plan. The second section, Technology Solutions contains the set of composite Systems, Services, and Activities that directly support the College's Strategic Goals and Direction. Each strategic goal in this section implements or supports one or more Strategic Drivers. The third section, Enabling Infrastructure details the supporting technologies that enable the delivery of the composite technology solutions, which attempts to associate the technology components that actualize the associated Technology Solutions. Within each section, the Strategic Goals and Objectives are documented and categorized within a section-specific taxonomy. Each goal indicates its intended outcome, relationship to higher level goals, and associated objectives.

Strategic Direction

Vision

To maintain Miami Dade College's established position as an industry leader in Education and Technology.

Mission

To provide a framework for the delivery and alignment of technological services and solutions that will support Miami Dade College's mission to provide an accessible, affordable, high quality education.

Guiding Principles

Transparency – Be open, honest, and trustworthy.

Data Driven – Measure and improve.

Repeatable – Deliver your best consistently.

Responsive – Be prepared and timely.

Seek Consensus – Consider all stakeholders.

Communicate² – Over communicate.

Assumptions

In this section we document the assumptions used in the creation of this strategic plan. As a strategic plan attempts to set direction for the future, these assumptions often represent an attempt to predict the future of technology and academia. By documenting these assumptions we provide context to future readers of the plan, such that the reader may understand the perceived challenges of the organization. In addition, this section may provide insight as to why particular approaches were selected over potential alternatives.

Students

- The next generation of students will have a different approach to learning. The lines between traditional classroom learning and social learning will blur to create a new blended learning environment. Traditional lecture-based and unidirectional delivery methodologies will likely be at least partially displaced by social networking, virtualization, and other collaborative technologies.
- Students will have increasing expectations for the delivery of high-quality services and support directly to their personal mobile devices. They are always connected wherever they go and are constantly multitasking. While students will still expect access to institution-owned devices, their primary connection will be via a personally-owned mobile device. Information Technology's ability to provide ubiquitous services, device independently, will provide students the means to seamlessly consume College services, supporting the social learning paradigm.
- Many of the above changes will greatly impact the future of the classroom. Future education delivery methodologies will rely heavily on technology and virtualization. These future learning environments will not likely be classroom at all. Instead, multimedia, immersive technologies, collaborative systems, and social

learning will change the traditional class schedule and classroom, in favor of anytime and on-demand learning.

- Supporting the new social learning paradigm, the College will need to leverage information from a variety of sources. In an anytime learning environment, computing systems must be pervasive, understanding present and historical context, location, and students preferences to proactively support student needs and communicate appropriately.
- As computing systems become more pervasive the sensitivity of the information contained within them greatly increases. Privacy and information assurance will continue to be a hot button issue. This will create a significant conflict, between how students wish to be communicated with and how much information they are willing to share. This issue is not unique to education, the problem spans the industry. Change is necessary, but there is great uncertainty as to how these privacy issues will be resolved.
- In order to mitigate this new threat landscape, Information Technology will develop a flexible and risk-based approach to security.

Information Technology

- As technology becomes a fundamental component of the education landscape, Information Technology will need to transform from a technology management organization into a service delivery organization. The IT organization's ability to demonstrate an understanding of the business and academic needs of the institution, and provide alignment and support of the mission, vision, and strategic goals is a primary differentiator in this paradigm shift. IT must become a strategic business partner, and demonstrate measurable value to justify its cost.
- As part of the service delivery transformation, Information Technology must adopt a user-centric approach in the development of its services. A strong bias towards customer satisfaction, that includes both quantitative and qualitative metrics, is critical in ensuring that Information Technology is effective in successfully achieving the transformation.

Technology

- Consumer choice in technology will be a significant driver for Enterprise IT. Technology and content are expected to continue to change rapidly. Adapting to, and supporting these new technologies will pose a management challenge for the traditional IT paradigm.
- Most visible among these challenges is the transformation to mobile technologies. As costs thresholds and consumer choice drives changes in technology, mobile and wireless computing will continue to grow and displace the traditional desktop computer. Developing a user-centric, service-based infrastructure will help maximize flexibility and improve support for the College's employees and students.
- Supporting a mobile infrastructure necessitates a reliable and available network. As such, network access has become viewed as basic utility, not unlike telephone and electricity. The network, both wired and wireless, is expected to be accessible and available from anywhere and at all times.
- This always-on view of the network is most visible in convergence of network and voice communications. Traditional telephone and collaboration technologies are becoming highly integrated and dependent on network availability and stability.
- Virtualization, grid, and in-the-cloud computing technologies have the potential to create the same level of ubiquity within the computing infrastructure as that of the network. These technologies help to define a clear separation between the services delivered and the physical infrastructure used to deliver them.
- In fact, the separation between service and infrastructure is the primary distinguishing characteristic of the Software as a Service (SaaS) movement. As the market continues to mature, adapt, and become more targeted, many non-strategic in-house applications will have cost-effective SaaS alternatives.
- In order to reap the benefits of this new service-based economy, the College must be willing to adopt industry standards where appropriate. Information Technology will work with the College to understand which services provide strategic advantages, and can therefore justify College specific customization, and those services which do not, and would benefit from leveraging existing systems and standards.

Organizational Structure

- At present, the responsibility for managing technology is divided between a centralized district IT organization and eight independent campus IT organizations. This arrangement has led to a high degree of duplication and divergence in the services delivered to the College and community. By standardizing, consolidating, and aligning these services, the College can significantly reduce costs, maximize consistency, and markedly improve service delivery.
- As the much of the workforce reaches retirement age, the College may find significant shortages in qualified personnel needed to fill vital roles. Inventorying existing skill sets and defining succession plans as well as investing in employee development, compensation, and retention programs will minimize the impact of these upcoming changes.
- Outsourcing, when applied properly, enables the organization to focus on core competencies, allowing employees to focus on tasks of strategic value.
- Information Technology recognizes the growing adoption of the Information Technology Infrastructure Library (ITIL) as a standard for IT Governance. It is expected that the State of Florida and its subordinate IT organizations will likely formally adopt ITIL in the near future. Therefore, Information Technology seeks to create an ITIL-aligned organizational structure with clearly defined processes that embrace transparency.

Financial

- Technology commoditization will continue to reduce costs for many standard computing technologies, leveraging these technologies will help to reduce IT operating costs.
- Information Technology budgets, industry-wide, will continue to decrease. IT organizations will continue to be expected to do more with fewer resources.
- Information Technology will have access to the capital to fund Strategic Plan initiatives.
- Green IT is good for the College and the environment. A Green initiative can help reduce costs and minimize the College's impact on the environment.

Strategic Drivers

Strategic Driver 1: Access to the College

The guiding principles that have steered the College's efforts since inception are present in this driver's goals – reaching underserved populations, providing equitable and convenient access and ensuring that each student receives the personal attention that characterizes the College's approach to learning. But these traditions are also reinforced by the recognition that our systems of communication and student support must embrace the digital and electronic modalities that are integral to many students' lifestyle. To provide students the best possibility of accessing and valuing MDC's offerings, and to support them throughout their career at MDC, the combination of the traditional and the innovative is essential.

- Increase student enrollment, enhance transfer experiences, and support the diverse educational paths of our students.
- Maintain and enhance MDC's competitive position in higher education market.

Strategic Driver 2: Student Achievement and Success

As the nation's largest undergraduate institution, and its most diverse, MDC's constant challenge is to provide a dynamic learning environment, one that serves and adapts to the needs of our students and the local workforce. Establishing relevant learning outcomes, offering continual innovation in teaching methods and curriculum, and measuring learning via creative assessment tools is an ambitious and essential agenda for quality learning.

- Enhance student learning and success by identifying barriers and implementing strategies to overcome the challenges faced by our diverse and non-traditional student body.
- Establish exemplary methods for students to demonstrate their learning and for the College to continuously improve to optimize student learning.
- Design and develop integrated, real-time systems to help monitor and track student learning and success.

Strategic Driver 3: Serving the Community

MDC's mission statement underscores the importance of the College's relationship to the community. While MDC's campuses have provided primary access to academic programs, the College has extended the classroom into the community via civic and cultural programming that has opened the door to enriching experiences across cultures and throughout the economic spectrum. By reaching out through on-line communities, MDC can also stimulate dialogue and engagement on evolving issues including the environment. Partnerships with private and public entities continue to offer our students new opportunities to support learning and build the tradition of contributing to the community.

- Provide cultural, civic, and other specialized programming to enrich, enlighten, and educate the broader community.
- Provide multiple opportunities for students to gain practical experience, and for the community to reap benefits of student contributions.

Strategic Driver 4: Resource Development and Allocation

As the largest undergraduate institution of higher education in the nation, MDC is confronted with the challenge of ensuring that its classrooms and support services are responsive to individual students. Maintaining the advantages that distinguish MDC – small classes and exceptional teaching faculty, commitment to academic advisement and student support services and state-of-the-art educational technology – will require continued development of alternative revenue sources beyond state funding. Expanding the efforts of the MDC Foundation will be central to this effort, along with continued diligence from the entire College community in making the case for MDC to state and federal policymakers.

- Maximize federal, state, local, and internally-developed resources.
- Establish and maintain partnerships with individuals, corporations, foundations and other entities to significantly increase philanthropic revenue in support of the College's goals.
- Ensure that MDC provides equitable opportunities for all groups, including those underrepresented in the business community, and encourage local vendor participation in College business activities.
- Become a model for effective use of technology in support of higher education.

Strategic Driver 5: Employees and the College

Our faculty and staff are the heart and soul of the College. The quality of support, from the first moment of recruitment through hiring and long-term employment, must match the care and creativity that we offer to students. Compensation, training and growth opportunities, and life support issues are among the many steps that MDC embraces to create one of the community's best places to work.

- To become one of Miami's best places to work!
- To recruit, hire, and retain the best workforce!
- To continue efforts to fairly and appropriately compensate employees.

Technology Solutions

The Technology Solutions section contains the set of composite systems, services, and activities that directly support the College's strategic goals and directions.

Information Systems and Services

The Systems and Services category contains the systems and services that support the College-wide Strategic Plan.

Administrative Systems

The College's administrative systems provide the necessary tools for the College to carry out its day to day business. It is Information Technology's vision to implement best of breed systems that will provide the College with the flexibility needed to accomplish both its day to day work as well as its strategic initiatives. To that end, Information Technology seeks to deliver systems that integrate well into the College's adaptive infrastructure and provide a powerful, yet easy to use interface that empowers the College's staff, students, and administrators with the ability to easily and securely conduct College business.

Strategic Goal: Modernize the College's Financial Aid System

Strategic Objective: Financial Aid System Replacement

This objective calls for the College to evaluate, select, and implement a replacement Financial Aid System. The selected package must easily integrate with both our existing Enterprise Resource Planning (ERP) system (Odyssey) as well as any future, yet to be named system. It can be assumed that any future system integration will likely be based on web-services and a service-oriented architecture.

Strategic Goal: Modernize the College's Enterprise System (Odyssey)

Strategic Objective: Returning the College to Baseline

Information Technology will work with the Florida Community College Software Consortium (FCCSC) to integrate MDC site-specific changes back into the standard Integrow product. By returning to a baseline configuration, supported and maintained by FCCSC, MDC IT staff will be able to focus their efforts on the implementation of a new Enterprise Resource Planning System (ERP).

Strategic Objective: Mapping Current Functionality

Information Technology will document the functional and non-functional requirements for a replacement ERP system.

Strategic Objective: Selecting an Integration Platform

Information Technology will evaluate and ultimately select a replacement integration platform for the College's next ERP.

Strategic Objective: Replacing the College's Enterprise Resource Planning (ERP) System

Information Technology will implement a new ERP system to replace Odyssey.

Strategic Goal: Improve Student Business Process Delivery

Strategic Objective: Room Scheduling

Optimize the College's current room scheduling process to facilitate automated allocation of room space, based on current demand and historic utilization.

Strategic Objective: Curriculum Management

Automate and optimize the college's manual curriculum management process.

Strategic Objective: Streamline Admission and Registration Services

Update Admissions and Registration applications to implement integration standards to facilitate a flexible and consistent experience across all College interfaces.

Business Continuity / Disaster Recovery

The development and test execution of a comprehensive Disaster Recovery (DR) and Business Continuity Plan (BCP) is key to a successful implementation should the need arise. Information Technology's vision is to leverage modern technology, to the extent possible, and provide the College with a robust, yet cost effective disaster recovery and business continuity plan that includes both district and campus IT assets.

Strategic Goal: Establish a Disaster Recovery (DR) site

Strategic Objective: Develop Criticality Classifications and Publish Service Level Agreements

This objective calls for the implementation of a criticality classification system for all applications and data. All applications and data shall be classified according to their operational criticality. The classification will determine criticality in terms of number of days or hours the College could reasonably afford to be without access to it and still be able to continue normal business.

Strategic Objective: Amendment of Standards for Application Deployment

This objective calls for the amendment of standards surrounding the deployment of applications. The standards governing the deployment of applications will be amended to include consideration of the criticality of the application and/or data. As such, applications must be deployed in a manner that achieves the necessary levels of availability and recoverability as designated by its classification.

Strategic Objective: Select an Off-Site Location

This objective calls for the selection of an off-site disaster recovery datacenter to host the College's recovery systems and services. The ideal datacenter will offer a secure, highly available environment at a reasonable cost. The datacenter will need to be geographically separate, as required by statutory guidance, from the College so as not to be impacted by any natural disaster that would also impact the College, yet close enough that an affordable high-speed network would be available. As the datacenter would be out of commuting distance, it is important that the datacenter have trained staff available onsite to assist when necessary.

Strategic Objective: Extend Production Networks to include Off-Site Location

The College network must be redundant and extended to include the off-site location so that should a disaster occur at the primary datacenter, high priority computer operations could be transferred to the off-site location.

Strategic Objective: Implement Off-Site Replication

This objective calls for the implementation of off-site replication for all applications and data, as specified by the recovery and business continuity plans, whose time objectives cannot be achieved by a traditional backup and recovery scenario. Data and applications in this category will be replicated to the selected off-site location on a continuous basis.

Strategic Goal: Modernize and Consolidate Backup and Recovery Technologies**Strategic Objective: Implement a Consolidated Backup/Recovery Solution**

This objective calls for the implementation of a consolidated backup and recovery solution to replace existing solutions at district and the campuses. The solution should be cost-effective, meet the needs of both distributed and consolidated environments, and provide services for all current and potential future platforms. The envisioned solution will utilize: a shared/centralized management console, off-site replication, data compression, and data deduplication as appropriate in order to maximize resources.

Strategic Objective: Schedule Annual Rehearsals of the IT Recovery Plans

This objective calls for annual rehearsals of all IT recovery plans to ensure that all plans and personnel are kept up-to-date. The execution of these plans should be as complete as possible, but done so without considerable expense or unnecessary interruption of services.

Strategic Goal: Develop a Business Continuity Plan (BCP)**Strategic Objective: Phase I: Perform an Analysis**

The analysis phase in the development of a Business Continuity Plan (BCP) manual consists of an impact analysis, threat analysis, definition of impact scenarios, and the documentation of recovery requirements.

Strategic Objective: Phase 2: Develop a Business Continuity Plan

The development design phase is used to identify the most cost effective disaster recovery solution that meets two main requirements from the impact analysis stage.

Strategic Objective: Phase 3: Implement the Plan

The implementation phase is the execution of the design elements identified in the development phase.

Strategic Objective: Phase 4: Maintenance and Testing of the Plan

Continuous maintenance and testing is required in order to ensure the Business Continuity Plan (BCP) remains up-to-date and relevant to the organization.

Collaborative Systems

Collaboration is the process by which people and organizations work together to accomplish a common goal. Collaborative systems are the systems and tools that support collaboration. This classification may include technologies such as messaging, portals, discussion forums, blogs, and more. Information Technology's vision for collaboration is to provide technology that actively supports the collaboration process, improving intra-college communications.

Strategic Goal: Enable Real-Time Collaboration**Strategic Objective: Collaboration Roadmap**

Information Technology will work with College faculty, staff and administrators to draft a College-wide collaboration and communication roadmap.

Strategic Objective: Unified Messaging

Provide a centralized Interface for the delivery of voice, digital documents, and electronic correspondence to improve collaboration and streamline communications.

Strategic Objective: Desktop Video Conferencing

Provide the ability for faculty, staff, and students to engage in remote videoconferencing, thereby minimizing inter-campus travel.

Strategic Objective: Instant Messaging

Implement a secure internal instant messaging environment that enables real-time collaboration between faculty, staff, and students.

Strategic Objective: Desktop Sharing / White boarding

Implement technologies and products that allow remote sharing and collaboration thereby enabling individuals at diverse locations to actively participate in collaborative discussions as if they were all in the same conference room.

Strategic Objective: Document Sharing Portal

Implement a flexible document sharing workspace for the centralized publishing and distribution of electronic documents.

Strategic Objective: Blogging and Discussion Group Portal

Provide an environment for free-form sharing of ideas, opinions, and discussions amongst the College community.

IT Operations

The IT Operations category contains goals relating to the hosting, management, and securing of the hardware, software, and network systems responsible for the delivery of computer-based business services and their associated data.

Strategic Goal: Develop an Always-Available IT Infrastructure**Strategic Objective: Develop Datacenter Hosting Services and provide for Multiple Hosting Environments for use by Campus IT Departments**

Information Technology will work to transform the College's existing datacenter to provide support for multiple campus-IT environments. This transformation will enable the datacenter to provide hosting services for all campuses and thus provide for consolidation and resource sharing.

Information Management Systems

Information management systems is a catch-all category for all information, data, and knowledge management systems and may include information architecture, metadata repositories, data mining, reporting, dashboarding, decision support systems, data archiving, and business intelligence technologies. Information Technology's vision is to securely, effectively, and efficiently manage and deliver information resources to those who need it, when they need it, and in a form that helps them accomplish the goals of the institution.

Strategic Goal: Implement Business Intelligence Technologies

Business intelligence technologies are the collective set of tools that enable an organization to leverage and transform "data" into organizational "knowledge". By analyzing the impact of past decisions and trends, the College can make predictive fact-based decisions about how best to serve the College community in the future.

Strategic Objective: Build a Data Warehouse

Implement a consolidated repository for the rollup and long-term storage and analysis of data acquired by online College applications. A data warehouse enables the College to store and retrieve the large volumes of information collected from online applications over the span of years so that useful statistics can be mined from these data without impacting the overall performance of the real-time online applications that service day to day user needs.

Strategic Objective: Implement Data Analysis Technologies

Provide technology to enable analysis and trending of college data in order to support predictive, fact-based management of college assets, offerings, and resources. Data analysis technologies leverage data acquired by online applications so that College administrators can effectively find patterns and trends in day to day operations over the course of a broader period of time for the purposes of making forward looking decisions that are based in historical evidence.

Strategic Objective: Develop Data Dashboards

Implement easy-to-read dashboards that provide high-level overviews of key business processes and enable the ability to drill-down and view granular details for the purposes of root-cause analysis. Data dashboards represent a fast user friendly delivery mechanism for online and historical data analysis that is critical for College decision makers.

Strategic Objective: Reporting Services

Information Technology will provide a centralized data reporting service that will enable dynamic reports to be delivered on-demand to users within the College.

Strategic Goal: Improve Digital Asset Management

The term digital asset refers to content or media that has been electronically formatted. This encompasses a broad cross-section of information, including electronic text, data files, images, electronic documents, and multimedia content. As the quantity of these assets increase, the College must proactively manage them in order to maximize their value.

Strategic Objective: Content Management Technology

Information Technology will employ content management technology to provide consolidated management of College digital assets. The system will enable users to create, edit, manage, and publish content in a consistent and organized fashion, and provide integration with enterprise security and search technologies.

Strategic Objective: Enterprise Search

Enterprise search provides the capability to securely index and search all of the College's digital assets. By providing all of the information that employees need to be productive through a single easy-to-use search box, users are able to quickly find the information they need and be more productive in their work.

Productivity Applications and Systems

The Productivity Applications and Systems category includes the set of systems and services that promote and support end-user and departmental efficiency.

Web Presence

Web Presence refers to the College's accessibility, availability, and overall image as represented to the Internet. This category encompasses the systems and services (or aspects thereof) that are directly used by students or the public via World Wide Web.

Strategic Goal: Enhance the College's Web Presence

Strategic Objective: Prospective Student Pages

Expand on the existing Prospective Student web pages in order to provide an improved and easier to use admissions, registration, and advisement process for new students.

Strategic Objective: Update Student Portal

Update the current student portal to provide students access to new features, such as personalization and the ability for students to expose their information to others based on the role of the viewer, and an improved user experience.

Strategic Objective: College Website Renovation

Continue the renovation of the College website, improving the readability, navigation, consistency, and layout of the pages within the College's website.

Strategic Objective: Consolidate Program Information Pages

At present each campus maintains a set of pages that describe the academic programs offered at their campus. Many of these programs span multiple campuses, which has led to a divergence in the information delivered to prospective students. This objective calls for the development of a centralized program information catalog that will provide a single shared source for all programs offered by the college, while maintaining the ability to highlight campus-focused program options.

Information Technology Leadership

The policies and management techniques utilized to ensure IT resources are effectively managed and delivered in a manner consistent with the College's strategic goals.

Financial Management

The Financial Management category includes goals of fiscal nature. Information Technology is constantly looking for ways to reduce overall expenditures without impact to service delivery.

Strategic Goal: Effectively Manage IT Fiscal Resources

Strategic Objective: Align IT Spending with College Priorities

Information Technology will utilize effective cost management methodologies to ensure IT investments and expenditures are aligned with College priorities to eliminate unnecessary spending.

Strategic Objective: Eliminate Redundancy

Information Technology will eliminate duplicate or unused software and hardware and look for opportunities to leverage the College's size and purchasing power by combining campus and district IT purchases.

Strategic Objective: Reduce Loss Due to Theft

Information Technology will add integrated anti-theft and recovery software on all new machines purchased.

Green IT

Green computing is the practice of using computing resources efficiently. The primary objective of such a program is to reduce the use of hazardous materials, maximize energy efficiency during the product's lifetime, and promote recyclability or biodegradability of defunct products and factory waste.

Strategic Goal: Maximize Energy Efficiency and Reduce Waste

Strategic Objective: Virtualize and Consolidate Servers

Utilize virtualization and consolidation techniques to reduce the number of servers used by the College and in doing so, markedly reduce the power and cooling requirements.

Strategic Objective: Energy Star Compliance

Ensure that the College purchases only printers, monitors, copiers, fax machines, scanners, laptops, tablets, servers, and PC's that meet current Energy Star specifications.

Strategic Objective: Develop a Vendor Selection Process Based on Environmental Friendliness

Modify the College's purchasing process for IT-Technologies to provide consideration for products and companies that support "Green IT" manufacturing processes and products.

IT Effectiveness

IT Effectiveness is the processes of measuring, benchmarking, and providing a means of comparison for both overall and specific performance indicators within the organization for the purpose of determining cost effectiveness, measuring strategic alignment, and providing a means for incremental improvement.

Strategic Goal: Improve Resource Utilization and Tracking

Strategic Objective: Intelligent Resource Management

Information Technology will implement a resource tracking system that will track and document the utilization of resources (people, time, money, software and hardware) thereby aiding the organization in tracking and effectively managing its resources.

Strategic Goal: Ensure Transparency in Information Technology

Strategic Objective: Service Level Agreements for IT Services

Information Technology will develop and implement service-level agreements for key IT-delivered services, networks, and servers. In the process, performance metrics will be gathered to enable the organization to concretely measure success. For example, up-time, response-time, throughput, availability, and percentage of un-serviced requests may be among the metrics collected.

Strategic Objective: Disseminate System Availability Information

Provide advance and real-time notification of planned and unplanned system availability events. All planned events should be announced at least one week prior to the event.

Strategic Objective: Disseminate Project Status Information

Develop systems and methodologies to keep stakeholders apprised of project status and events.

Strategic Objective: Disseminate Work Request Information

Information Technology will develop systems and methodologies to keep stakeholders apprised of the status of pending work requests. Information Technology will also develop and implement service-level agreements for these requests. Performance metrics will be gathered to enable the organization to concretely measure success. For example, response time, completion time, and customer satisfaction may be among the metrics collected.

IT Policies

IT Policies are set of strategic directions that govern or guide the usage of technology resources within the College. Goals in this section tend to be broad statements of direction that apply to how the Information Technology organization will adapt its operations to meet the needs of the organization or its users.

Strategic Goal: Enhance Personal Device Support

Strategic Objective: Reduced Rate Plan for Mobile Devices

The College shall leverage its purchasing power to provide cost effective rate plans for students and faculty using personal mobile devices.

Strategic Objective: Reduce Cost for Personal Computers

The College shall leverage its purchasing power to provide access to cost effective personal computing devices for all students and employees.

Strategic Goal: Add Rigor to IT Processes

Strategic Objective: Develop a Configuration and Change Management Process

Information Technology will develop and implement a set of processes and procedures that will ensure appropriate approval of all changes to all IT Systems.

Strategic Objective: Implement a Formalized Development Methodology

Information Technology will implement and apply formal development methodologies for all new software development projects.

Strategic Objective: Develop a Vendor Validation Architecture Questionnaire

Develop a pre-engagement vendor questionnaire that will assist in the assessment of architectural compatibility and alignment of potential technology vendors.

Strategic Objective: Implement a Formalized Systems Development Lifecycle (SDLC)

Information Technology will implement a formalized Systems Development Lifecycle for use in all future projects.

Organizational Structure

This section includes goals that may impact Organizational Structure or Culture within the organization. Included within this section are goals for organizational changes, cultural changes, and business process improvements.

Strategic Goal: Transform IT into a Services-Based Organization**Strategic Objective: Define IT Functions in Terms of Services with Associated Costs**

Information Technology will develop a master list of those services being provided and their associated annual costs. As new services are added, this list will be updated.

Strategic Objective: Develop a Plan for ITIL Implementation

Information Technology will develop an implementation plan for the adoption of a subset of the ITIL framework. The Information Technology Infrastructure Library (ITIL) is a set of concepts and techniques for managing information technology (IT) infrastructure, development, and operations. It gives a detailed description of a number of important IT best practices with comprehensive checklists, tasks and procedures that can be tailored to any IT organization.

Strategic Objective: Develop a Formal Business Analyst Role

Information Technology will initiate the processes necessary for the implementation of a Business Analyst role. Those in the Business Analyst role will be responsible for analyzing the business needs of their clients and stakeholders to help identify business problems and propose solutions. Within the systems development life cycle domain, the Business Analyst typically acts as a liaison between Information Technology and its clients.

Strategic Objective: Provide Consistent, High Quality Customer Service

Information Technology will develop a college-wide customer service infrastructure to provide customers a consistent single-point of contact for all support issues.

Strategic Goal: Effectively Manage IT Human Resources**Strategic Objective: IT Staff Development**

To maintain agility in an ever changing technology environment, IT staff must keep their profession skills current with industry standards and emerging technologies. Information Technology will provide appropriate training opportunities to staff in order to facilitate professional growth and to maintain an enterprise class technology workforce.

Strategic Objective: Align District and Campus IT Efforts

District Information Technology and Campus IT will work together to eliminate unnecessary redundancy in the services provided and technologies leveraged. Through the development of college-wide standards and consolidation of redundant offerings, the College's technology investments can more efficiently be leveraged to deliver IT solutions that serve the College as a whole.

Standards

This section contains goals surrounding the definition of technology standards.

Strategic Goal: Define Comprehensive IT Standards

Strategic Objective: Data Quality

Information Technology will develop, document, and implement a set of standards for the definition, acquisition, and storage of all data elements.

Strategic Objective: Development Standards

Information Technology will develop, document, and implement a set of standards for software development. The set of standards shall include standards for architecture, coding, configurability, documentation, technology, and user experience.

Strategic Objective: Delivery Standards (Release Management)

Information Technology will develop, document, and implement a release management process that will insure that all IT services are delivered in consistent and manageable way.

Strategic Objective: Integration Standards (Uniformity)

Information Technology will develop, document, and implement a set of standards for software integration. These standards will provide for a uniform and supported integration methodology for all applications.

Strategic Objective: Build Standards (Repeatability)

Information Technology will develop, document, and implement a set of standards for the consistent, well-known, and repeatable configuration for each technology service provided by IT.

Strategic Objective: Database Design Standards

Information Technology will define and implement database design standards. These standards cover topics such as data dictionaries, relationships, naming conventions, documentation standards, stored procedure design, and web-enablement.

Strategic Objective: Product Evaluation Process and Template

Information Technology will create a formalized product evaluation process and set of templates for use in the evaluation of technology products.

Strategy and Planning

This section contains goals and objectives related to Strategy and Planning. Topics may include Strategic Planning, Road mapping, and Goal setting.

Strategic Goal: Develop and Maintain a College Strategic Technology Plan

Strategic Objective: Strategic Technology Plan Review and Revision Process

Develop and implement a process to periodically review and revise the College's Strategic Technology Plan. The process should allow anyone from the College community to provide recommendations and suggestions for the plan. Oversight and management of the process will be coordinated by a committee with broad representation and lead by the College's lead Enterprise Architect.

Academic Technologies

In order to enhance the teaching/learning process for all MDC learners and ensure the College will be competitive and continue to successfully meet the needs of its students, academic technology must be recognized as a significant branch of the IT organization. This presents unique challenges for leadership and support. Therefore, in order to achieve success, the College should begin to clarify this concept and focus on the development of systems and services that will benefit our students both as face-to-face and online learners.

Instructional Landscape

Instructional Landscapes refers to the ever growing instructional delivery and management platforms. This section may include Intelligent/Multimedia Classrooms, Interactive Computer Courtyards, Virtual Environments, Distance Learning, LMS, Web-conferencing and other technologies directly used to delivery instruction.

Strategic Goal: Explore Opportunities for Extension of the Student Experience into Cyberspace

Strategic Objective: Develop a MDC Virtual World Presence

The College shall acquire and develop a Second Life Island for the purpose of exploring the development of virtual worlds to reach and engage the students and potential students of the College.

Strategic Goal: Increase the Use of Technology in the Classroom

Strategic Objective: Expand the Usage of the College's Learning Management System

As the College prepares to offer more bachelor's degrees, and more students demand online courses, it will be imperative that most, if not all, faculty utilize the College's Learning Management system to provide services to both face to face and online learners.

Strategic Objective: Convert 'Multimedia' Classrooms into 'Smart' Classrooms

At present each campus contains a number of multimedia classrooms. These classrooms contain useful equipment including multimedia computers, LCD projectors, document cameras, and other presentation hardware and software. This goal seeks to equip a significant percentage of these classrooms with advanced technology that enables these spaces to be more conducive to student computing, interactivity and collaboration, and to support the automatic capture of lectures and presentations to become part of the College's web presence.

Strategic Objective: Initiate a College-wide Committee for Instructional Technology

The goal of the committee will be to identify the most advanced classroom technology available, compile best practices, and recommend solutions.

Strategic Objective: Institute a College Standard for Course Capture and Delivery

The second goal of the Instructional Technology committee shall be to recommend standards for smart classrooms and create standards for the delivery of course content via the Web and the College's Learning Management System.

Instructional Evaluation

This section contains the set of systems and tools focused on the evaluation of academic objectives. Goals and objectives within this section may include student evaluation, testing, academic effectiveness, and student preparedness.

Strategic Goal: Enable Real-time Student Assessment

Strategic Objective: Promote Interactive Learning Tools such as Clickers and Interactive Hardware

Provide hardware and training to faculty to adopt instructional technology as a regular part of their curriculum. Encourage innovation and provide funding for new initiatives. Provide faculty sufficient time to research and explore the use of technology in the classroom.

Strategic Objective: Academic Classroom Collaboration Technologies

Evaluate classroom collaboration and participation technologies that enable faculty to better interact with all students in the classroom.

Strategic Goal: Enable Integration of Assessment Data

The support of the continuous improvement of student learning is a critical component of technology's alignment with the institution's primary focus on improving student learning outcomes.

Strategic Objective: Course-level tools for Tracking Student Performance

Provide faculty with tools to provide real-time assessment of student learning and have the flexibility to develop formative evaluations for course improvement.

Strategic Objective: Program-level Integration of Assessment Data

Provide faculty and administrators with tools to aggregate assessment data at the program level and across any number of courses taught by multiple faculty.

Learning Tools

The Learning Tools category contains the academic systems, tools, and services used by students in the learning process.

Strategic Goal: Improving Access to Course Materials

Strategic Objective: Provide for Real-Time Integration with Library Systems

Information Technology will work with the College Center for Library Automation (CCLA) to ensure the necessary integration infrastructure is put in place so each student always has appropriate access to library resources.

Strategic Objective: Alternative Methodologies for the Delivery of Course Materials

This objective provides for the organization and delivery of digitized course materials through online repositories, such as iTunesU, which may in turn enable the College to reach potential new student populations.

Strategic Goal: Support for Mobile Devices and Mobile Learning

This goal seeks to provide Students access to course content, mobile applications and student services from a variety of mobile devices. The initial emphasis will be placed on smart phones, and expanded to future devices as they enter the marketplace.

Strategic Objective: Mobile Device Friendly Student Portal

Students will use the portal, which shall be connected to the College Web site, to register for classes, check their degree status, seek advisement, communicate with one another, see the course schedule and pay fees via the portal.

Strategic Objective: Mobile Device Friendly Instructional Technologies

The mobile initiative shall also provide students direct access to mobile content such as podcasts, e-books, and software specifically designed for mobile devices.

Teaching Tools

The Teaching Tools category contains the academic systems, tools, and services used by instructors to facilitate and support teaching.

Strategic Goal: Deliver Tools that Extend Teaching beyond the Classroom

Strategic Objective: V-Coach Implementation

The college shall continue to support the development of the V-Coach advising and tutoring system.

Strategic Goal: Facilitate Faculty Exploration and Use of Technology

Strategic Objective: Teaching Technology Resource Center

Develop a technology exploration and learning environment that provides faculty the freedom to explore new teaching and learning technologies within a secure test environment and with the support of technology specialists.

Security

This section includes the set of policies and technologies that focus on protecting the confidentiality, integrity, and availability of data and their delivery systems.

Audit Compliance

These are the processes established to respond and comply with external auditing agencies, for example, the State Attorney General of Florida.

Strategic Goal: Respond to Audit Inquiries in a Timely Manner

Establish the processes that will enable timely response to inquiries by external auditors.

Strategic Objective: Automate the Collection of Compliance Documentation

Develop strategies and systems to automate the collection of documentation necessary to respond to audit inquiries.

Strategic Objective: Integrate Audit Findings into Policy and Procedure Revision Process

Develop a process to ensure audit findings are addressed in the annual Policy and Procedure revision process to demonstrate remediation of findings.

Security Policy

This category includes those goals derived from or defined in response to regulatory compliance and verification of compliance.

Strategic Goal: Ensure Compliance with State and Federal Regulation

This goal seeks to assure compliance with all State and Federal regulations, for example, GLB, FERPA, and the Higher Education Re-authorization Act.

Strategic Objective: Annual Review and Revision Process for IT Policy and Procedure

Information Technology will establish an annual review and revision process for IT Policies and Procedures to ensure compliance with State and Federal regulations.

Strategic Objective: Bi-Annual Review and Revision of IT Guidelines

Information Technology will establish a semiannual review and revision process for IT Guidelines to ensure compliance with State and Federal regulations.

Strategic Objective: College-wide Governance Body for IT Policies and Procedures

Information Technology will establish a committee with broad representation to review and revise IT Policies and Procedures.

Strategic Goal: Establish Audit Processes to Validate Compliance

This goal seeks to validate compliance with all State and Federal regulations, for example, GLB, FERPA, and the Higher Education Reauthorization Act.

Strategic Objective: Establish Baselines for all Deployed Services

Information Technology will monitor deployed services for compliance with established Policies, Procedures, and Guidelines.

Strategic Objective: Remediation Process

Information Technology will develop a process for returning out of compliance systems to established standards.

Strategic Objective: Perform External Audit

Information Technology will engage in an information security assessment conducted by an independent, certified (e.g. Computer Security Institute (CSA) or Information Systems Audit and Control Association (ISACA)) external consulting organization.

Security Technology and Applications

This category includes the tactical technologies and applications that implement security policy and procedure.

Strategic Goal: Implement Enhanced Security Controls

This goal includes the technical controls that secure IT assets in accordance with security policy, procedure and guidelines.

Strategic Objective: Implement Identity and Location-based Zoning

Information Technology will implement a network technology that enables access to network resources based on the user's identity and location.

Strategic Objective: Secure Communications

Information Technology will ensure all network communications that may contain sensitive information implement appropriate security and encryption. This may include SSL, IPSec, VPN, and deprecation of insecure protocols.

Strategic Objective: Build Standards (Security)

Information Technology will develop, document, and implement a set of standards for secure server deployments. For example: log management, minimize attack surfaces, appropriate access controls, and auditing.

Strategic Objective: Strong Authentication

Information Technology will implement strong authentication systems for services as required by classification. For example: RSA tokens, digital signatures, or other multi-factor authentication systems.

Strategic Objective: Physical Security Measures

Information Technology will ensure all IT assets containing sensitive data or that provide services are securely housed and protected from loss and tampering. Implement appropriate security measures in accordance with industry standards and best practices to ensure minimal access to IT assets.

Strategic Objective: Appropriate Use of Credentials

Information Technology will implement controls to ensure that credentials are issued for a specific purpose and are used exclusively for that purpose. For example: Processes that ensure service accounts are to be used exclusively by the service or for installation/upgrade.

Strategic Goal: Implement Identity Management Technology

This goal includes the technologies that implement an automated identity life cycle that automates the student and employee provisioning and de-provisioning processes.

Strategic Objective: Implement an Identity Management System

Information Technology will implement an identity management system that enables the College to provision, de-provision, and manage security for all college employees and students.

Strategic Objective: Develop Well-Defined Roles for All Departments

Information Technology will work with College departments to define a set of roles based on employee function for the purpose of standardizing and automating security provisioning.

Strategic Goal: Establish Emergency Notification Systems**Strategic Objective: Implement an Emergency Notification System**

Implement an Emergency Notification System that enables important emergency messages to be delivered to employees and students in a timely and reliable manner in the event of an emergency.

Security Management

This category contains the processes that allow Information Technology to understand and mitigate risks to IT assets.

Strategic Goal: Create a Risk-based Security Assurance Function

This goal entails the creation of a risk-based security assurance function in order to help prevent unauthorized access to information and improve our network security, data integrity, asset management, software acquisition and development.

Strategic Objective: Asset Classification for Deployed Services

Each asset for all deployed services will be assigned a classification which forms a basis for the overall risk level assigned to the system.

Strategic Objective: Catalog of Deployed Services

Information Technology will create a catalog of all IT services for the purpose of risk assessment.

Strategic Objective: Risk Tolerance Criteria

Information Technology will develop a risk tolerance rubric for each asset class that establishes limits of acceptable exposure by asset class.

Strategic Goal: Establish Security Incident Response Best Practices

This goal will establish the framework used to receive, review, and respond to computer security incident reports and activity, including the formation of a Computer Security Incident Response Team (CSIRT).

Strategic Objective: Establish Clear Links between CSIRT Activities and College Processes

Educate management stakeholders, constituencies, and others who need to know and understand the operations of the CSIRT.

Strategic Objective: Create CSIRT Team

Establish College policy, procedure, guidelines through best practices documentation with respect to incident response to create, educate, and empower an MDC CSIRT team.

Strategic Goal: Develop Data and System Classifications

Develop a comprehensive data and system classification that enables the College to fully understand its potential risks, vulnerabilities, access methodologies, and attack surface areas.

Strategic Objective: Perform System Risk Analysis

Information Technology will assign a risk classification to each system based on industry standards and best practices.

Strategic Objective: Define a Data Usage Lifecycle

Information Technology will work with data owners and data retention specialists to define a data usage lifecycle policy for all classified data. The lifecycle includes creation, retention, and destruction of all data.

Strategic Objective: Define Data Ownership, Data Collection, and Data Usage Rights

Information Technology will work with data owners to identify stakeholders and responsible parties for the protection and access delegation for all College data, and to define standards for appropriate use.

Strategic Objective: Data Cleansing

Information Technology will develop and implement processes to remove Personally Identifiable Information (PII) from non-production systems.

Strategic Objective: Implement Isolated Computing Environments

Information Technology will define and implement separate, secure, distinct security zones for production, testing, and development purposes. This ensures that production data, networks, and systems are secure and not impacted by non-production events.

Strategic Objective: Data Transportation and Storage Policy

Information Technology will develop guidelines for the secure transport and storage of data, based on its classification.

Enabling Infrastructure

Enabling Infrastructure is the supporting technologies that enable Information Technology to deliver the complex composite Technology Solutions that meet the organization's goals. Enabling Infrastructure is the fundamental building blocks from which Technology Solutions are composed.

Hardware Infrastructure

Client Hardware

The Client Hardware section includes all hardware systems utilized directly by end-users and may include Computers, Peripherals, Mobile and Cellular Devices, Printers, and Scanners.

Strategic Goal: Improve Asset Management

Strategic Objective: Hardware Inventory System

Information Technology and Campus IT will implement a centralized, comprehensive and automated (to the extent possible by current technology) hardware inventory system.

Strategic Goal: Reduce Desktop Costs

Strategic Objective: Web-based Computing

Information Technology will capitalize on new web-based desktop ([Webtop](#)) technologies, such as Google Desktop or eyeOS to provide flexible and cost-effective alternatives to the traditional desktop experience, while simultaneously improving the end-user experience of the employees and students of the College.

Strategic Goal: Reduce and Consolidate Fax and Print Services

Strategic Objective: Centralize Volume Printing

This objective seeks to centralize printing in order to reduce costs. Existing printing solutions that utilize personal printers with inkjet technology are cost prohibitive. Utilizing department or area-based laser printing technology will substantially reduce costs.

Strategic Objective: Electronic Report Delivery and Viewing

In an effort to minimize unnecessary printing, Information Technology will provide all reports in an electronic format. These electronic reports will be viewable online and provide the user the ability to read, search, or print individual sections or pages as needed.

Strategic Objective: Hardware Standardization

The College will define a common hardware framework for Print, Fax and Multifunction devices in order to reduce the variety of devices, interfaces, and supplies. This will greatly simplify the usage of and reduce the operating costs of these systems.

Strategic Objective: Centralized Personal Virtual Fax Service

Information Technology will leverage virtual personal fax technology to reduce operating costs and improve functionality. This will enable employees to review, send, and receive faxes from their desktop computer, mobile device, or from a shared multi-function device. When implemented each employee, group, or function will have a dedicated fax number that allows for electronic handling of incoming and outgoing faxes. This will eliminate the need for fax machines in many scenarios.

Strategic Objective: Web-based Reporting

Web-based reporting enables the organization to reduce paper use and the costs associated to printing and distributing computerized reports while improving employee productivity with enhanced report management tools

Server Hardware

The Server hardware section includes all back-end service delivery systems and includes all servers and network-based server appliances.

Strategic Goal: Improve Server Utilization

Strategic Objective: Server-Based Computing Infrastructure

Information Technology will deploy a server-based computing environment. This environment will enable applications to be deployed, managed, supported and executed entirely within the server environment. This effectively decouples the software services from the end-user device and ultimately enables the delivery of services in a device agnostic fashion.

Strategic Objective: On-Demand Video Infrastructure

Information Technology will develop an on-demand video infrastructure to enable and support the use of video in the classroom. In addition to providing faculty the means to post and share multimedia content, this infrastructure will support the lecture capture technology of the new “smart” classrooms.

Storage

The Storage category includes all back-end storage technologies.

Strategic Goal: Effectively Utilize Storage Resources

Strategic Objective: Centralized Datacenter Storage

Information Technology will implement a centralized datacenter storage system to provide cost-effective, centrally managed, shared-storage infrastructure for use with all College-wide projects.

Specialty Systems

The Specialty Systems category is intended catch-all for those technologies that do not fit directly into any of the above. For example, this category may include access control, audit, multimedia, and television systems.

Strategic Goal: Centralize Logging, Log Retrieval and Log Management

Strategic Object: Implement Central Repository for Logs

A central repository for the logs of all IT services provides the ability to quickly respond to inquiries from auditors and other investigators and can provide valuable troubleshooting information.

Strategic Objective: Establish Log Management Technologies

Central storage of large numbers of logs is a costly enterprise, but the use of archiving technologies can reduce the overall cost and provide for timely log inquiry.

Software Infrastructure

Business Centric Applications

Business Centric applications include all software systems that deliver front-end line-of-business services directly to the end-user or automate business processes for the customer.

Strategic Goal: Enhance the College's Software Infrastructure

Strategic Objective: Message Platform

Information Technology will enhance the existing messaging infrastructure by leveraging next generation messaging technology to provide improved support for the College's collaboration initiatives.

Strategic Objective: Performance Management

Information Technology will implement services to enable the College to monitor, analyze, and discover organizational performance metrics. These metrics will drive alignment, accountability, and actionable insight across the entire organization.

Strategic Objective: Centralized Project Management

Information Technology will implement a centralized project management service. This service will enable the College to more effectively manage and coordinate work ranging from one-time projects to complex programs across the entire project life cycle.

Application Integration and Middleware

Application Integration and Middleware systems provide a means for multiple, independent systems to be leveraged so they may work together to accomplish specific tasks.

Strategic Goal: Develop an Enterprise Application Integration Framework

Strategic Objective: Enterprise Service Bus

Information Technology will implement an Enterprise Service Bus (ESB) in order to support and improve its ability to provide system integration and system support. The ESB will provide a centralized manageable platform for application integration and system message exchange. An Enterprise Service Bus (ESB) refers to a software architecture construct. This construct is typically implemented by technologies found in a category of middleware infrastructure products and is based on recognized standards which provide fundamental services for more complex architectures via an event-driven and standards-based messaging engine (the bus).

Strategic Objective: Enterprise Workflow System

Information Technology will implement an enterprise workflow system in order to support and improve its ability to provide system integration and business process improvement. The workflow system will provide a centralized manageable platform for business workflow management and analysis.

Strategic Objective: Team Service Suite

Information Technology will implement a team service suite, such as, Visual Studio Team Services to improve standardization and coordination within development and with other IT organizations. A team service suite will assist automating the build process, integrate Quality Assurance (QA) and Enterprise Architecture (EA) into the development methodology, and improve the overall quality of delivered applications.

Strategic Objective: Configuration and Change Management System

Information Technology will implement a configuration and change management system to track all changes to IT systems and services. This will ensure all changes to IT services are documented, reviewed, and approved prior to implementation.

Strategic Objective: Forms Server

Information Technology will implement a forms server in order to support and improve its ability to provide process automation. The forms server will provide non-technical users a centralized mechanism for developing and delivering line-of-business applications securely and efficiently. By standardizing and simplifying the creation of commonly needed forms, the number of IT support hours needed to deliver and support these applications will be reduced or eliminated.

Strategic Objective: Portal Infrastructure

Information Technology will implement an enhanced portal infrastructure technology to enable customer-focused and personalized views of published data.

Strategic Objective: Collaboration Infrastructure

Information Technology will implement an enhanced collaboration infrastructure. This infrastructure will provide advanced content management features, supports business processes automation, and centralized access to information.

Data Management and Integration

Data Management and Integration systems provide for the storage, management, retrieval, usage, and quality control of data and metadata.

Strategic Goal: Upgrade Database Systems

Strategic Objective: Database Analysis Services

Information Technology will implement Data Analysis Infrastructure to enable an integrated view of College data for reporting, Online Analytical Processing (OLAP), analysis, Key Performance Indicator (KPI) scorecards, and data mining.

Strategic Objective: Database Reporting Services

Database Reporting Services provide the institution the capability to create, manage, and deliver both traditional, paper-oriented reports, and interactive web-based reports.

Strategic Objective: Online Transaction Processing (OLTP)

Information Technology will expand the existing OLTP environment that serves as the primary data processing engine for online web and desktop applications to enable the latest features and functionality available.

Strategic Goal: Consolidate the College's Directory Services**Strategic Objective: Migrate from MDCC domains to a unified MDC domain**

District and Campus IT will work together to upgrade and consolidate the College's existing *.mdcc.edu Active Directory infrastructure into a single unified mdc.edu domain. It is anticipated that this will reduce operational costs, improve manageability, and minimize complexity by reducing the unnecessary redundancy in existing domain infrastructure.

Enterprise Management

The Enterprise Management category consists of the software systems responsible for the management of other services and process. For example, this category may include: service desk systems, configuration management, asset management and tracking, job scheduling, and system infrastructure services.

Strategic Goal: Effectively Monitor and Manage College IT Systems**Strategic Objective: Software Delivery Infrastructure**

Information Technology will implement a software delivery infrastructure to support the delivery and management of software applications on College managed desktops and servers. This infrastructure will also aid in software inventory and license compliance.

Strategic Objective: Service Monitoring System

Information Technology will implement a service monitoring suite to automatically monitor all IT services for availability, response time, and resource availability.

Strategic Objective: Identity Management System

Information Technology will implement an identity management system to provide "hire to retiree" identity management for all users.

Operating Systems

The operating systems category contains the low-level software components responsible to basic computer operations.

Strategic Goal: Maximize Hardware Resources**Strategic Objective: Virtualization**

Information Technology will continue to expand its virtual server infrastructure by consolidating existing standalone services into the centralized virtualization infrastructure.

Network and Communications Infrastructure

Telephony

Information Technology will expand the College's voice communications infrastructure to ensure it continues to meet the present and future needs of the College.

Strategic Goal: Modernize the College's Telephone System

The College's existing phone systems were first introduced in the late 1980's and installed in the early to mid 1990's. Since their implementation the system's manufacturer was acquired by another company. Over time, the vendor's ability to support these legacy systems has diminished substantially as they do not have sufficient qualified personnel. Thus, this strategic goal calls for the modernization of the College's telephone systems.

Strategic Objective: Develop a Phased Implementation Plan

Information Technology will work with campus leadership to develop and approve a phased project plan to modernize the existing telephone network that minimizes impact to campus operations.

Strategic Objective: Implement a Phased Deployment

The College will replace its aging telephone network with a modern Voice over IP (VOIP) one. The primary driver for this change is many of the College's existing telephone switches are reaching end-of-life, where obtaining parts and services becomes increasingly difficult. This modernization will also enable the College to take advantage of several new benefits including, reduced wiring costs, improved quality, advanced telephone features and flexibility.

Core

The core equipment of network provides the services and interconnectivity among campuses, buildings, and service hosting centers within the College. These critical systems interconnect users with intranet and internet services. As all College services depend on and utilize these networks, reliability and capacity are critical.

Strategic Goal: Modernize and Enhance the Network Core

This goal seeks to modernize the MDC Core Networks in order to better support current and future applications. Modern applications demand an ever increasing level of network connectivity and bandwidth. In order to support these systems the College must continue to develop and maintain a high-speed, low-latency, network that consistently and reliably meets and exceeds these requirements.

Strategic Objective: Upgrade Core Network Equipment

Information Technology will upgrade the core network equipment in order to support higher speeds, increase availability, and functional features that will enhance the reliability, manageability, and security of the network and its services. The new class of systems will provide support for gigabit and multi-gigabit speeds.

Strategic Objective: Leverage Existing Network Interconnectivity

Information Technology will leverage its connectivity to Internet, Internet2, The Florida Lambda Rail, MyFlorida.net, NAP of the Americas, and state and local government networks for greater flexibility and connectivity to academic and government institutions. These networks provide low-cost, high-speed alternatives to the commodity Internet.

Edge

The College data network is serviced by enterprise class products that support end-user connectivity at 100 megabits per second. The current equipment started being deployed in the year 2000 as part of a multiyear plan to upgrade aging network equipment. The edge equipment is responsible for maintaining the reliability of the network

connectivity for individual users, support security features to safeguard the network against some threats, provide adequate bandwidth to support College applications, and provide power distribution for some endpoints. As desktop applications continue to demand additional bandwidth, the edge network fabric must continue to evolve to meet these demands.

Strategic Goal: Modernize and Enhance the Edge Network

Strategic Objective: Implement a Phased Upgrade of Edge Network Equipment

Information Technology will upgrade the existing edge network in order to provide support for new security and reliability features, and to improve the availability of the network. The new class of systems will provide support for gigabit speeds. In addition these changes will enable support for voice-over-IP telephony.

Strategic Objective: Quantify and Validate Network Service Metrics

Information Technology will define and validate measurable benchmarks of network service delivery. These metrics will identify standard levels of service and provide for the enhancement of underserved segments of the network.

Wireless

With the increasing popularity of consumer Wi-Fi devices, the number of students utilizing College provided services from personal portable devices, rather than College provided hardware, will continue to steadily increase. As this fundamental transition continues, the College's wireless networks will serve as a primary interface for student interconnectivity while students are on campus.

Strategic Goal: Develop a Student-Focused Wireless Network

Strategic Objective: Implement a Flexible College-wide Wireless Canopy

In order to improve support for the increasing wireless demand, Information Technology will continue to extend the wireless canopy to ensure student and employee areas have access to reliable, high speed wireless connectivity.

Strategic Objective: Explore Next Generation Wireless Technologies

Information Technology will explore the new and emerging technologies, such as WiMax, to determine their viability as a new Wireless transport.

Strategic Objective: Leverage Relationships with Wireless Data Carriers

Information Technology will leverage existing and form new relationships with industry leaders in the Wireless Data market in order to provide MDC students with affordable access to state-of-the-art wireless network technology.

Specialty

The specialty networks category provides a catch-all placeholder for legacy, specialized and non-standard communications networks. This category may include closed circuit cable (CCTV) and monitoring networks, security systems, and network infrastructure necessary to support specialized systems.

Physical Plant

Physical Plant refers to the actual conduits and wires that IT networks and services depend. The term physical plant is most often associated with facilities as the term implies an association physical construction. It is in fact this dependency on building or site design that necessitates Information Technologies involvement in the planning, implementation, and maintenance processes.

Strategic Goal: Improve the Reliability and Flexibility of College Network Transports**Strategic Objective: Improve Physical Network Reliability**

Information Technology will develop plans to add redundant network channels and diverse physical paths to provide for redundant communication pathways and ensure network reliability.

Strategic Objective: Provide for Increased Network Capacity

Information Technology will continue to upgrade at-capacity and near-capacity physical networks to ensure the network has the available flexibility and capacity needed for future applications and services.

Strategic Goal: Maintain the College's Conduit Infrastructure**Strategic Objective: Remove Deprecated Legacy Physical Infrastructure**

Proper and routine maintenance of network conduits is critical to ensure the future viability of these pathways. Deprecated network wiring must be identified and removed to prevent conduit jams and to ensure compliance with local, state, and federal electrical and fire codes.

Strategic Goal: Develop Mobile Computing Friendly Areas

As the number of students and employees utilizing mobile computing devices such as laptops and smart phones continues to increase, it has become apparent that many public areas at the College do not have adequate and accessible power receptacles to support these devices.

Strategic Objective: Create Mobile Friendly Powered Study Areas

In order to support this trend, the College will need to expand the current electrical infrastructure by providing powered work/study areas. For example, clusters of tables or carrels with multiple power outlets for use by mobile users in the library.

Services Infrastructure

In Information Technology, services can generally be classified into two categories: Those that are strategic in nature, which help the college to achieve its goals and set itself apart from its competition, and those that are tactical in nature, which are often necessary for operational reasons, but do not offer a strategic advantage to the College. Fortunately, many organizations both in higher education and even the broader industries have these tactical tasks in common. The IT industry has developed a market that specifically targets these generally cost-ineffective services, and through consolidation, provides the College the ability to outsource these tasks at a lower cost and better SLA than be accomplished by IT internally.

Professional Services

Strategic Goal: Utilize Outsourced IT Services where Appropriate

Strategic Objective: Outsource Student Email and Related Services

Information Technology will leverage the outsource services model (specifically, Software-as-a-Service) to deliver basic email, collaboration, web, and document management services to students in a reliable and cost-effective way.

Industrial Services

Strategic Goal: Utilize Outsourced Industrial Services where Appropriate

Strategic Objective: Work with Telecommunications and Datacenter Service providers

Information Technology will explore relationships with external Telecommunications and Datacenter facility providers to explore the feasibility of outsourcing non-strategic IT services such that service delivery is improved while concurrent reducing costs.

Consulting Services

Strategic Goal: Utilize Outsourced Consulting Services where Appropriate

Strategic Objective: Leverage Consulting Services to Address Gaps in Strategic Areas

Information Technology will leverage IT consulting services to address critical gaps in in-house expertise and to supply qualified support personnel as necessary to achieve strategic objectives.

