# Information Technology

# Strategic Plan

# 2011-2014

**Miami-Dade County Public Schools**

# M-DCPS IT Strategic Plan

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# M-DCPS IT Strategic Plan

### *Executive Summary*

The 2011-2014 M-DCPS Information Technology (IT) Strategic Plan identifies the District's information system needs over the next three years starting with the 2011-12 school year. This Plan ensures District alignment, improves service quality, and reduces costs. Most importantly, the Plan supports and promotes student achievement by deploying the most efficient and effective technologies; thus, providing students with access to secure and high-quality resources anywhere and anytime.

The Plan generally follows the specific guidelines recommended and published by the State of Florida Department of Education in its publication "*District Technology Plans: Essential Components and E-Rate Plan Criteria.*"[1] It must be noted, however, that the Federal Communications Commission (FCC) released on September 28, 2010, its "6th Report and Order (FCC 10-175)"[2] affecting E-Rate guidelines, including the removal of "Budget" as one of the five required Essential Components. Nevertheless, this Plan retains its "Budget" discussion to substantiate M-DCPS awareness of its financial responsibility when participating in the E-Rate program. This document, therefore, specifically details the following components:

- Mission and Vision
- General Introduction / Background
- Needs Assessment / Goals
- Funding Plan / Budget
- Technology Acquisition Plan
- Access
- User Support Plan
- Staff Training Plan
- Program Evaluation
- E-Rate Program Planning Criteria (E-Rate Plan Addendum)
- NCLB: Enhancing Education Through Technology Part I Application (EETT Plan Addendum)

The Plan itself, including its development and writing, did not encumber any additional funds, as staff developed it. Furthermore, by developing this Plan, the District complies with its need to provide the details necessary to meet federal and state requirements to participate in the federally funded E-Rate program (See Appendix A for E-Rate details.). Thus, the Plan provides the roadmap necessary to support the District's efforts to succeed in reaching its Goal of Student Achievement and its four complementary Pillars.[3]

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[1]  Florida Department of Education, "District Technology Plans: Essential Components and E-Rate Plan Criteria"

[2]  http://www.usac.org/_res/documents/about/pdf/fcc-orders/2010-fcc-orders/FCC-10-175.pdf

[3]  District Strategic Framework 2011-14 Miami-Dade County Public Schools available at http://osp.dadeschools.net/0910plan.pdf

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In addition to focusing on the District's IT needs, especially the students', this Plan addresses the process for selecting and managing strategic initiatives that, once implemented, will lead to significant, measurable improvements in academic performance and operational efficiency. As an example, the replacement of legacy applications, that are 25-30 years old and require extensive support and expertise; through the ERP (Enterprise Resource Planning) system and its corresponding SAP (Systems, Applications and Products) software, is in progress, on time, and within budget. There is no doubt that the ERP system and its corresponding SAP software have started to revolutionize business practices in the District.

The ERP implementation is only one example of how this Strategic Plan will take the District's technology from the <u>current level</u> to the <u>desired level</u> of support for the District's Goal and Pillars. In summary, the Plan:

- Provides stakeholder inclusiveness,
- Establishes a more efficient process for acquiring technology,
- Provides uniformity in IT standards,
- Lowers maintenance costs,
- Establishes measurable indicators,
- Promotes equitable distribution of resources,
- Enhances monitoring of IT projects,
- Provides a plan for infrastructure development, and
- Provides a mechanism for directing the District's technology future.

Through discussions with key District administrators and thorough evaluations of the applications in use and the needs of stakeholders, a clear direction emerged leading to the development of this Plan. The needs were identified and then refined as costs, timing, and resources were determined. During this process, ITS staff recognized that some initiatives lay the Foundation for the ones remaining. As a result, the M-DCPS IT Strategic Plan classified initiatives as either Foundation or Portfolio projects. For detailed descriptions and timelines of these projects, see Appendices B and C respectively.

There are nine projects proposed in this Plan considered necessary for other projects and, and thus called Foundation projects. These projects will maintain the existing infrastructure, continue to provide and enhance access to secure and high-quality information, and meet the state and federal requirements for confidentiality, online educational learning and assessments, etc. They will be financed through Capital, E-Rate, and grant monies so, generally, they do not encumber any additional District funds. However, in the case of E-Rate funding, the District can only rely on the schools funded at the E-Rate 90% level, based on capped E-Rate funding; this assumes the District will be responsible for the 10% funding difference. Specific details of each of these Foundation projects appear in Appendix B, including their timelines.

***Executive Summary*** (continued)

A separate list of projects, the Portfolio projects, reflects the needs of District stakeholders and focus on:

- streamlining business processes (e.g., the Mainframe Replacement projects and the Electronic Signature Forms Flow project),

- new software and capabilities (e.g., the Adult/Community Education Student Management System and the Elementary Student Scheduler),

- hardware to facilitate student learning (e.g., PCs to establish a 3:1 ratio in the Computer Refresh project and the project on Classroom Retrofit for Interactive Boards), etc.

There is no funding allocated yet for these projects, but their descriptions appear in Appendix C. Furthermore, at ITS there is a standard methodology in place to select Portfolio projects for implementation using a "Weighted Analysis Tool," along with evaluations of the strategic fit, benefits, total cost of ownership, and risks of each project. The tool and process for selecting, implementing, and monitoring these projects if funded are in Appendix D.

It is evident that the IT Strategic Plan provides the flexibility necessary to complement the existing Districtwide strategic planning effort and any future changes in direction (See Appendix D for examples.). The Plan provides the School Board with the choice to approve or reject projects based on Districtwide priorities, as IT processes can be refined and/or modified to accommodate and meet evolving District needs.

Furthermore, the Plan supports the District's and Instructional Technology's integration of the most efficient and effective technologies to facilitate learning. The technology-based innovations in core subject areas and the 24/7 access to online applications for remediation, acceleration, and enrichment truly extend learning and provide the needed "Links" to drive student achievement. The numerous software applications available to students, coupled with professional development opportunities for teachers that Instructional Technology provides, clearly support the Superintendent's continued innovation and use of technology to revolutionize learning for students and teachers.[4]

It is obvious that technology will be an integral part of any transformation agenda and will continue to impact all aspects of the educational environment. Therefore, this Plan will exploit current and future technologies to implement and support the most efficient and cost-effective infrastructure and systems. This will enhance the students' learning experiences and raise their academic achievement.

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[4] Superintendent's Memorandum "Progress Within the Strategic Framework" to The Honorable Chair and Members of The School Board of Miami-Dade on May 12, 2010

# M-DCPS IT Strategic Plan

## 2011 – 2014 Information Technology Strategic Plan

### 1.0    MISSION and VISION

Information Technology Services (ITS), following the District's initiative,[5] and in cooperation with Instructional Technology, created the Information Technology (IT) Strategic Plan to ensure District alignment, improve service quality, and reduce costs. Most importantly, the IT Strategic Plan strives to provide the infrastructure and support necessary to facilitate student achievement.

The District's IT **Vision** recognizes that all learners, and those supporting the learning process, are consumers of technology who access information, communicate, collaborate, construct knowledge, and are prepared for the workforce of this new millennium.

The Plan envisions many substantial and complex changes in the way M-DCPS aims to utilize technology.  Ensuring the success of these proposals requires a serious commitment, at all levels, to address these challenges.  Specifically, there must be a conscientious effort to pay attention to establishing a culture of change, providing adequate staff development, empowering all members of the learning community, encouraging risk-taking, focusing on results and communication, and sharing successes and shortfalls.

The District's IT **Mission** is to maximize the use of appropriate current and future technology to collect, maintain, and deliver high quality information to effectively empower the District.  As such, it aims to meet its Goal of improving student achievement and its four complementary Pillars. Technology is more than an enabling tool for learning and back-office support; it is the foundation of knowledge management and an essential means for delivering and experiencing learning.

The success of M-DCPS and its technology initiatives, in the end, will be determined not only by the quality of its designs – as outlined throughout this Plan – but also by the quality and effectiveness of their implementation throughout the District.  Successful implementation requires efficient work structure and processes.  The District will undoubtedly benefit by smartly investing in sufficient technology resources that will ultimately ensure committed, competent, and empowered teachers; and well-designed student learning opportunities and learning environments.

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[5]  District Strategic Framework 2009-14 Miami-Dade County Public Schools available at
     http://osp.dadeschools.net/0910plan.pdf

# M-DCPS IT Strategic Plan

### 2. 0    GENERAL INTRODUCTION / BACKGROUND – *The District*

The Miami-Dade County Public School System (M-DCPS) is the nation's fourth largest school district with a culturally diverse body of 345,458 students in grades PK-12 in 427 schools taught by 20,517 teachers.[6] In addition, there are 56,021 students enrolled in the District's Adult-Vocational education program.

### *K-12 Student Demographics*[7]

| Student Population | Enrollment | % |
|---|---|---|
| Hispanic | 222,167 | 64% |
| Black, non-Hispanic | 86,617 | 25% |
| White, non-Hispanic | 30,671 | 9% |
| Other | 5,951 | 2% |

M-DCPS is administered independently of the metropolitan and city governments. However, the Miami-Dade metropolitan government is responsible for collecting taxes to support the District.

The District Superintendent is appointed by the School Board and is responsible for the overall school administration.  The Superintendent's Web site addresses an array of important District demographics and programs intended to support its diverse student and community population.[8]

On January 13, 2010, the Board adopted the 2009-14 Strategic Plan Framework[9] as a roadmap to chart the District's journey over the next five years. The memorandum[10] detailing the progress within this framework reflects the remarkable job that teachers, administrators, and staff have done in propelling students' learning in spite of the dire economic conditions.

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[6]   Miami-Dade County Public Schools Statistical Highlights 2009-10 (April 2010)

[7]  Miami-Dade County Public Schools Statistical Highlights 2009-10 (April 2010). The percentages were rounded.

[8]  http://superintendent.dadeschoolsnetwork.net/districtoverview.html

[9]  District Strategic Framework 2009-14 Miami-Dade County Public Schools available at http://osp.dadeschools.net/0910plan.pdf

[10]  Miami-Dade County Public Schools, Memorandum from the Superintendent to the School Board, May 12, 2010

# M-DCPS IT Strategic Plan

**2. 0   GENERAL INTRODUCTION / BACKGROUND – *The District*** (continued)

The District has always supported innovation and the use of technology to facilitate students' achievement (See the report <u>Knowledge to Go Places: An Education Plan for the 3<sup>rd</sup> Millennium</u>.)[11]  The Superintendent's Memorandum of May 12, 2010, (mentioned and referenced in the previous page) also asserts that M-DCPS will be exploring the use of technology in the classroom to revolutionize learning for students and teachers.  Nowhere is this better exemplified than in the District's iPrep Academy which is currently transforming teaching and learning through the latest technology and environmental innovations.


2.1    ITS Organization

ITS provides the backbone and convergence point for information systems and data management within M-DCPS.  The Chief Information Officer at ITS reports to the Associate Superintendent and Chief Financial Officer.

ITS consists of 11 work locations and 8 business units which appear below.

**Assessment, Research, and Data Analysis (ARDA)** establishes and implements high standards and procedures for quality assessment, data collection, and data analysis to ensure the accuracy and validity of student achievement data that drive the decision making process. Additionally, the division is responsible for all program evaluations and statistical research for the District.

**Attendance Services/Records and Forms Management (AS/RFM)** processes Full-time Equivalent (FTE) audits, registrations, student transfers/appeals, foreign student placement, Florida Home Education Program, truancy referrals, student attendance, maps and boundaries, driver's license revocation, Florida Department of Law Enforcement Missing Children Program, data input, and insures compliance with all state and federal regulations. Records and Forms Management establishes and administers a management program directed to efficiently and economically create, utilize, maintain, retain, preserve, and dispose of District records and forms.

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[11]   M-DCPS, <u>Knowledge to Go Places: An Education Plan for the 3<sup>rd</sup> Millennium</u> pages 14-15, 37-47, and 55-61 available at http://curriculum.dadeschools.net/EducationPlan/index.html

2.1    ITS Organization (continued)

**Business and Operational Services (BOS)** provides management, monitoring, and technical support for the District's network and server equipment. BOS also offers oversight for all budgets and contracts. It is responsible for Technical Services, Database Services, SAP Basis (Business Application Integrated Software Solution), and Facilities and Computer Operations.  Lastly, the E-Rate department (See Appendix A.) administers the District's Federal E-Rate Program, providing application submittal, tracking, and support for approximately $50 million in projects annually.

**Data Security** establishes and manages the policies and procedures for securing the information technology operating environment from unauthorized access.  As such, this unit has the responsibility to safeguard the confidentiality of all District data, including its transmission through an uncompromised and secure network.

**Infrastructure and Systems Support (ISS)** provides a single point of contact for District staff to request, service, maintain, monitor, and enhance the schools' and District's data and telecommunications infrastructure. The Executive Support Team (EST) provides technical support to the School Board Administration Building staff, including the Board Members. The departments for field support services, network and systems support (Systems User Support – SUS), and telecommunications support provide assistance through the online HEAT system of requests for services, follow-up phone calls, and on-site visitations.  They also stock the ITS Warehouse with the communication equipment and software necessary for staff to work efficiently and effectively.

**Program Management / Process Engineering (PM/PE)** is responsible for monitoring the strategic and tactical planning within ITS by managing the M-DCPS IT Strategic Plan, serving as the Project Management Office for ITS, facilitating ITS performance measurement and documentation, and supporting ITS process improvement initiatives.  Additionally, this department oversees the Standards and Procedures documents for ITS.

**Systems and Programming Services (S&PS)** collects, processes, and maintains information for all M-DCPS students and employees. Staff develops online applications and/or collaborates in the implementation of third-party systems. S&PS is currently implementing the ERP (Enterprise Resource Planning) system to replace some legacy applications, including Finance and PERS.

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**Technology Delivery** is responsible for creating and maintaining the District's Web site, Portals, and Technology Learning Center. The department also oversees the Change and Release Management processes for all ITS new applications and changes to existing applications. Additionally, it is responsible for Enterprise Communications which manages all Active Directory and VPN (Virtual Private Network) security access and use; and the District's HEAT Service Desk software which is used for reporting systems' issues and problems.

# M-DCPS IT Strategic Plan

2.1    ITS Organization (continued)

**Office of Associate Superintendent and Chief Financial Officer**

**Information Technology Services**

| **Assessment, Research, and Data Analysis** | **Attendance Services/ Records and Forms Management** | **Business and Operational Services** | **Data Security** | **Infrastructure and Systems Support** | **Program Management / Process Engineering** | **Systems and Programming Services** | **Technology Delivery** |
|---|---|---|---|---|---|---|---|

- Adult Applied Technology
- Adult Ed. Data Systems
- Data Management
- Program Evaluation
- Research Services
- Student Accountability
- Student Assessment and Educational Testing
- Student Records
- Student Solutions

- Driver Education
- Florida Home Ed.
- Foreign Records
- Forms Management
- FTE Coordination
- Records Management
- Student Attendance
- Student Transfers
- Truancy

- Budget
- Computer Operations
- Contracts
- E-Rate Mgmt.
- ITS Facilities Maintenance
- Mainframe Monitoring
- Network Services
- Password Mgmt.
- Virus Protection

- Audits
- Data Security
- Policies
- Standards

- Field Services
- Infrastructure
- Network Support
- System Support
- Telephony

- Performance Measures
- Program Management
- Process Improvement
- Strategy & Planning

. Business Services
- ERP
- Financial Services
- Human Resources
- Web Applications

- Applications/Portal Solutions
- Change/Release Management
- Enterprise Comm.
- HEAT Self Service
- Internet Services
- Technology Learning Materials
- Training
- Web Page Hosting

# M-DCPS IT Strategic Plan

2.2    ITS Overview

ITS administers and delivers infrastructure, as well as develops and supports applications for the District.  The thrust of the Office's efforts has been to impact student achievement by developing, modifying, and disseminating the most efficient and effective business practices and procedures.

ITS is in the midst of implementing the Enterprise Resource Planning (ERP) system, which is revolutionizing the District's business practices by replacing the legacy applications that are over 25 years old. The first application implemented was E-Recruitment, then Finance, Human Resources, and Payroll will be implemented in 2011. These systems and future modules will streamline all business processes and facilitate fiscal accountability and economies, supporting the District's Pillar, Financial Efficiency and Stability.

Additionally, through the Portal, the Data Warehouse, and OLAP (Online Analytical Processing) tools, teachers and administrators access and discover ways to tailor their instruction to meet the individual student's needs. The centralized Gradebook system, with its related framework for teacher training and support, including individualized assistance for the Technology Support Technicians, allows teachers to access achievement data readily, as well as serve to monitor each student's progress.

As another example, ITS' current collaboration with the Office of Special Education for a new Electronic Management System (SPED EMS) will free teachers to teach, because it will automate many of the functions required  by  mandated paper forms. The SPED EMS is intended to also ensure that students with special needs will receive all the services that they require to succeed academically.

Two recently implemented electronic transportation systems, TMT (i.e., Transportation Management Techniques) and Edulog, have made it easier for students to get to and from school by facilitating routing and maintenance of buses and transportation systems. The systems have indeed improved transportation processes and ensured the students' safety.

Without a place to study a student cannot learn – thus, the Capital's planning and tracking system, Magellan, enables the District to input, track, and be accountable for the new and modified seats needed for students to learn. This system also insures compliance with federal and state regulations.

# M-DCPS IT Strategic Plan

2.2   ITS Overview (continued)

There is also an E-Rate program which receives nationwide recognition by the Schools and Library Division as well as the Council of the Great City Schools (CGCS).  This program generates millions of dollars annually for telephone, wiring, equipment, and many other services which facilitate and support the District's telecommunications and technical infrastructure. Through this program, ITS will continue to exemplify best practices not only through its meticulous handling of E-Rate documentation, but also advocate and enforce adherence to federal guidelines, and aggressively pursue funding and resources to improve teaching and student outcomes.

Employees at ITS (over 600), and in numerous other physical locations, including all District schools (i.e., the Technology Support Technicians), provide outstanding services as they keep abreast of the most innovative IT tools and techniques. Employees have a professional development plan and the goal is to provide them with five days of training which ITS staff monitors on a quarterly basis.  Furthermore, through the Spotlight on Excellence awards, ITS honors exemplary employees each year for their outstanding contributions to the District.

2.3   ITS Statistical Snapshot (2009-2010)

- Collaborated on 10,524 new student stations.
- Electronically transmitted 15,806,640 data records to the Florida Department of Education.
- Had 57,986,092 hits on the Dadeschools.Net Web site.
- Had over 49,369,832 hits on the District's Portals.
- Managed over 295,636 HEAT requests for the Help Desk, including 168,720 requests for school-site support.
- Managed 21,006 HEAT requests for Technology Delivery.
- Managed 723 virtual servers, 1,061 MS SQL Databases, and 936 mainframe databases.
- Printed  25,414,240 pages.
- Printed 1,400,000 report cards.
- Protected from viruses weekly and technically managed 112,044 desktops.
- Scanned a total of 1,111,962 testing pages.
- Supported the electronic Gradebook at 483 schools (including Charter schools).
- Supported approximately 6 million CICS transactions weekly.
- Taught 969 courses, trained 11,815 District staff, and provided 6,187 hours of training.

# M-DCPS IT Strategic Plan

2.4     Recent Accomplishments

Some of ITS recent accomplishments are listed below.

1.      Implemented the Portals for students, teachers, principals, employees, and community members, with over 49,369,832 Portal hits in 2009-2010. This exemplary implementation has garnered national and international attention.

2.      Implemented the Student Scheduler at 105 secondary schools.

3.      Implemented a number of online applications to facilitate workflows and monitoring, support green initiatives, and enhance adherence to federal and state guidelines.  These applications include, but are not limited to the Automated Incident Reporting System (AIRS), the Title I Supplemental Educational Services, the Online Free and Reduced-Price Meal Application and Meal Payment (PayPams), the Student E-mail system, and the Volunteer system.

4.      Continuously upgraded the school-based technology to support, anywhere, anytime, learning.

5.      Implemented an aggressive 5-year plan for the ERP system to replace the legacy Human Resource (HR) and Finance applications, beginning with E-Recruitment in November 2009, Finance in January 2010, HR in July 2010, and Payroll in 2011.

6.      Implemented and monitored the IT Blueprint portfolio of 75 projects for the District.

7.      Continued its aggressive request and documentation for E-Rate funds, netting on the average, over $8.5 million annually on refunds from the Districtwide telecommunications expenses. The program serves as a model for other districts, as evidenced in forums in Washington, D.C. and conferences nationwide.

8.      Over the years, the E-Rate program at M-DCPS has been scrutinized and audited by independent auditors retained by the federal government. Consistently, the outcome has been "no findings" thus setting a new standard of perfection for major school districts at the national level. (See Appendix A for detail information about the E-Rate program.)

9.      Upgraded the electrical infrastructure of the complex by designing and constructing a state-of-the-art energy center to support current and future District requirements.

2.4    Recent Accomplishments (continued)

10.    Continued to reduce the number of independent databases containing critical, non-centralized information while ensuring data integrity and security.

11.    Deployed remotely anti-spam and anti-virus software with a centrally managed console to prevent intrusion and detect and stop cyber attacks that would lower productivity.

12.    Researched and updated technical standards and policies regarding data, networks, and Internet use to insure adherence to federal and state laws and ensure students' safety.

13.    Merged the Office of Assessment, Research, and Data Analysis and moved Student Solutions under its leadership to achieve a more focused and streamlined operation.

14.    Merged the Office of Attendance Services, and moved Records and Forms Management under its leadership, to ensure a more congruent and effective organization.

15.    Merged the Technology Support Technicians with Infrastructure and Systems Support staff to increase efficiencies, standardize knowledge and training, and enhance support to the schools.

# M-DCPS IT Strategic Plan

2.5     Current State of Information Technology within M-DCPS

2.5.1 Core Administrative Mainframe Applications

M-DCPS has several "legacy applications" that manage administrative data for the District.  These applications were first implemented in the late 1970s and 1980s.

In general, these legacy applications (as outlined below) use dated technology and have inherent limitations.  Supporting new requirements for these applications is becoming increasingly more difficult.  Many of the strategic initiatives listed in Appendices B and C specifically address these challenges through a variety of solutions.

| System | Purpose |
|---|---|
| Student System ISIS | ▪ Course information<br>▪ Daily attendance<br>▪ Report cards<br>▪ Report requests<br>▪ School information<br>▪ Student information |
| Police Reporting System SPAR | School Police Reporting system used for recording violence incidents involving students and staff |
| State Reporting System DECO, WDIS | State reporting of pre-kindergarten through adult student information for District funding |
| Adult/Vocational System VACS | Vocational and adult student information system |
| Financial System MSAF | Budget and finance being replaced by ERP. The Finance system is active. |
| Maintenance System COMPASS | Business operations system for:<br>▪ Purchasing<br>▪ Inventory<br>▪ Work Orders for Transportation, Facilities, and Capital |
| Personnel System PERS | Personnel system including payroll, applicant tracking, benefits, and personnel information, being replaced by ERP. The E-Recruiting and HR systems are active. |
| Food Services System FOOD | Food Service system for food ordering and inventory.  Also includes an on-line cash register and accounting functions. |

2.5    Current State of Information Technology within M-DCPS (continued)

   2.5.2    Core Administrative Client/Server Applications

M-DCPS has implemented state-of-the-art client/server applications using the latest technologies.  These applications are intended to facilitate the users' experience in entering and retrieving data and to insure the validity and accountability of its data and reporting processes.

These new administrative client/server applications (as detailed below) are empowering the District's stakeholders, including students, teachers, principals, employees, parents, and community members to use technology to transform instructional and business processes.  The rapid changes in technology and the demands of 21st-century students mandate continuous improvements and developments of better and more efficient applications.

As mentioned before, Appendices B and C, through the projects listed there, reflect the direction that this Plan proposes.  The implementation of these projects would certainly ensure continuity with existing applications and provide the scalability necessary to support future demands.

| Category | Application |
|---|---|
| Instructional / Student Applications | <ul><li>Athletic Tracking</li><li>Attendance Intervention</li><li>Business Internship Program</li><li>Class Size Reporting</li><li>Cognos Reporting: Student, Finance, COMSTAT, HR, Food Services</li><li>Connect-ED  (now Blackboard Connect)</li><li>Easy IEP</li><li>Edusoft</li><li>Electronic Gradebook and Attendance</li><li>Electronic Textbooks</li><li>Online Choice for Magnet Schools</li><li>Online Curriculum (Riverdeep)</li><li>Online Free and Reduced-Price Meal Application</li><li>Online Meal Payment (PayPams)</li><li>SES (Supplemental Educational Services)</li><li>SPOT*success*</li><li>Student, Parent, Teacher, Employee, and Community Portal</li><li>Student E-mail</li><li>Student Scheduler</li><li>Volunteer System</li></ul> |

# M-DCPS IT Strategic Plan

2.5    Current State of Information Technology within M-DCPS (continued)

    2.5.2    Core Administrative Client/Server Applications (continued)

| Category | Application |
|---|---|
| Business Applications | <ul><li>Auto Order Textbooks</li><li>Capital Budget System</li><li>Capital Construction Tracking (Primavera)</li><li>Cognos Budget Management</li><li>Concurrency</li><li>Contractor Evaluation</li><li>Edulog (Student Transportation)</li><li>e\|Agenda</li></ul>ERP (Enterprise Resource Management) / SAP (Systems, Applications and Products)<ul><li>E-Recruiting</li><li>ERP Finance</li><li>ERP Procurement</li><li>ERP OMPA (Organizational Management Personnel Administration)</li></ul><ul><li>Fleet Management (Fleet)</li><li>GASB 34</li><li>Inspect</li><li>Location Management (Magellan)</li><li>Personnel Investigative Model (PIM)</li><li>Project Number</li><li>Shopping Cart</li><li>Substitute System</li><li>Warranty Management</li></ul> |
| Enterprise Applications | <ul><li>Asset Management</li><li>Distribution Software</li><li>E-mail</li><li>HEAT</li><li>Password Reset</li><li>Patch Management</li><li>Power Management</li><li>SCRUB  (Students Can Really Use Bathrooms)</li><li>Virus Management</li><li>Weekly Briefing</li></ul> |

# M-DCPS IT Strategic Plan

2.6    Instructional Technology

ITS and Instructional Technology have a close relationship spanning many years of collaboration and support. The document <u>Knowledge to Go Places: An Education Plan for the 3<sup>rd</sup> Millenium</u>[12] for instance, exemplifies this partnership, as it details the District's utilization of technology in M-DCPS. The document cites:

- Core and supplementary technology-based interventions in core subject areas;
- Uninterrupted applications for remediation, acceleration, and enrichment that truly extend Learning Beyond the Bell;
- Online access to textbooks, instructional materials, and library research databases;
- Organization of learning resources: lessons plans, Pacing Guides, and Instructional Focus Calendars on the Learning Village;
- National industry-based certification programs (i.e., Microsoft, CISCO, and programming languages);
- Online professional development courses for teachers and administrators;
- Podcasts for Learning on the Go; and
- Full-time and part-time virtual schooling options

In addition to the instructional technology innovations listed above, the document also provides information on: Technology Integration and Virtual Education including details on M-DCPS Options, Online Secondary Courses, and the Miami-Dade Online Academy. There are also Supplementary Intervention Programs which use a variety of technology tools available throughout the District. Some of these programs are: Compass Learning Odyssey, e2020, Gizmos, Image Learning, Reading Plus, Destination Reading and Mathematics (Riverdeep), the Edmark House Series (Riverdeep), PLATO Learning, SuccessMaker, Waterford, ELLIS, KidBiz and TeenBiz, among others.

These software applications and their integration into the classroom learning experience will contribute to, and support, students' achievement. The District has also initiated the plan and implementation process to adhere to the state's mandate to provide computer-based testing to the required students. This will be a collaborative effort among offices within the District to ensure that all students will have equitable access to the infrastructure and equipment necessary.  As well, this process would ensure that there will be a professional development plan to adequately train and prepare all staff to meet the students' testing needs.

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[12]  M-DCPS, <u>Knowledge to Go Places: An Education Plan for the 3rd Millennium</u> pages 14-15 and 37-40, available at http://curriculum.dadeschools.net/EducationPlan/index.html

# M-DCPS IT Strategic Plan

**3.0    NEEDS ASSESSMENT -** *Stakeholder Involvement*

The Plan's first guiding principle was ensuring **stakeholders' involvement in defining and assessing the District's IT needs**; staff documented and examined requests for services and products which came from a variety of users and sources. Some of these included, federal and state regulations (such as those in the No Child Left Behind (NCLB), the USAC/E-Rate program, and the current requirements for Race to the Top). Other requests were based on available funding, and referrals from the Superintendent. Additionally, grant requirements (such as those in the Title III and the "I Choose" grants); requests in the HEAT Self-Service system; and responses to the Portal and Broadband surveys (See Appendix E for Survey Questions and Results.) reflected requirements and needs for IT services and products.

Furthermore, active participation of IT staff in informal focus groups (See below.) and meetings also provided valuable input into the Plan.

- Educational Portal Principal Group
- Elementary Principal Liaison Committee
- Family and Community Involvement Advisory Committee
- Middle Principal Liaison Committee
- Paper Reduction Workforce Group
- Regional Superintendent Principal Meetings
- Senior High Principal Liaison Committee

At ITS, the executive team, the CIO's direct and extended direct reports, also contributed greatly to defining and prioritizing needs through staff's participation at the annual retreat which led to the subsequent "SWOT" analyses (i.e., Strengths, Weaknesses, Opportunities, and Threats detailed in Appendix F) and the projects' descriptions (in Appendices B and C).

In addition, as mentioned above, ITS staff regularly surveys students, employees, and parents to determine what their needs are through an online survey in the Portal; the results are in Appendix E. The results from another survey (also in Appendix E) on the use of District available software and parents' willingness to allow their children to participate in a new project also provided data about ITS services.

In developing this Plan, and to ensure that the Plan would support the District's priorities, staff's second guiding principle focused on **aligning the IT Plan to the District's Strategic Framework**. The chart that follows reflects the alignment between the District's Framework and the IT Strategic Plan.

# M-DCPS IT Strategic Plan

3.1     Major Assessment Steps

A summary of how requests are analyzed, prioritized, and operationalized to become projects and then implemented to completion follows.

1. **Align with the District:**     The District's Student Achievement Goal and each of its four Pillars help ITS to self-examine current weaknesses and opportunities within the IT delivery capability. These gaps help determine the supporting IT direction.

2. **Define and Assess IT Needs:**     Examine functional requirements and technologies for requested services along with processes and skills to support those requirements. The needs include capability, information access, workflow, and required training.
By examining individual functional requirements, it is possible to see patterns and group functional requirements based on how they impact one another.

3. **Prioritize and Implement:**     Evaluate the importance and urgency of each requested service in relationship with one another and organize the requests into projects that can be efficiently managed and executed.

4. **Build a Program Portfolio:**     Create for each project a "Program of Work." Each Program contains one or more actions.

5. **Build the Foundation:**     Certain projects, whether explicit or implied, must be implemented first since they are prerequisites for the remaining prioritized projects.

6. **Implement the Foundation:**     Implement the approved projects as defined in their "Program of Work."

7. **Measure and Evaluate:**     Monitor both the project's progress and the outcomes to the District once implemented.

# M-DCPS IT Strategic Plan

## 4.0    GOALS

*Alignment Between the District's Strategic Framework and the IT Plan*

| District Goal | IT Strategic Plan Goal |
|---|---|
| **Student Achievement: Preparing for Success in the Third Millennium.**<br><br>Each student succeeds academically, personally, and civically as measured by:<br>1. demonstrating age/grade level appropriate knowledge mastery.<br>2. having a post-secondary plan.<br>3. graduating.<br>4. successfully entering higher education arena and/or the workforce. | Prepare learners of all ages to use technology appropriately to access information, collaborate, construct knowledge, and to prepare students to lead successful personal and professional lives. |
| **District Pillar** | **IT Strategic Plan Goal** |
| **Student, Parent and Community Engagement**<br>This pillar supports activities and functions which enhance student, parent, and community understanding, awareness, and support for our schools and District. | Enable communications and directly contribute to enhancing participation by providing accurate, timely, and relevant information. |
| **Education**<br>This pillar supports activities and functions leading to an educational experience that fosters individual excellence in a collaborative environment leading to responsible citizenship, global awareness, and lifelong learning. | Develop and maintain the infrastructure that will provide access to high-quality educational programs. Maintain high standards of connectivity that facilitate online access anywhere and anytime. Provide instruction based on the students' assessments and needs. Provide collaborative tools to promote safe, social networking. |
| **Financial Efficiency and Stability**<br>This pillar supports activities and functions that ensure effective and ethical business operations, sound stewardship of resources, and responsible budget management. | Implement and manage enabling technologies for streamlining business processes to substantially improve operational efficiency, enforce government standards, and improve the quality and timeliness of services. |
| **School/District Leadership**<br>This pillar supports activities and functions which enhance talent recruitment and management, leadership development, and effective and ethical governance. | Create or support the programs and interfaces that will allow staff to select the most qualified candidates and evaluate their performance and impact. |

# M-DCPS IT Strategic Plan

4.1    Goals / Summary - *Strategic Planning Process*
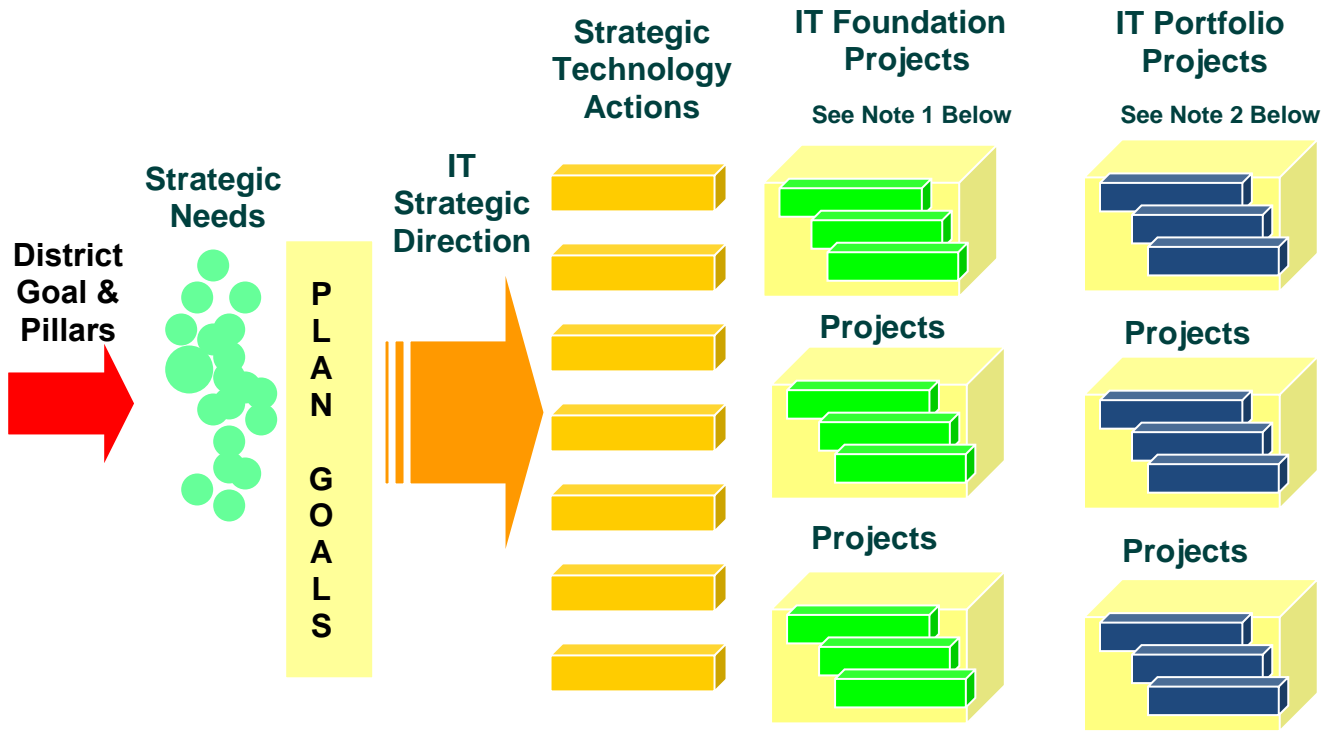


Note 1.
> Foundation projects are necessary, and thus called "Foundation" because they are needed to maintain the existing infrastructure, continue to provide and enhance access to secure and high-quality information, and meet the state and federal requirements for confidentiality and online educational learning and assessments.

Note 2.
> Portfolio projects reflect the needs of District stakeholders and focus on streamlining business processes, new software and capabilities, hardware to facilitate student learning, etc.

## 5.0 FUNDING PLAN / BUDGET

This section of the Plan focuses on planning for, and funding of, technology expenditures. It will address the budget, funding sources, total cost of ownership, budget cycle, and approval processes. The intention is to show how the financial management of all information technology resources can contribute significantly to the overall District Goal and Pillars.

It is important to note that given the rapid change of technology and emerging systems and software, this budget planning document is also updated regularly, as part of the Plan's Program Evaluation Process (as described in Section 10). The budget updates include the status of the projects that ITS implements. During the past three years, the District has made significant progress as noted in the IT Existing Strengths (See Appendix F.), and the ITS Snapshot and Recent Accomplishments (pages 15-17.) which includes implementing and monitoring as many as 75 projects.

Although it is difficult to specify the technology budgets because District systems are not set up to track technology-related spending in this manner; data drawn from the "tentative District budget" indicate that the technology budget is $40,021,133[13]. In addition to funding information, this financial document also provides details about the student population and projected enrollment, test scores, trend data, and staff information.

The ITS operational budget is $29,400,000.[14]  Typically, in a district the total technology spending is two to three times the IT organization budgets when all the categories are included.  This relationship appears to be supported at M-DCPS by the current Tentative Budget.  Further, plans are underway for ITS to work more closely with Capital Construction staff to supplement the required E-Rate expenditures by using excess Capital funds from completed Capital projects.

Selected categories for technology-related expenses from the section on "Technology Rebudgets" follow.[15]  See Tables 1 and 2 as presented on the next page.

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[13]  M-DCPS Executive Summary Tentative Budget for Fiscal Year Ending June 30, 2011 available at http://financialaffairs.dadeschools.net/ES10-11/index.asp, page 60

[14]  As reported in The Council of the Great City Schools – IT Survey submitted July 2010

[15]  M-DCPS Executive Summary Tentative Budget for Fiscal Year Ending June 30, 2011 available at http://financialaffairs.dadeschools.net/ES10-11/index.asp, page 155

Table 1. Technology Rebudgets

| Project | Amount |
|---|---|
| Copiers Districtwide | $  9,152.13 |
| ERP Project | 10,287,518.94 |
| Financial Operations-Capital & Tech. Upgrades | 214,412.60 |
| IT Five Year Plan | 63,484.00 |
| QZAB III - Technology | 52,755.52 |
| QZAB Technology Projects | 25,200.10 |
| Technology Purchases | 11,219,599.39 |

Table 2. Other Projected Technology Expenses

| Expenditure Area | Amount |
|---|---|
| **Utilities**[16] (this includes all Telecommunications Expenditures) | $  100,392,676 |
| New Schools/Capacity Projects and Existing Schools-Comprehensive Needs Projects[17] | 19, 260,000 |

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[16] M-DCPS Executive Summary Tentative Budget for Fiscal Year Ending June 30, 2011 available at http://financialaffairs.dadeschools.net/ES10-11/index.asp, page 59

[17] M-DCPS Executive Summary Tentative Budget for Fiscal Year Ending June 30, 2011 available at http://financialaffairs.dadeschools.net/ES10-11/index.asp, page 76

5.1    Budgeting for Technology

As can be seen in the figures, included in Tables 1 and 2 immediately preceding, there are estimated expenditures included in the District's Tentative Budget to address technology needs. The District continues to address shortages in funding and considers technology to be an important asset to new and existing schools. The nine proposed Foundation projects request funding to maintain or enhance existing hardware or software applications, or expand projects in the schools and administrative sites (See Appendix B.). The 18 Portfolio projects all request funding for technology-related enhancements or innovations requested by District stakeholders. These projects range in cost from $26,560 to track students in District Academies to $69,265,701 to provide PCs to students at a 3:1 ratio (See Appendix C.).

5.2    Funding Sources: E-Rate

The District is always considering alternatives to appropriately fund the needed infrastructure, hardware, and software to maintain its services effectively and efficiently. The economic situation and budget constraints, shown in the Executive Summary Tentative Budget, reflect these current economic conditions and may result in less than optimal resources to fund technology, even at its current projected estimates. Nevertheless, the Foundation projects, if funded, will provide the minimum requirements to meet the District's needs.

As reflected in the FY 13 (2010-2011) E-Rate applications, fifty-eight percent (58%) of the schools are eligible for 90% discounts under the federally funded E-Rate program. As well, the District has been receiving over $8.5 million annually in discounts for reimbursement for telecommunication services. Currently, however, this money goes into the General Fund and is not-reallocated for technology, as suggested by the E-Rate program guidelines.

The ITS staff, responsible for managing the USAC/E-Rate federal program, has done an impressive job of applying for and getting funding from the E-Rate program. The small dedicated staff has indeed demonstrated a high degree of knowledge, effectiveness, and expertise in securing all available and eligible funds.

5.3    Funding Sources:  Other Sources of Funding

In addition, the District aggressively pursues grant monies as exemplified in the recently awarded Broadband Technology Opportunity Program (BTOP) (known as LINK) grant currently being implemented. The funds from this grant will provide computers at a reduced price and free Internet connectivity for a year to families in 35 schools. There is a Program Coordinator who directs the implementation of this program, with technical support from areas such as budget, grant administration, and contract and financial services.

5.4    Total Cost of Ownership

Total Cost of Ownership is an integral part of every project's implementation. Once ITS projects are funded, staff prepares a Scope document which details the project's cost and Total Cost of Ownership (TCO). This Scope document is unique to each project and provides a breakdown of costs and the corresponding TCO and Return on Investment (ROI) figures.

5.5    Budget Developmental Cycle and Process

The District also follows an annual process to develop and approve the Budget, based on a highly collaborative effort among all stakeholders. Final approval is always the responsibility of the Miami-Dade School Board.  Details of the developmental cycle and process are available at http://financialaffairs.dadeschools.net/ES10-11/index.asp.

## 6. 0   TECHNOLOGY ACQUISITION PLAN

The telecommunications and network infrastructure, as addressed in the Strategic Plan, and particularly detailed in Appendix A, focuses on continued enhancement and expansion of advanced infrastructure systems for communication, computing, and networking throughout the District. This process seeks to develop ways to enhance and expand these systems. Such technology infrastructure, as well as a sound and fundamental acquisition plan, coupled with the ability to stay abreast of the latest technologies, are essential to District operations and impact all M-DCPS constituents.

The pervasiveness and reliance on these infrastructure systems require that they be reliable and effective to support the diverse activities of the District. By continuing to shift to a customer service-oriented delivery model, with total cost-of-ownership analysis, assures that these systems will continue to improve student achievement, increase productivity, and enhance efficiency throughout the District. Timetables are also addressed as part of the individual projects outlined.

### 6. 1   Assessment of Telecommunications Services, Hardware, and Software

The Foundation and Portfolio projects outlined in Appendices B and C address the goals of the Plan and serve to outline Districtwide solutions to a variety of issues, including procedures, organizational structure, training, infrastructure, and administrative systems. Currently, the network infrastructure stands physically ready to support the District. Capacity planning is the next step in total reliability.

The strengthening of the support levels, information security and access controls, as well as Internet and network load balancing, and hardware/software reviews are well underway and will continue to be closely monitored throughout the life cycle of this Plan, as defined in the "Program Evaluation Process" section of this Plan

The consistent increase in bandwidth to the schools is one such example. The opportunities provided by this continued expansion have already begun to lay out the foundation for convergence of voice, video and data services, improved infrastructure management (service, support, and maintenance), and the ability to exploit new technologies that rely on a high-speed network that realizes their value and potential.

The District also recognizes that load balancing and fault tolerance should be included in all major aggregation points, as a planned strategy, such as boarder routers, firewalls, and the upgrades to the content filters.

6. 2    Assessment of Other Services Needed

Another example of conscientious growth and expansion in technology is the widespread adoption and increasing demands for wireless throughout the District.  It is expected that a well thought-out wireless infrastructure initiative will offer students, teachers, and administrators anytime anywhere access to the resources that are becoming part of everyday teaching and learning.  Further enhancements include the laying out of Category 6 cabling where appropriate.  Other examples of service enhancements include Gigabit switching to the desktop, particularly during phases of new construction throughout the District, and standardization which are also projected.

## 7.0    ACCESS

One of the District's Pillars is Student, Parent and Community Engagement. This Pillar supports activities and functions which enhance student, parent, and community understanding, awareness, and support for the schools and the District. It is the District's responsibility to ensure that all affected stakeholders have equitable and effective ACCESS to telecommunications and other technologies that support teaching and learning.

The IT Strategic Plan's goal associated with this Pillar is to "enable communications and directly contribute to enhancing stakeholder participation by providing accurate, timely, and efficient information." (See page 25.) Inherent in this process is the provision that equitable and secure ACCESS will be available uninterruptedly at all times to all.

The District's Portal clearly reflects this philosophy by providing continuous ACCESS to all District information. Portals for students, employees, parents, and community members provide a wealth of information that is current, useful, and continues to expand to meet the stakeholders' needs (as seen in the results of the Portal surveys in Appendix E).

ITS aggressively pursues grant funding opportunities, from multiple sources, for those parents and community members without adequate technology resources. The District is committed to address and meet these needs throughout the community. Thus, ITS is currently implementing projects developed to facilitate access and support for technology-rich information and resources.

### 7.1    Foundation Projects to Support Access

The BTOP (Broadband Technology Opportunity Program) is one such Foundation project that will provide PCs and Internet connectivity to families in 35 schools.  Through this project, (See Appendix B for details.), parents will also be simultaneously offered trainings and support to ensure that the technologies will be well utilized.

Part of this project also includes an awareness campaign, "LINK" which stands for Learn Ideas, Navigate Knowledge, to all communities in the city. This campaign will promote connectivity and share with parents and community members the value and easiness of accessing the Internet for information and resources.

7.1     Foundation Projects to Support Access (continued)

Three other Foundation projects (See Appendix B.) aim to increase access to District resource information; for example, one project will allow wireless access to all parents and students to District information, such as the Portal, through their PDAs, laptops, PCs, etc. Two other projects involve planned upgrades and continuous maintenance to the infrastructure and software applications; one of these projects includes upgrades to the hardware and software in the mainframe and the network. In general, these projects will ensure the availability and usefulness of the District's infrastructure and learning opportunities anywhere and anytime.

Recognizing that teachers need support and technical guidance in using and maintaining their technology tools, there is also a project in place to train Technology Support Technicians (See Appendix B for details.). This project will ensure a standardized knowledge base for all technical resources at school sites, and will ensure consistent implementation and maintenance of all applications, whether instructional or administrative.

7.2     Access Security Measures / Acceptable Use Policy (AUP)

The District's Acceptable Use Policy (AUP), as incorporated into a School Board Rule is available to all stakeholders.[18] The purpose of the Policy is to establish acceptable usage, as well as outline the security measures necessary to protect the confidentiality of students, intellectual property rights, and the licensing agreements and legal/ethical standards for sharing resources among stakeholders and other educational entities.

The District holds all persons accountable for familiarizing themselves and adhering to its standards. The AUP addresses the safety and security of minors, especially their access to learning resources, such as appropriate content on the Internet; their safety, and security when using electronic mail, and other forms of direct electronic communications; among other features and guidelines. The Policy also addresses access to instructional applications, interactive collaboration among teachers, students and other users, including communications and document sharing with people from around the world and libraries, museums, and research facilities.

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[18]  Policy and Board Rule available at
http://www.dadeschools.net/technology/Acceptable_Use_Policy.htm and
http://www2.dadeschools.net/schoolboard/rules/Chapt6/6A-1.112.pdf

7.3    Other Areas of Access

There are also standards at ITS that address other areas of access and security such as filters, anti-virus measures, anti-spam measures, etc. The Network Security Standards lists the requirements for users of the District's computer assets. These standards are updated regularly and accessible to all at http://techsupport.dadeschools.net/data_security/datasecurity.asp. Additional security resources include a Copyright Policy and specific Copyright Policies for educational media, electronic media, compliance, and fair use. There are also policies for e-mail use for both employees and students as further detailed in the following section.

The list of security documents, as listed in the Network Security Standards document appears below.

- M-DCPS "Acceptable Use Policy for the Network"
  http://www2.dadeschools.net/schoolboard/rules/Chapt6/6A-1.112.pdf

- M-DCPS Board Rules Regarding Copyright
  http://techsupport.dadeschools.net/Copyrights-Policies/4c-1.06.pdf

  http://techsupport.dadeschools.net/Copyrights-Policies/4c-1.061.pdf

  http://techsupport.dadeschools.net/Copyrights-Policies/4c-1.062.pdf

  http://techsupport.dadeschools.net/Copyrights-Policies/4c-1.063.pdf

- M-DCPS Board Rule Regarding Staff Use of District E-mail
  http://www.dadeschools.net/schoolboard/rules/Chapt4/4c-1.064.pdf

- M-DCPS Board Rule Regarding Student Use of District E-mail
  http://www2.dadeschools.net/schoolboard/rules/Chapt5/5c-1.09.pdf


Additionally, two ITS Standards and Procedures documents, Data and Computer Security, detail how the District safeguards its information assets including the mainframe, the network, and the Internet. They describe the purpose, standards, and non-compliance repercussions for failing to comply with these policies.

Details included in both of these documents are available at https://collaborationportal.dadeschools.net/departments/9412/itsdocs/Shared%20Documents/Standards%20and%20Procedures.

7.4   Access – Monitoring Devices

ITS has deployed devices and constantly monitors software, such as Sophos anti-virus, to ensure the safety and operability of its computers and network. Firewalls restrict traffic in and out of the network maintaining a more secure, streamlined, and efficient work environment. BigFix, the District's patch management software allows the District to deploy remotely patches and upgrades to both the operating system and software applications.

The District has LoadRunner to remotely monitor incoming and outgoing network traffic, ensuring students' and employees' safety and access to the most reliable and valid information available. Wireless access points and the numerous wireless technologies available are also protected through VPNs (Virtual Private Networks) and security authentication.

The Network Security Standards clearly states that,[19] "ITS reserves the right to randomly scan or monitor for the presence of insecure, unauthorized, or corrupted devices connected to M-DCPS networks. . . . ITS will disconnect, modify and/or confiscate any device not meeting these standards or that is being used inappropriately."

These filters and security measures protect the District's technology assets and most importantly, the students, employees, and community members who access the District's resources.

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[19]   Network Security Standards available at http://pdfs.dadeschools.net/techsupport/datasecurity/Network%20Security%20Standards%202008.pdf, page 11

**8.0    USER SUPPORT PLAN**

The access and security measures implemented at ITS reflect several areas of support for end users in the classroom and administrative sites. These measures provide the availability and security necessary to access the District's information and technology resources anywhere and anytime with expert management and assistance for users.

8.1    User Support Services

The HEAT Self-Service system and Service Desk software, along with its administration team, provide a systematic method for ITS and other District locations to log, assign, and track "Incidents" from inception to completion. Everyone has access to this support mechanism which has worked very well in addressing technology issues related to software and hardware.

The Staff Development/Professional Development strategies which follow this section, and the projects to maintain and upgrade the skills and expertise of staff (for example, the Technology Support Technicians' training, among others), also reflect the importance that the District places in supporting its technology resources and all end users.

The ongoing research and testing of new technologies and innovative software and systems (such as ERP's SAP), coupled with planned funding and purchasing timelines, ensure that there is a well-developed process for an effective and efficient implementation.

The E-Rate's list (See Appendix A.) of emerging technologies in infrastructure and telecommunications is another clear example of the District's foresight and support for equipment maintenance and replacement.

## 9. 0　STAFF TRAINING PLAN / PROFESSIONAL DEVELOPMENT

The staff development addressed in the 2011-2014 IT Strategic Plan focuses on the development and training needed to support the use of technology by all staff within Miami-Dade County Public Schools. Staff development promotes continuous learning and improvement among administrators, teachers, and other school staff; and District staff at all levels of responsibilities. It includes education, training, hands-on experiences; and follow-up and also support for the effective use of technologies.

9.1　Technological Tools

Embedded in staff development is the recognition that technological tools and innovations must be part of any professional development initiative. Furthermore, technology is also at the core of the District's efforts to recruit, select, and retain staff as reflected in the current E-Recruitment and HR applications deployed in 2010 as part of the ERP (Enterprise Resource Planning), SAP (Systems, Applications and Products) software.

These implementations have included goals for staff technology proficiencies, staff development planning and delivery, and staff development programs. These are outlined and discussed in the M-DCPS Portal.[20] At http://www.dadeschools.net/employees/employees.htm, there are additional information and details available.

The District's Office of Human Resources; the PMO (Program Management Office) for the implementation of the ERP; and ITS' Technology Delivery, through its department of Technology Learning Center; have collaborated extensively to provide the needed professional development to transition to these new systems.

9.2　Targeted Employees

In order to further meet and address the District's needs, staff development capitalizes on the technology proficiencies desirable by several different groups of employees. These groups include: instructional staff, such as teachers, media specialists, and school-site administrators; non-instructional staff, such as treasurers, administrative assistants, and others who help with the operations side of the District. In addition, targeted employees also include technical staff who ensure state-of-the-art technology systems and support the educational and operational District functions.

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[20] Information available at http://www.dadeschools.net/employees/employees.htm

9.2     Targeted Employees (continued)

The goal, for professional development, was that all staff increase their abilities so that their delivery of instruction and other services provide the maximum benefit to the community. It is an ever evolving process that includes monitoring and modifications to meet the District's changing needs.

9.3     Strategies

Both professional development and the strategic planning strategies (as mentioned in Appendix D, pages D-6 through D-8 in reference to reviewing/modifying projects; and other sections of the IT Strategic Plan) are "living processes" updated regularly to include:

- New federal, state, and local requirements and guidelines,

- Emerging technologies,

- New standards and specifications,

- Best practice research within the District and nationally, and

- Initiatives implemented in the District.

The adaptive nature of processes within the District to reflect emerging needs is evident in the District's document, <u>Knowledge to Go Places: An Education Plan for the 3<sup>rd</sup> Millennium</u>[21] (pages 55-61). The document notes its reliance on current research principles and conclusions to support the content of its professional development strategy, as it incorporates current research-based findings.

The Education Plan, as the District document is referred to, states it best when it notes on page 55 that, "in support of the District's mission to insure achievement and academic standards by all students…" the M-DCPS Professional Development strategy "is premised on delivering research-based learning experiences aimed at advancing performance for all teachers and administrators. As a related objective, the strategy also charts pathways for professional growth and career advancement that will produce a highly efficient and well-trained workforce." Furthermore, the document on page 55 also states:

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[21] M-DCPS, <u>Knowledge to Go Places: An Education Plan for the 3<sup>rd</sup> Millennium</u>, pages 55-61, especially page 55; available at http://curriculum.dadeschools.net/EducationPlan/index.html

9.3    Strategies (continued)

> The development of comprehensive professional development underscores the District's recognition that sustained, intellectually rigorous and timely professional development for all personnel is essential in order to promote student learning. In alignment with the Standards for Staff Development promulgated by the National Staff Development Council, professional development is accordingly based on research that connects high-quality professional learning to student achievement.

9.4    Principles

> Research has established that effective professional development practices adhere to four core principles in order to demonstrably enhance student learning and job performance. While systemically interconnected, these principles are clear, consistent, and appear to be integral to the process of improving results (Guskey, 1997).

> Professional development activities must:

> • Have a clear focus on learning and learners;

> • Target both individual and organizational change;

> • Make small changes guided by an overarching vision; and

> •  Be ongoing and procedurally embedded to reinforce and promote learning.

9.5    Planning Process

Furthermore, the same document in its section on "Developing the Professional Development Plan"[22] (page 56) notes that, "M-DCPS has undertaken a systemic overhaul of its professional development planning process to implement a results-oriented model that:

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[22] M-DCPS, <u>Knowledge to Go Places: An Education Plan for the 3rd Millennium</u>, page 56, available at http://curriculum.dadeschools.net/EducatiionPlan/index.html

9.5     Planning Process (continued)

- Offers sustained professional learning reinforced through targeted follow-up support activities;

- Aligns PD [Professional Development] activities with District goals, student instructional needs, and individual teacher needs;

- Provides a tiered level of support for professional learning based on the school's accountability level;

- Offers professional development that aligns to the State's Differentiated Accountability requirements;

- Expands the depth of specific professional learning experiences while narrowing the focus to emphasize research-based professional development that directly impacts teaching and learning;

- Reduces isolated workshops;

- Increases the availability of school-based offerings;

- Facilitates coordination among the District and Regional staff that provide and oversee professional development."

9.6     Summary

The professional development model, as outlined above, is integrated in the strategies used by both, the Division of Instructional Technology, Instructional Materials, and Library Media Services Department; as well as Information Technology Services. The District's commitment to this model is evident in how it provides training, such as its flexible array of technology training classes during school hours, after hours, through the Web or CDs, and on weekends; and by providing stipends or substitutes as needed.

In summary, as previously noted on the implementation of the E-Recruiting and the HR applications, staff from the District offices, sites, and centers, including the Technology Training Center actively engage in training activities anytime and anywhere. The uninterrupted availability of the District's Portal at all times and the numerous professional development activities available to staff on request from our media services, including WLRN (the District's television station) are a few of the tools widely used to advance the quality and expertise of staff.

## 10.0   PROGRAM EVALUATION PROCESS

The District strongly supports a sound and useful program evaluation process. Therefore, the monitoring and evaluation system is intended to: 1) ensure that program managers are committed and competent in using a wide variety of performance information to guide their decisions about improvement and redesign; 2) align with the District's program evaluation function, and most importantly 3) provide timely and relevant information to decision makers about progress and performance.

### 10.1   Determining Success

Evaluation is a core organization competence.  Therefore, a uniform set of processes and tools will be employed throughout the District as an essential management responsibility.   In turn,  each  manager  is responsible for the specific technology initiatives or for specific technology objectives as outlined in their own job responsibilities; thus, committing to obtaining timely performance information to address each of the following major questions to determine success.  They are:

1.    How well is the District implementing the essential tasks and activities related to each strategic technology objective?

2.    How well is the District accomplishing the specific objectives related to each technology initiative?

3.    How well is the District accomplishing the student technology learning outcomes?

4.    How well are the strategic technology initiatives contributing to the accomplishment of the District's high priority goals and objectives?

Appendix D, the ITS Weighting Methodology and Portfolio Processes clearly reflects the District's philosophy regarding measurement and evaluation. It notes that "success metrics are implemented to track progress against costs, time, quality, and outcome."[23] Furthermore, the document asserts that "the continuous process of measurement during, and after each project will be a driving force for ensuring quality and value to the District."[24]

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[23]  Appendix D ITS Weighting Methodology and Portfolio Processes, page D-7

[24]  Appendix D ITS Weighting Methodology and Portfolio Processes, page D-7

10.2   Essential Components

This requires, of course, that major attention be given to helping program managers develop their competencies for collecting, analyzing, and using the data to support decisions.  In fact, data collection will be an ongoing task and will be linked to key indicators.  This model for monitoring and evaluation includes four essential components.

- Strategic results: processes and structures for clarifying and selecting key results stated as performance outcomes

- Indicators and measures:  processes and structures for identifying variables and measures for strategic results

- Data collection and analysis: processes and structures for collecting and aggregating data and preparing and presenting useful analyses

- Dissemination and utilization:  processes and structures for timely communication of analyses and facilitating their use by key decision makers at District and school levels

10.3   Summary

As described throughout the IT Strategic Plan, the District has in place a comprehensive and rigorous process that has been successfully implemented for decades. This evaluative process is used continuously to measure, monitor, and ensure that performance goals are met. The expertise of the District's staff and associated technical resources ensure that the technology projects outlined in this Plan are implemented throughout the school system effectively, and meet the stakeholders' needs in a timely and cost-efficient manner.

## 11.0  E-RATE PLANNING CRITERIA

The District's E-Rate program is a nationally recognized program for its consistently positive audits and its meticulously documented processes and expenditures. The four criteria required by the Florida Department of Education and the federal government are addressed in detail in Appendix A.

## 12.0  NCLB / ENHANCING EDUCATION THROUGH TECHNOLOGY (EETT)

In the past, the District has received funds by participating in the NCLB / Enhancing Education Through Technology (EETT) program; in 2009-2010 the District received $1,216,653.79. However, it must be noted that there is no longer an entitlement program effective with the 2010-2011 school year.

## 13.0   SUMMARY / CONCLUSION

The 2011-2014 IT Strategic Plan for M-DCPS aims to empower the District to succeed in meeting its Goal which prioritizes "Student Achievement" and its four supporting Pillars by deploying in 2011-2014 the most cost effective and efficient infrastructure and online systems. The Plan and its components address the needs of its stakeholders, especially the students, recognizing technology's impetus to drive each and every child to learn by being connected anywhere and anytime.

The Superintendent has initiated and supported projects such as Links to Learning, the Laptop Loan Program, the In-line to On-line projects, the iPrep Academy, and numerous other technology-based projects to propel students to maximize their learning potential through technology. These and similar initiatives, coupled with the implementation of a well-managed portfolio of Foundation projects necessary to maintain and provide high-quality and secure access, will facilitate students' engagement and enhance their learning experience. The Plan, therefore, provides the roadmap to achieve the District's Goal and Pillars successfully.

# Miami-Dade County Public Schools

# STRATEGIC PLAN

# Appendix A – E-Rate Requirements Addressed

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## 1.0    INTRODUCTION / *Executive Summary*

The intent of this Appendix "A" is to, specifically and independently, outline and discuss the E-Rate Requirements of the Information Technology Strategic Plan, including and addressing the _five required elements_ of a Technology Plan, as outlined by our Florida Department of Education. Note that, "The Federal Communications Commission (FCC) requires applicants to base requests for services to be purchased with Schools and Libraries support discounts on an approved technology plan."[1]   These specific elements must be present in order to meet the guidelines of the federal program known as "E-Rate" under the Universal Service Administrative Corporation (USAC), and approved by the Federal Communications Commission (FCC).

On May 8, 1997, the Federal Communications Commission released a Report and Order on Universal Service (Section 254(h) of the Telecommunications Act of 1996), better known as the Snowe-Rockefeller-Exon-Kerrey amendment.  This mandate states that, "schools and libraries should have access to telecommunications services for educational purposes at discounted rates."[2]   This effectively was the beginning of the E-Rate program.  This FCC Order later allowed the FCC to create the Universal Services Administrative Corporation (USAC) to administer the funds and program guidelines.  The Schools and Libraries Division (SLD) of USAC later became the unit directly responsible for E-Rate.  Thus, this program's focus and intent was, and remains, to provide discounts to assist most schools and libraries in the United States to obtain affordable telecommunications and Internet access.

This program is pivotal in meeting the current and future needs of Miami-Dade County Public Schools (M-DCPS).  E-Rate currently (2010-2011) provides a funding source that pays for 81% of all eligible telecommunication expenses in the District.  An annual average of over $50 million in funding assistance has been requested through this program since its inception in 1998.  These funds have also been used to establish a Districtwide vision, consolidating critical servers at the Information Technology Services (ITS) hub; deploying administrative systems in a concerted shift from legacy applications to Internet-based models; and developing a Wide Area Network (WAN) that connects every classroom to the Internet.  In fact, this process has served to convert the Internet into an educational tool available to all students in the District, primarily through the wise deployment of investments of E-Rate funds.

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[1] http://www.usac.org/sl/applicants/step02/technology-planning

[2]  http://www.fcc.gov/Bureau?common_Carrier/Public _Notices/1997/da971374.html

The current M-DCPS IT Strategic Plan aims to align overall educational service improvement objectives with the five criteria stated by the SLD. Furthermore, it notes that, "The technology-based innovations in core subject areas and the 24/7 access to online applications for remediation, acceleration, and enrichment truly extend learning and provide the needed 'Links' to drive student achievement." (See IT Strategic Plan, page 8.)

This Plan embraces and extends the requirements stated in these criteria for a technology plan that qualifies for a USAC program discount plan. In fact, the IT Strategic Plan makes clear and concrete connections between the proposed computing and communications and the plans for professional development, curriculum reform, and educational services improvements. Further, the IT Plan clarifies that, "The numerous software applications available to students coupled with professional development opportunities for teachers that Instructional Technology provides, clearly support the Superintendent's continued innovation and use of technology to revolutionize learning for students and teachers."[3]

Further, this document is intended to guide the reader by addressing the specific requirements of the E-Rate program. While it is not meant as a stand-alone document, the IT Strategic Plan, coupled with this associated Appendix A - "*E-Rate Requirements Addressed,*" does provide specific information to support the SLD guidelines and requirements of an effective Technology Plan. As well, this Appendix references appropriate and relevant information noted throughout the M-DCPS IT Strategic Plan.

1.1    Program Reference – *Rationale*

The **"E-Rate"** (Education Rate) is the name commonly used to describe the Universal Service Fund for Schools and Libraries program. In turn, the FCC (Federal Communications Commission) established the **SLD** (Schools and Libraries Division) to administer this federal program. A major overhaul of the Communications Act of 1934, amended in 1996, provided the statutory basis for enactment of this federal funding source.

The intent of this program is to provide deeply discounted services for Internet access, telecommunications, and local area network installations, known as internal connections. The amount of the discount ranges from 20% to 90%, based on each individual school's free and reduced lunch level of participation. Program "Funding Years" run concurrent with school calendar years.

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[3] Superintendent's Memorandum "Progress Within the Strategic Framework" to The Honorable Chair and Members of The School Board of Miami-Dade on May 12, 2010. Also, see IT Strategic Plan, Page 8.

The law does stipulate, however, that schools must demonstrate maintenance of effort. Thus, ineligible services, such as terminals and workstation computers and printers, software, electrical capacity, among others, must be budgeted in sufficient quantities to justify the infrastructure upgrade requested through this program.[4]

The rationale is to ensure that a school district has thoroughly reviewed the impact that technology will have on educational goals and to ensure that the technology requests made are aligned with those goals and also that there is additional funding and planning associated with non-eligible services to make effective use of the technology deployed. As noted in the IT Strategic Plan itself, "The Plan supports the District's and Instructional Technology's integration of the most efficient and effective technologies to facilitate learning." (See IT Strategic Plan, page 8.)

While the presence of a well-defined Technology Plan is a program requirement, it is also noteworthy that the SLD gives additional clarification and rationale by stating, "it is only necessary that the approved plan include a sufficient level of information to justify and validate the purpose of a Universal Service Program request. It does not have to include the specific details and information called for within the program's FCC Forms 470, 471, 486, and 500. The information provided on those forms should build on the foundation provided by the approved Technology Plan, by documenting specific implementation details and operational steps that are being taken under the plan. That information will be considered a refinement of the Plan, as long as the requested services can be supported by the Plan." [5]

Miami-Dade County Public Schools has participated in the E-Rate program since its inception. The key to success in the implementation of the E-Rate program, while strictly adhering to all SLD guidelines, is to have a comprehensive and up-to-date Technology Plan. As such, this then becomes the roadmap to implement the needs of the District at-large in a comprehensive approach. Thus, M-DCPS remains committed to the E-Rate program participation as a key element, both technically and economically, to bring the latest technology to the teaching environment of our school children.

M-DCPS participation in the E-Rate program clearly serves to support the Rationale for the M-DCPS IT Strategic Plan, as noted in the Plan itself. That is, "to ensure that the Plan would support the District's priorities, staff's second guiding principle focused on aligning the Plan to the District's Strategic Framework." (See IT Strategic Plan, page 23.) More

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[4] For additional information, you may log on to http://www.sl.universalservice.org

[5] See SLD Website at: http://www.sl.universalservice.org/apply/step2.asp

specifically, M-DCPS uniquely prioritizes its **Main Goal** as "**Student Achievement: Preparing for Success in the Third Millennium**", associating the following four Pillars to support it. (See IT Strategic Plan*,* page 25.)  They are:

>     1. Student, Parent and Community Engagement
>     2. Education
>     3. Financial Efficiency and Stability
>     4. School/District Leadership

1.2    E-Rate Technology Plan – *Required Elements*

As outlined in the SLD Web site, "Schools, School Districts, and Libraries that want to apply for SLD support […] must first prepare a technology plan.  An approved technology plan sets out how information technology and telecommunications infrastructure will be used to achieve educational goals, and specific curriculum reforms…"   Consequently, "To qualify as an approved technology plan for a discount, and to meet the requirements of the FCC's Fifth Report and Order (FCC 04-190, released August 13, 2004), the plan must contain the following five elements" [6]

1)    The plan must establish clear **"goals and a realistic strategy for using telecommunications and information technology"** to improve education or library services;

2)    The plan must have **"a professional development strategy"** to ensure that staff knows how to use these new technologies to improve education or library services;

3)    The plan must include **"an assessment of the telecommunication services, hardware, software, and other services needed"** that will help to improve education or library services;

4)    The plan must provide for sufficient **"budget resources"** to acquire and maintain the hardware, software, professional development, and other services that will be needed to implement the strategy.  Note that, the FCC's Sixth Report and Order[7] adopted on September 23, 2010, *has dropped this requirement.*

5)    The plan must include an **"ongoing evaluation process"** that enables the school or library to monitor progress toward the specified goals and make mid-course corrections in response to new developments and opportunities as they arise.

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[6]  http://www.usac.org/sl/applicants/step02/technology-planning

[7]  http://www.usac.org/_res/documents/about/pdf/fcc-orders/2010-fcc-orders/FCC-10-175.pdf

## 1.3    Mission Statement

M-DCPS, in its Mission Statement brings together its "Core Values" of Excellence, Integrity, Equality, and Citizenship by acknowledging that, "We provide the highest quality education so that all of our students are empowered to lead productive and fulfilling lives as lifelong learners and responsible citizens."[8]

The guiding principle of the IT Strategic Plan is to achieve the integration of technology into the instructional program to improve learning outcomes and prepare students for the future.

Consequently, the focus of the IT Strategic Plan is to ensure the cost-effective and efficient delivery of evolving technologies, meant to underpin 21st-century public education by collaborating with teachers, parents, staff, and administrators.  Together, these stakeholders will help build, revise, and manage the technology roadmap continuously.  This will effectively contribute to the achievement of the Districtwide Goal and Pillars.  Thus conclusively, "The Plan supports the District's and Instructional Technology integration of the most efficient and effective technologies to facilitate learning." (See IT Strategic Plan, page 8.)

Furthermore, the District's IT Mission Statement's goal is to, "maximize the use of appropriate current and future technology to collect, maintain, and deliver high quality information to effectively empower the District to meet its Goal of improving student achievement and its four complimentary Pillars.  (See IT Strategic Plan, page 9.) The Plan is financially supported by a combination of local, federal, state, and other funding sources – including funds received by participating in the E-Rate federal program.

The continued and expanded use of technology and telecommunications in the classroom to address national, state, and local standards is an indispensable component in preparing Miami-Dade County Public Schools (M-DCPS) students for their future.  Encouraging students to use technology as a communication and information tool, meant to support critical-thinking and problem solving, will provide them with the information necessary to succeed in a technology-rich society.

In order to accomplish these objectives, the District is committed to integrating technology into all curriculum initiatives and to providing teachers and administrators with the necessary staff development. Thus strictly adhering to the elements required by the E-Rate program, as outlined in the SLD Web site and discussed throughout this Plan.[9]

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[8]  http://www.dadeschools.net/discover/mission.htm

[9]  http://www.usac.org/sl/

1.4    Vision Statement

ITS has a clear and concise Vision recognizing that, "all learners, and those supporting the learning process, as consumers of technology, who access information, communicate, collaborate, construct knowledge, and are prepared for the workforce of this new millennium." (See IT Strategic Plan, page 9.) As such, M-DCPS is committed to provide educational excellence for all. Further, the District recognizes that the future of our community depends upon its members successfully leveraging technology to achieve academic, personal, and workplace goals.

M-DCPS strongly supports the current FCC's national initiative "to revamp the Universal Service Fund as part of a national Broadband plan.   The FCC said it envisions transforming the Universal Service program over the next decade to pay for high-speed Internet access instead of the traditional voice services that it currently finances. The proposal would create a Connect America fund inside the Universal Service program to subsidize broadband, and [other] wireless networks."[10]

To achieve the seamless integration of technology into teaching and learning requires the active participation of all stakeholders.  School-site administrators, teachers, Region and District administrators, especially those with curriculum responsibilities, parents, business, and community leaders share a collective responsibility.  They must ensure that students graduate with the skills necessary to lead successful personal and professional lives, and become contributing members of the community.

This intricate facet required for success is considered by M-DCPS to be such a vital link in the process that it is addressed as "The Plan's first guiding principle [was] ensuring stakeholders' involvement in defining and assessing the District's IT needs." (See IT Strategic Plan, page 23.)


1.5    M-DCPS IT Strategic Plan – *Development Process*

The M-DCPS IT Strategic Plan is a comprehensive collection of data that analyzes and sets strategic initiatives based on the District's clear Goal and Pillars for using telecommunications and the latest available technology to improve education.  The overall objective for the planning and research process is to develop recommendations and strategies for using technology to improve student learning and staff productivity in a cost-effective manner.  The process is described in detail in the Plan itself. (See IT Strategic Plan, pages 23 through 26; and Appendix D in its entirety.)

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[10]   http://www.eschoolnews.com/e/esntoday/esntoday030810.htm

## 2.0    CURRENT STATUS AND BACKGROUND

Since 1998, the inaugural E-Rate program year, M-DCPS has consistently received funds from this federal program.   With these funds, Miami schools have established a Wide Area Network that connects every classroom to the Internet - now using NMLI services, purchased wireless connections, and advanced T1 telephone lines, frame relay services, and PBX telephone systems that allow better utilization of telephone lines throughout schools.  These advancements provide teachers, parents, and students, first class communications and educational resources.

At Miami-Dade County Public Schools, the IT Technology Plans have always been in place – long before they became an E-Rate program requirement.   Of course, these have always been submitted for/and approved throughout the years.  These Plans have consistently been used as the basis for E-Rate program participation and subsequent application requests.

In fact, as noted in all Federal Audits conducted in the past, M-DCPS has always used and adhered to the practice of first identifying needs, preparing a strategic technology plan, and using it as the District's roadmap for the proper acquisition of technology, based on needs – but with the vision to enhance education through the use of technology.  As a result, with the assistance of the E-Rate program funding, M-DCPS has successfully implemented a Districtwide vision, consolidating critical servers at the Information Technology Services hub, and deploying administrative systems in a concerted shift from legacy applications to Internet-based models.  Additionally, M-DCPS has been able to eliminate "stand-alone" schools by integrating them into a Wide Area Network, as well as successfully upgrading the data networks.

The upgrading of the Voice network was also a major accomplishment made possible with the assistance of E-Rate funds.  M-DCPS managed the complete upgrade of PBX systems throughout the District, over a two-year period.   A feat, considering the change over involved over 300 schools.   As well, we followed a simultaneous and incremental infrastructure upgrade to PRI / T1 technology, thus making all the schools capable of supporting and bringing Web-enabled instructional applications, connectivity to the classroom, and Distance Learning, among many other features and capabilities.  The success of this application then led to the conversion to the NMLI (Native Mode LAN Interconnect) services for its telecommunications infrastructure throughout the District.

Most importantly, the Information Technology Services team proactively maintains the integrity of the District's network.  The District utilizes firewall

protection, anti-virus software, and intrusion detection systems technology to prevent the most commonly known potential threats or unwanted network incursions. Our practices in this area have become a model and "Best Practices" for other school districts nationwide to follow. In fact, The Council of the Great City Schools (CGCS), in its June report "*Managing for Results in America's Great City Schools*" bestowed M-DCPS with its Top Ranking in Technology.[11]   These measures, currently in place, in fact, have also ensured that M-DCPS remains actively compliant with state and federal guidelines, to include CIPA (Children's Internet Protection Act) compliance – and beyond.

Today, as outlined by the IT Strategic Plan Timeline (See Appendix B, page B-3.), the Foundation Projects maximize federal funds, including E-Rate dollars. In fact, most of the Foundation strategic initiative costs are focused on much needed wiring replacement and network expansion to support the Districtwide online applications, including curriculum.

To maximize federal funding, the network will be expanded incrementally over three (3) years. To keep the one-time costs to a minimum, and reduce the support and maintenance costs, the Plan specifies centralized purchasing, configuring, and maintaining new servers and equipment, through Capital, E-Rate, and Grants (See Appendix B, page B-3.).

## 2.1    District Profile

M-DCPS is the fourth largest school system in the nation. Management is totally independent of all metropolitan and city governments, although the metropolitan government collects the school tax on behalf of the District. Responsibility for the administration of the schools is vested in the District Superintendent, appointed by the School Board. M-DCPS is sub-divided into five administrative Regions, each with a Region Superintendent and administrative staff reporting centrally to the District Superintendent.

The cultural diversity of the student body at M-DCPS can be further analyzed as described in the IT Strategic Plan, General Introduction / Background - District Information (See IT Strategic Plan*,* page 10.). The student population is made up of approximately 345,458 students (picture-in-time) in grades PK-12 in 427 schools taught by 20,517 teachers. A myriad of countries are actually represented in our student population, leading to a true cultural diversity.[12]

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[11]  NEWS ALERT, M-DCPS, Thursday June 17, 2010 / Memo # 10-JS/191/HD
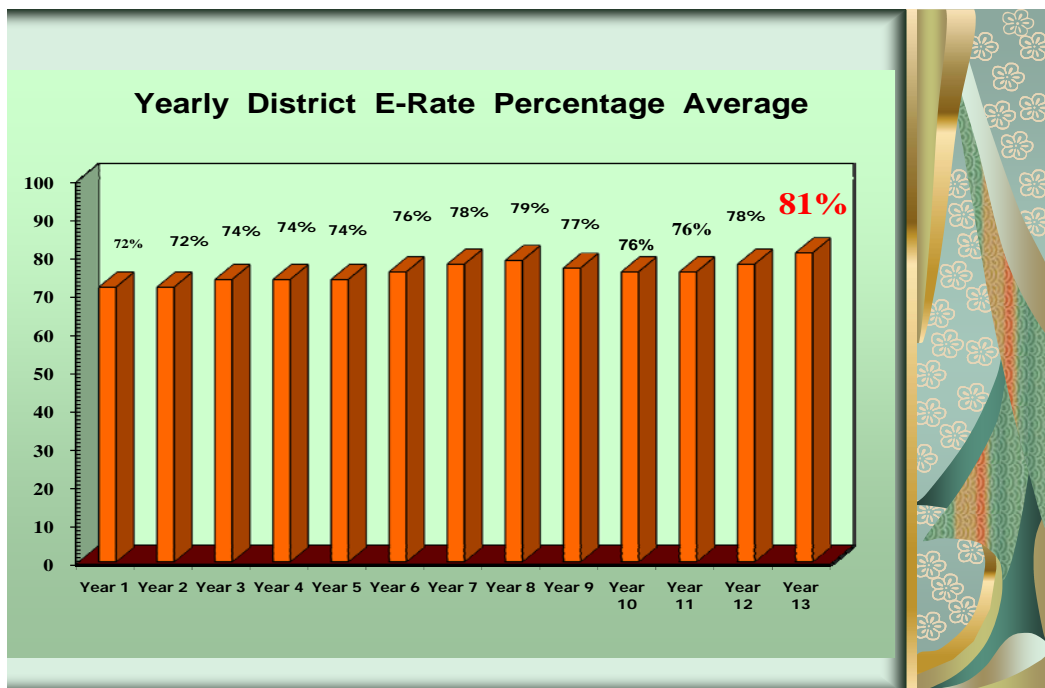
[12]  Miami-Dade County Public Schools Statistical Highlights 2009-10 (April 2010)

## 2.2 District Demographics – E-Rate Related

Graph "A" – Average of Funds Requested by M-DCPS During its E-Rate Program Participation Since 1998 to Present.
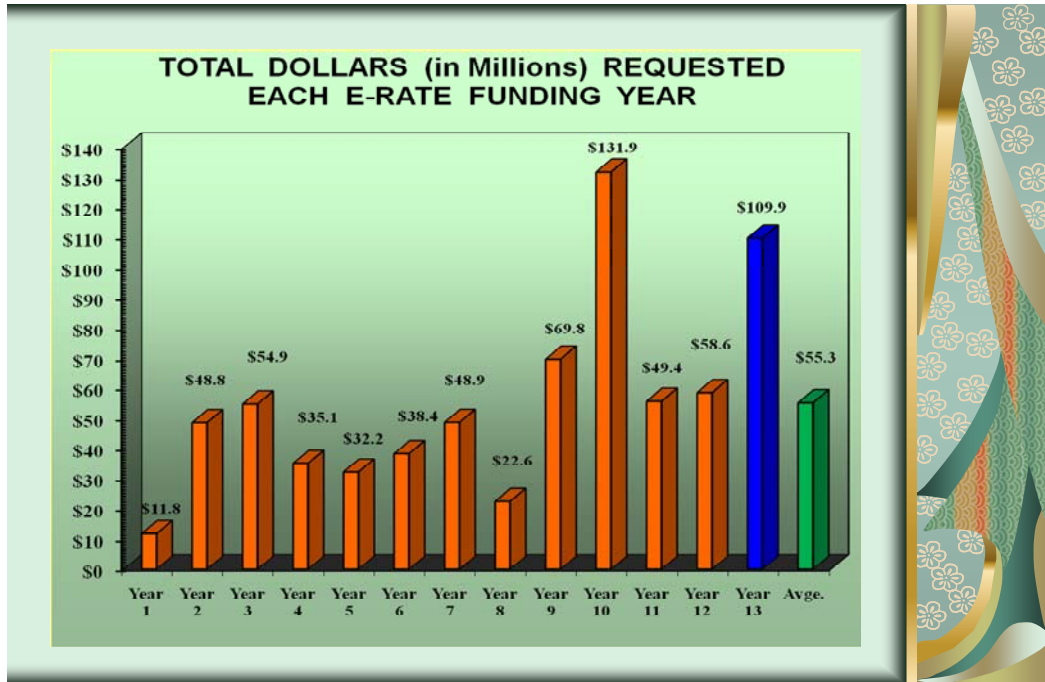


Graph "B" – M-DCPS Districtwide Average of the Free and Reduced Lunch Program Participation by Funding Year.

Graph "C" – M-DCPS District General Demographics Leading to the E-Rate Percentages by School – Grouped by Funding Bands.
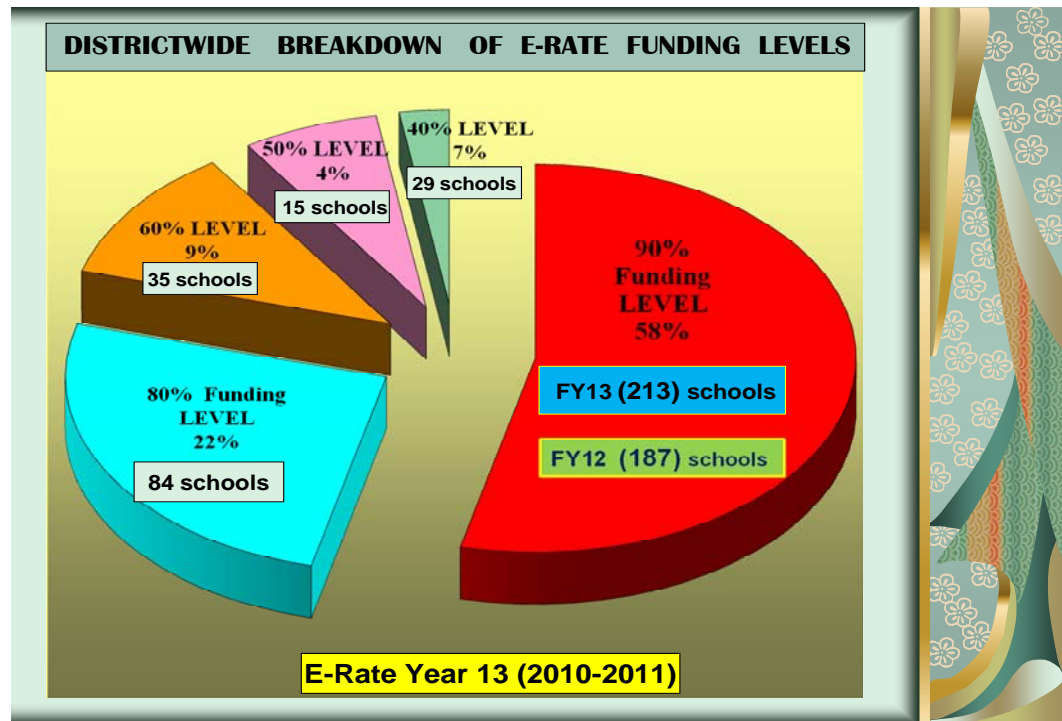


Graph "C" – M-DCPS District General Demographics Leading to the E-Rate Percentages by School – Grouped by Funding Bands") above, is included as it closely resembles the same levels of poverty found throughout the District. The guidelines, for E-Rate program participation, require that the data be drawn from the NSLP (National Schools Lunch Program) participation applications / also known as the F&R (Free and Reduced) lunch data. As well, our own District's Web site is replete with detailed information on this subject.[13]

2.3    Current Plan Coverage

M-DCPS has been following the technological guidelines specified in the current Technology Plan, as approved and validated by the State of Florida Department of Education, and following the guidelines as set forth by the E-Rate federal program.

Further, M-DCPS strictly adheres to all E-Rate program requirements, as outlined in the SLD Web site, ensuring successful performance in Federal Audits as carried out by the USAC independent auditors.

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[13] http://www.dadeschools.net

**3.0    ALIGNING THE INFORMATION TECHNOLOGY STRATEGIC PLAN TO THE E-RATE REQUIREMENTS**

The IT Strategic Plan addresses specific goals throughout the Plan. These outlined goals include all facets of the business operations of the District, and most specifically as it relates to the advancement and deployment of the latest technology.  The District's Goal and four Pillars directly impacted the strategic planning process by providing the framework of the District's needs.  In turn ITS Projects, organized into functional goals, are intended to ensure the most benefit to the District in the most cost-effective and timely manner.  These are referred to as "Foundation Projects" and specifically outlined in Appendix B of this Plan.

The Plan process was initially discussed with the stakeholders, then carefully aligned between the District's Strategic Framework and IT Strategic Plan.  As well, the Strategic Plan also was intentionally drafted to address the E-Rate Program requirements.  These are outlined below and encompass the purpose for the E-Rate Addendum to the Plan.

3.1    Define Goals for Using Telecommunications and Information Technology to Improve Education

*E-Rate Required Element #1.*  **ESTABLISH CLEAR GOALS**

> The Plan must establish clear **"goals and a realistic strategy for using telecommunications and information technology"** to improve education or library services.

The District's Goal regarding "Student Achievement" was considered when determining the IT Strategic Plan Direction to the District's Goal, that is, to "Prepare learners of all ages to use technology appropriately to access information, collaborate, construct knowledge, and to prepare students to lead successful personal and professional lives." (See IT Strategic Plan, page 25.)

Specifically, a strategic IT goal of M-DCPS is to focus on much needed wiring replacement and network expansion to support the deployment of effective Districtwide online applications, including curriculum.  Further, it is also a goal at ITS to strategically maximize federal funding, especially through the continued participation in the E-Rate program, and to do so, the Plan is geared to encompass the three years it is intended to cover. Conversely, the E-Rate filing of funding requests will be incrementally submitted to accommodate the IT Plan's timeline.  Other goals of the IT Strategic Plan include keeping one-time costs to a minimum, and reducing the support and maintenance costs.  Additionally, one of the strategies is

to commit to centralized purchasing, as well as to configure and maintain the new servers and equipment purchased. In fact, all these goals are targeted to be the main drivers that include a strong focus on information technology investments that support District education.

3.2 Outline Realistic Strategies Identified for Using Telecommunications and Information Technology to Improve Education

The Plan carefully reviewed the District Pillars ("Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; School/District Leadership") and determined specific goals to achieve a successful IT Strategic Plan direction. More specifically, as it relates to the Education District Pillar, the Plan expects to "Develop and maintain the infrastructure that will provide access to high-quality educational programs. Maintain high standards of connectivity that facilitate online access anywhere and anytime. Provide instruction based on the students' assessments and needs." (See IT Strategic Plan, page 25.)

The District's technological needs, as addressed in the IT Plan's Strategic direction for the accomplishment of the **Financial Efficiency and Stability District Pillar** seeks to, "Implement and manage enabling technologies for streamlining business processes to substantially improve operational efficiency, enforce government standards, and improve the quality and timeliness of services." (See IT Strategic Plan, page 25.) Furthermore, a descriptive summary of the Foundation projects process, outlining detailed strategies to support the goals, can be found in the IT Strategic Plan, Appendix B (See Table of Contents, page B-2.) These "Foundation Projects" are considered actions that must first be initiated as they are intended to be the building blocks for the Portfolio projects indicated in Appendix "C" (See IT Strategic Plan, page C-2.).

Additionally, two critical surveys are conducted annually that assist the District in determining technology needs in order to make this strategic goal a reality. The *Instructional Technology Inventory and Statistics Report,*[14] produced by the Instructional Technology Department,[15] and the *Technological Tracking Status Report By School*[16], produced by the Information Technology Services Office, are great tools used by administrators and IT Plan stakeholders in determining future technology needs of the District.

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[14] http://it.dadeschools.net/techsurvey.htm

[15] http://it.dadeschools.net

[16] http://pdfs.dadeschools.net/technology/all_regions.pdf

1) **The *Instructional Technology Inventory and Statistics Report*** for instance, provides information about the following areas:

- Quantity and types of computers and peripherals in schools
- Types of software being used for instruction
- Purpose and type of student computer use at schools
- Technology programs being offered
- Technology skill level of teachers
- Use of technology for communication

- Power: two or fewer computers per outlet
- Single Function Terminals at schools: zero
- Administrative Computers: number of administrative computers on the WAN is equal to or greater than 70%
- Classroom Computers: number of instructional computers on the the WAN is equal to or greater than 70%
- Wiring: All classrooms Districtwide have two or more wired jacks (WAN) access

2) ***M-DCPS Technological Tracking Status Report By School***

Information Technology Services monitors and produces the monthly District's *Technological Status* [17] report (also referred to as the "Donut Chart") which tracks technological projects specifically supporting the IT Strategic Plan. This process also allows for the effective tracking of E-Rate program requirements, such as Children Internet Protection Act (CIPA) Compliance (See Category 5 below.). It provides information, by school, about the following areas in the field of technology:

**Category 1** – **E-RATE PARTICIPATION (2/5 YEAR RULE)** – The E-Rate program guidelines, starting with Funding Year 8 (2005-2006), stipulate that Priority Two funds (generally referring to the purchase of Field Equipment) for any given school can only be requested twice in five years. As an example, M-DCPS accepted funds in Year 8 (2005-2006) for the purchase of equipment in 90% schools. This uses up one year for those schools involved. In Funding Year 10 (2007-2008) M-DCPS requested funds to purchase equipment for ALL 90% and 80% schools in the District.

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**Category 2** – **SCHOOL WAN BANDWIDTH CAPACITY** – This represents the total bandwidth (Mbs) capacity provided to the site for Wide Area Network access. Every site has at least one T-1 Frame-relay circuit (1.5Mbs). Most sites also have a Metro Ethernet connection over fiber of either 100Mbs or 10Mbs connected to a different router at ITS.

**Category 3** – **WAN BANDWIDTH UTILIZATION PERCENTAGE** – This represents the usage of available bandwidth during normal business hours (8:00 a.m. – 3:00 p.m.; Monday – Friday) for the past quarter. This usage is for general Internet traffic, e-mail, and all other District applications.

**Category 4** – **FIREWALL AND DOMAIN CONTROLLER** – TippingPoint Intrusion Prevention Systems (IPS) provides stateful access control rules based on source and destination IP and port and protocol as a traditional firewall would. The IPS can also provide application control for Peer-to-Peer, spyware, instant messaging, and other unwanted applications. TippingPoint goes beyond what any traditional firewall can provide, giving protection against vulnerabilities in applications and operating systems. Microsoft Windows Active Directory domain controllers provide District sites with local authentication to District servers and network resources. The local domain controllers ensure that all school resources are available in case of a network outage and allows for faster Active Directory searches.

**Category 5 – CIPA (Children Internet Protection Act) and PC COMPLIANCE TO DISTRICT STANDARDS** – The compliance indicated in segment 5 of the Donut Chart is first a measure of total CIPA Compliance as required by the E-Rate program. Further, this category measures whether the desktop computers and servers at the school are compliant with District standards for patch management and virus protection. To comply with the patch management requirement the computers must be running BigFix. To comply with the virus protection requirement, all District computers must be running Sophos anti-virus.

**Category 6 – BACKBONE / 10GB** – References the data communication infrastructure between the main distribution frame - MDF and the intermediate distribution frames - IDFs. Data communication switching equipment is interconnected using fiber cable wiring providing servers, computers, printers, storage devices, and other peripherals with network, mainframe and Internet access with transmission speeds of up to 10GBps – 10 gigabits per second or a data transfer rate equal to ten billion (10,000,000,000) bits.

**Category 7 – ITS CAMPUS-WIDE WIRELESS INSTALLED** – Technology is rapidly moving away from the traditional wired infrastructure. The portability of wireless ensures agile content delivery to meet the needs of our dynamic student population. Laptops are now becoming the norm for staff and high school students in addition to PDA devices. We are currently standardizing on providing localized school-wide wireless connectivity.

**Category 8 – PBX UPGRADE / REPLACEMENT** – ITS identified a plan to replace equipment installed almost a decade ago leveraging Federal funding dollars provided by the Schools and Libraries Division (SLD) E-Rate. The Plan, if fully approved would provide state-of-the-art telecommunications services and equipment such as Voice over Internet Protocol (VoIP) capability, Voicemail with automated attendant, and a host of new features that have matured over the last five to seven years. In addition, the newer equipment will provide improved remote monitoring and diagnostics that will reduce operating expenditures and increase reliability.

3.3  Indicate Types of Services Required (Intent and Use) to Meet Goals and Strategies

The District WAN (Wide Area Network) currently consists of multiple sites connected via mostly NMLI (Native Mode LAN Interconnect) services or T1 Frame Relay circuits. Staff within Information Technology Services continuously monitors the network to ensure efficient and stable connectivity. Various hardware and software tools are deployed to this endeavor. As well, it must be noted that previous efforts to deploy NMLI services throughout the District were successful, and currently, this service is the norm.

ITS proactively maintains the integrity of its network. The District utilizes firewall, anti-virus software, and intrusion detection system (IDS) technology to prevent the most commonly known potential threats or unwanted network incursions. Virus cures are updated on servers and workstations on a regular basis. The anti-virus software is available free of charge for all locations and can be downloaded through the District's Portal. Additionally, the District utilizes a number of commercially available tools to monitor its network infrastructure. Further, each District facility contains a LAN (Local Area Network) that controls traffic flow within the facility. The WAN connects the LAN together with telecommunications links and routers.

In fact, the District's initiatives have earned it an enviable reputation nationwide, and specifically by having been reported in CIO Magazine's "TOP 100" List as "exemplifying the highest level of operational and

strategic excellence in Information Technology."[18]  The Miami Herald has recognized M-DCPS' technological tenacity, as well as cost consciousness, by reporting how "M-DCPS converted the District's system to a virtual one, saving $440,000 a year"[19] in the process.

In order to ensure maximum viability and interoperability of the District's infrastructure, project details are outlined in the IT Strategic Plan (See Appendix B, starting with page B-3.).  Additionally, as E-Rate applications are processed and funded, the District plans to maintain and upgrade, as necessary, all telephone PBX switches.  Currently, many of the PBX systems in place at E-Rate eligible sites within the District are greater than three years old.  It is expected that the life expectancy of these units, as outlined by program guidelines, will require replacement within the life of this IT Strategic Plan.

In the data world, M-DCPS expects to upgrade connectivity beyond the multiple T1s and on to NMLI, DS3 or Wireless Technology, as appropriate. All school sites are currently connected to the WAN via T1 lines, at the least.  Where appropriate and validated by the ITS onsite survey, these connections will be upgraded to include multiple T1, NMLI, DS3 lines or Wireless services, whichever is most economical to meet the bandwidth requirements.

The core network is continuously upgraded to maximize Districtwide connectivity requirements and to develop an increased capacity for centralized management through evolving technologies.


3.4    Identify Additional Specific Resources to Support the Achievement of Goals to Improve Teaching and Learning

The District's Internet Portal[20] provides access to essential information and services for students, teachers, principals, and parents.  Since its inception, the Portal averages 75,000 visits a week and 17,000 visits during weeks that the school system is closed, such as spring break and following the end of school.  The total hits recorded during the 2009-2010 school year on the Portal was 49,369,832 hits,[21] a significant increase from the 17 million hits recorded during the previous year (2008-2009).

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[18]  Superintendent's Memorandum  # 041 to acknowledge recognition.    Sent  to The Honorable Chair and Members of The School Board of Miami-Dade on July 15, 2010.

[19]  **The Miami Herald** publication, Monday, July 12, 2010 "***Ahead in the Clouds"***

[20]  http://www.dadeschools.net/employees/employees.htm

[21]  See details in the IT Strategic Plan, page 16.

The Portal currently provides materials in the form of:

- Multiple resources, including educational materials and training, and software programs

- Encyclopedias, maps, and reference materials

- Mathematics and Science software for students

- Assessment tools with practice tests for FCAT

- Lesson planning tool with comprehensive lesson plans correlated to the M-DCPS Competency-based curriculum (CBC), the Florida Sunshine State Standards, and national standards in all core curriculum areas.

- An array of other professional development tools, including free e-mail service and Internet access for all employees and free Web-site hosting for all schools.

- Other future components of the Portal will be made available, as anticipated, with the support of E-Rate funds, based on eligibility guidelines, to possibly later include online student scheduling, electronic grade books, electronic textbooks, and data warehousing capability for school-site administrators.

- Future expansion of data warehouse capabilities are planned.

M-DCPS is supported by WLRN Instructional Television (ITV) which has developed Instructional Television Fixed Service (ITFS) services to all the public schools. At present all schools receive 20 channels of Instructional Television. Schools purchase television programming as needed. WLRN has developed ITFS delivery for educational programming to correctional institutions and the Juvenile Justice System.  WLRN televises staff development programming that can be received at schools and is often scheduled on a cable channel to be received at home. Through a 20-channel delivery system that consists of ITFS and two cable channels, WLRN has sufficient capacity to meet future demands.

M-DCPS is engaging in an aggressive plan to upgrade facilities and build new school sites throughout the District.  This includes an assessment of the number of students per classroom, based on the latest prerequisite for class sizing,[22] as outlined by the new state laws, entering into effect at the start of the 2010 school year.

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[22] **The Miami Herald** publication, Friday, July 23, 2010,  *"The Miami-Dade School District Will Use Technology to Help Meet Class Size Rules"*  /  For additional information regarding this article, you may access it at:  http://www.miamiherald.com/2010/07/23/1743181/carvalho-well-meet-class-size.html#ixzz0uVRMG2nZ

3.5     Anticipate the Possible Uses of Future Technologies

M-DCPS, as part of its continuous evaluation process, recognizes the potential benefits afforded by future technology, not currently available in the market.  However, based on the analysis of these future introductions, the District may find it in its best interest to pursue upgrading its services, while adhering to E-Rate guidelines and best practices.


**4.0     DESCRIBE PROPOSED PROFESSIONAL DEVELOPMENT STRATEGY**

*Required Element #2.*   **PROFESSIONAL DEVELOPMENT STRATEGY**

> The plan must have **"a professional development strategy"** to ensure that staff knows how to use these new technologies to improve education or library services

Miami-Dade County Public Schools (M-DCPS), the fourth largest school district in the country, educates approximately 350,000 students with a culturally diverse body of students representing over 150 countries. Using E-Rate funded resources, Miami-Dade teachers use technology to support their entire curriculum, which has helped to increase student engagement, promote cultural understanding, and expand the minds of M-DCPS' youth.

Specifically, the "Training Needs" and "Pedagogy" for integrating technology into classroom practice through curriculum development, and teacher training, exemplify the District's commitment to support all staff through training initiatives. In fact, as noted, "The goal was that all staff increase their abilities so that their delivery of instruction and other services will provide the maximum benefit to the community." (See IT Strategic Plan, page 39.)  M-DCPS is always striving to excel in the area of Professional Development, including an extensive library of documents available in its own Web site.[23]

Further, as documented in the District's Web site addressing this area, "Professional Development (PD) delivers rigorous, research-based, field-tested learning experiences, programs, and resources for teachers, principals, administrators, and support personnel in order to increase student achievement. These opportunities help staff succeed in their job, stay current on latest research in their field, and prepare for advancement.

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[23] See Professional Development District Web site at: http://prodev.dadeschools.net/default.asp .
Also, access  https://employeeportal.dadeschools.net/Applications/Weekly%20Briefings.aspx .

PD also organizes various external stakeholder professional development activities to enable them to engage in implementing strategic priorities. PD plays a vital role in achieving the District's goals by ensuring comprehensive development opportunities that tap stakeholders' potential and enhance the knowledge and skills needed for growth."[24]

4.1    Specific Training Goals / Strategies for All Personnel

As noted in the IT Strategic Plan, "Staff Development capitalizes on the technology proficiencies desirable by several different groups of employees. These groups include: instructional staff, such as teachers, media specialists, and school-site administrators; non-instructional staff, such as treasurers, administrative assistants, and others who help with the operations side of the District. In addition, targeted employees also include technical staff who ensure state-of-the-art technology systems and support the educational and operational District functions."  (See IT Strategic Plan, page 38.)

Further, it is the intent of M-DCPS to:

- Expand staff development opportunities to ensure all teachers and administrators become personally proficient users of technology.

- Continue to provide professional development at all proficiency levels through the Division of Instructional Technology and Media Support Services, Information Technology Services, FDLRS (Florida Diagnostic & Learning Resources System), and WLRN.

- Expand the number and variety of online professional development opportunities for all teachers and administrators.

- Define technology proficiency levels for educators.

- Integrate the appropriate use of technology into all content area staff development offerings**.**

- Provide intensive, targeted, and sustained technology integration training to teachers.

- Conduct summer institutes to develop technology integration mentors and provide salary supplements during the school year.

- Provide technology leadership training to principals.

- Align professional development activities to student competencies and improve student achievement through the effective use of technology in elementary and secondary schools.

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[24] http://prodev.dadeschools.net/default.asp

4.2 Coordination of Professional Development Activities, Training Opportunities, and the Intended Targets

The Department of Curriculum and Instruction at M-DCPS is tasked with the general coordination of the District's professional development activities. The Department outlines its strategy in the document known as the Educational Plan.[25]

Financially, while there is actually an array of different economic resources, the District has Incorporated "Training" into its operational Budget. Currently, there is over $2.5 million committed in the Tentative Budget outlined.[26]

The District's intended target, and a primary goal, has always been to provide access for teachers, parents, and students to the best teaching practices and curriculum resources available. This initiative is supported by the District's Internet Portal, (See http://www.dadeschools.net.) providing access to essential information and services for staff, students, teachers, principals, and parents.

Many of the District's training initiatives are in fact not optional, as these may be required to perform their job tasks and responsibilities under new technological improvement initiatives, including in-service. As an example, the newly developed ERP/HR 2.0 system is mandated for selected staff. Other technical courses, as well, are required of technical staff. These courses are also included in the District's efforts for professional development. In fact, one of our stated Foundation Goals directly addresses and supports technical staff training and another will create a new Professional Development Management Tool. (See "Strategic Plan," Appendix B, pages B-11 and B-13 respectively.)

However, in the cases where programs are offered on a voluntary basis, the participants may receive credits toward certification requirements, salary supplements, time off from work to attend, and a myriad of other incentives. As well, opportunities outside the District's training initiatives abound. Staff is generally encouraged to attend national and state conferences, and others.[27] For example, the ITS Department tracks staff's participation in general training opportunities, including reading materials, disseminated electronically throughout the organization.

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[25] "M-DCPS Knowledge to Go Places: 'An Education Plan for the 3rd Millennium' available at: http://curriculum.dadeschools.net/EducationPlan/index.html

[26] http://financialaffairs.dadeschools.net/ES10-11_1011.pdf

[27] http://prodev.dadeschools.net/default.asp

4.3    Training Initiatives Available to Teachers and Staff

The Technology Learning Center offers over 50 different courses for both PC/Windows and Apple/Macintosh, including: school scheduling, Word processing, use of spreadsheets and databases, desktop publishing, on-screen presentations, networking, telecommunications, Web development, and Internet applications.[28]    The catalog of training courses is also available electronically.[29]


**5.0    ASSESSMENT OF TELECOMMUNICATION SERVICES / HARDWARE / SOFTWARE / OTHER SERVICES NEEDED**

*Required Element #3.*    **INCLUDE AN ASSESSMENT OF THE TELECOMM SERVICES, HARDWARE, SOFTWARE, AND OTHER SERVICES NEEDED**

> The plan must include **"an assessment of the telecommunication services, hardware, software, and other services needed"** that will help to improve education or library services.

The Information Technology Strategic Plan is in itself AN ASSESSMENT OF TELECOMMUNICATIONS SERVICES / EQUIPMENT NEEDS for the District over the next three years.    More specifically, the Plan discusses the process for selecting and managing strategic actions so that outcomes lead to significant, measurable improvements in academic performance and operational efficiency.    This clearly and precisely aligns with our District Goal and its four Pillars.    In fact, as noted in the IT Strategic Plan, the Plan focuses on "continued enhancement and expansion of advanced infrastructure systems for communication, computing, and networking throughout the District." (See IT Strategic Plan, page 31.)

Identification of appropriate hardware to meet the goals of the District's instructional and technological programs, as identified through needs assessments, is an on-going task.    Reviews are made of existing and new and emerging technologies in order to determine how best to meet the educational needs of M-DCPS.    As well, this is done by ensuring that national standards are emphasized to support District instructional guidelines.    This includes adherence to the Children's Internet Protection Act, a requirement of the E-Rate federal program.

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[28]  http://tlc.dadeschools.net

[29] http://tlc.dadeschools.net/catalog.asp

5.1     Assessment of Services - *General*

The current M-DCPS telecommunication network infrastructure centered on deployment of NMLI communication circuits.  Strategically, the network architecture is designed using divergent and physically separate paths to maintain optimal business continuity.  While the majority of locations are served by 10Mb circuits, ongoing network analysis identifies locations that require upgrades to 100Mb circuits.  The goal is to provide schools with opportunities to maximize their instructional potential though the provision of a superior infrastructure foundation.   An infrastructure must be flexible and robust to allow for convergence of voice, video, and data services while improving infrastructure management (service, support, and maintenance) and leverage current and emerging bandwidth intensive applications and technologies.

The District is currently accelerating the expansion of wireless networking technology.   Prior efforts concentrated mostly wireless connectivity to isolated areas within schools such as computer labs and media centers.  Campus-wide expansion of wireless connectivity has become a top priority in support of learning objectives. While traditional wired network infrastructures support MDCP's vast number of instructional desktop computers, the proliferation of inexpensive Netbook and PDA style endpoints as tools for administration and, more importantly, the delivery of instructional content, requires infrastructure improvements that move beyond traditional limits.   Strategically, development of standards including design, hardware selection, management, security, and maintenance are in place and are subject to periodic review to ensure delivery of "state-of-the-art" functionality.


5.2     Emerging Technologies

M-DCPS seeks emerging technologies that provide opportunities to build out network infrastructures which support higher bandwidth performance over longer distances at lower costs.  M-DCPS data infrastructure adheres to industry standards. M-DCPS requires wiring vendor staff be certified with respect to installation and maintenance of CAT5, CAT5-E, CAT6, and multiple types of Fiber Optic cable/connector and interconnection devices. M-DCPS has developed design criteria based on industry standards and best practices that outline current and future infrastructure requirements for new school construction, renovation, and retrofit projects.

M-DCPS is currently upgrading infrastructure switch hardware to Gigabit Ethernet.  All locations benefit from individualized Active Directory servers facilitating efficient network access and secure single sign on (SSO).

An Interactive Voice Response (IVR) system enhances communication between administration, school, and community providing multi-lingual support for electronic grade and attendance reporting. The system also plays a pivotal role in emergency employee communications in times of interruption to business continuity.

Improvements to the District's telecommunication infrastructure circuits, enhancement of wired and wireless media at individual locations, and upgrades to routing and switching hardware is a continuous process. Through these efforts M-DCPS can continue to provide the delivery of technical support required to maximize student achievement and reduce, or hopefully eliminate, the technical divide throughout the District.

5.3     Outline Current Services, Equipment, and Software

Infusion of instructional technology into the entire curriculum requires a flexible approach that reflects instructional needs as well as diversity in equipment configurations. The District recommends a distributed model for instructional technology consisting of wiring capable of supporting current technology and a school-wide local area network which connects all classrooms. The distributed model includes,

- Classrooms equipped with five or six computers, a large screen TV, a printer, and multimedia capabilities/peripherals (e.g., scanners, digital cameras, CD-ROM)

- Computer labs equipped with computers connected to the Internet and subject-specific software

All schools minimally have one T-1 connection to the M-DCPS WAN for Internet use, providing desktop-to-Internet access throughout the schools. LANs are also used to access integrated learning systems for programmed learning software that uses a diagnostic / prescriptive approach as well as other software. All classrooms also have access to WLRN's ITFS system.

5.4     Determine Expected Services, Equipment, and Software

M-DCPS, through its Capital Improvement Plan projects,[30] expects service needs based on its construction initiatives throughout the District. These are consequently addressed as part of the IT Strategic Plan, as well as the E-Rate plans and projections for future funding requests to meet the IT

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[30]  http://facilities.dadeschools.net/capital/index.asp (Five Year Capital Plan)

Strategic Plan assessments.[31]  This process makes it a dynamic living document.  Furthermore, this document is reviewed and updated according to addressed needs assessment.  It targets and encompasses many of the following:

- Emerging technologies

- New standards and/or specifications

- Federal, state, and local regulations/legislations

- Best practice research both within the District and nationally

- Initiatives implemented within the District

5.5    E-Rate Planned Initiatives

Specifically, one of the District initiatives to support its infrastructure improvements, as well as continued growth and expansion efforts, was to participate in the federal E-Rate program, actually since its inception in 1998.  As such, M-DCPS has established the E-Rate Management organization, responsible for the deployment of all required documents to participate in this program.

The E-Rate Management team provides support to all eligible sites in the District seeking funds to purchase affordable services / equipment as outlined by the E-Rate program.  They are: Telecommunications; Internet Access; Internal Connections; and Maintenance Requirements of Eligible Services.  This organization evaluates, processes, tracks, and completes all required documents to request funds.  As well, this department assists in the assessment of the telecommunication services needed Districtwide, ensuring the proper evaluation process necessary to enable the individual schools to monitor progress toward their specified technical goals.

The E-Rate organization at M-DCPS processes applications seeking refunds of the telecommunications services Districtwide averaging over $8.5 million yearly.  Furthermore, this Team requests an average of an additional $53 million in technology improvement products, to be used at the schools and eligible administrative entities, yearly.  This group, therefore, is directly responsible for keeping up with the guidelines and requirements of the District's Technology Plan.  The funds available, as a result of the E-Rate program, significantly impact our District's ability to keep pace with the ever-evolving technology required to support the needs of Miami-Dade's Public School teachers, the parents, and the children we ultimately serve.

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[31]  See details in IT Strategic Plan, page 39.

Specific services regularly requested through the E-Rate Management organization at M-DCPS for all E-Rate eligible sites throughout the District, and/or considered for deployment, as needed, may include the following types of equipment and/or services:

- Local Telephone Services, known as POTS (Plain Old Telephone Services)

- Internet Access Products and Services

- ADSL

- ATM

- ATS – Managed Networks

- ISDN

- Lightgate

- NMLI, Core Components, and Associated Wiring

- Frame Relay

- Megalink T1

- T1/PRI

- Long Distance Services

- Paging Services

- Cellular Services

- FIRN Bandwidth

- Voice Over IP

- Video Conferencing

- Video Services and Infrastructure Components

- Computing Infrastructure and Components

- Diversity of Capacity and Load Balancing With Fault Tolerance for Internet Access

- Network and Information Security Protection Services and Components

- Mainframe Equipment and Eligible Components

- PABX Systems and Components (Wired and Wireless)

- Electronic Key Systems and Components

- UPS Systems

- Smart Ring

- Crisis Link

- Watch Alert

- Wireless Networks, Components, and Wiring

- Client Server Systems

- All Software and Software Licenses Requirements

- All Network Equipment, Including Servers, Routers, and All Other Required Components

- All Network Connectivity Devices Required

- LAN and WAN Components

- Category 5 and/or 6 (Current Cabling Industry Standard)

- Fiber Cabling As Required to include Vertical Cavity Surface Emitting Laser Technology (VCSEL)

- Gigabit Switching to Desktop Technology

- Interactive Voice Response System

- Firewall Protection Devices and Systems

- Project Management Services and Eligible Associated Professional Services

- Centralized Management of Wireless Networks

- District Portal Services, to include but not be limited to:
  Districtwide Student E-Mail Services
  Grade Reporting
  Parent Help Desk
  Parent Academy
  Emergency and Non-Emergency Outcalling

- Maintenance Services Required for Eligible Services and Required Associated Components

- Services and Components Required to Support the Operational Needs of WLRN and Other School-Based TV and Transmission Services, to include but not be limited to:

  Antenna

  Cable TV Access

  Distance Learning

  Educational Development

  Homework Hotline Services

  Information Systems

  Interactive TV

  Laptop Computers for Testing

  Programmed Audio Services

  Satellite Dishes

  Satellite Services

  Structure Cabling

- Other Emerging Technologies


5.6    Review of Non-Instructional Facilities, Including WLRN

All eligible administrative facilities, including WLRN, are addressed each funding year.  The E-Rate program recognizes these locations as NIFs (Non-Instructional Facilities).  The eligibility requirement for this type of locations is described in the SLD's E-Rate Web site.[32]    Generally, however, funding limits imposed by the program are not sufficient to approve and fund these NIF facilities at the District's average (historically at or below the 80% mark).

Specifically, non-instructional facilities on school and library property are eligible to receive discounts on telecommunications and Internet access services (Priority One Services).    However, further clarification indicates that, "Support is not available for internal connections in non-instructional buildings of a school or School District or in separate administrative buildings of a library, unless those internal connections are essential for the effective transport of information to an instructional building of a school or to a non-administrative building of a library."[33]  The District, and thus the E-Rate Management Team, recognize that these priorities and eligibility of equipment/services may change yearly based on program rule changes.

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[32]   http://www.usac.org/sl/applicants/step05/default.aspx

[33]   http://www.usac.org/sl/applicants/step06/educational-purposes.aspx

**6.0 DETERMINE BUDGET RESOURCES TO SUPPORT THE INFORMATION TECHNOLOGY STRATEGIC PLAN**

*Required Element #4.* **BUDGET RESOURCES**

> The plan must provide for sufficient **"budget resources"** to acquire and maintain the hardware, software, professional development, and other services that will be needed to implement the strategy.

It is expected that the IT Strategic Plan will be useful to M-DCPS in determining an annual work plan for implementing activities and for anticipating the resources and budgetary support needed from year to year. In fact, the purpose of the Plan, as it relates to E-Rate participation focuses on the planned processes identified in order to more effectively meet its funding needs through the required funding applications. The staging and phasing of planned implementations, as outlined in this Strategic Plan are intended to meet and support at least a three-year planning process.

6.1 Budget to Support Non-Discounted Elements of the Plan

Each year, M-DCPS presents its complete Budget Analysis and Plan to the Board, as required, for subsequent approval. As a result, the District always sets aside sufficient funds within its budgets to acquire and maintain the hardware, software, professional development, and other services needed to implement the strategy for improved educational services.[34] These equipment components are intended to support the funding applications referred to in the E-Rate guidelines as "Priority Two" funding requests. Telecommunications Services are known as "Priority One" funding requests.

6.2 E-Rate Program Participation as Part of Budget Plan

Specifically, as it relates to E-Rate funds, M-DCPS has participated in the program since its inception. Generally, the District requests sufficient funds for Telecommunication Services to meet the needs of all E-Rate eligible schools and Non-Instructional Facilities (NIFs).[35] During Funding Year 13 (2010-2011), 213 schools in the District (approximately 58% of all

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[34] For detailed information on Budgets, see http://financialaffairs.dadeschools.net .

[35] See Page 11 of this document, "Graph A – Average of Funds Requested by M-DCPS During its E-Rate Program Participation Since 1998 to Present."

schools) qualified for the 90% E-Rate's most supportive funding level. Schools in this funding band are historically the only ones that receive support to purchase technology equipment at reduced costs (90/10). This band represents the neediest schools in the District, as identified through the students' participation in the NSLP, also known as the Free and Reduced Lunch program.

The fact that funds historically fall short of the nationwide total requests is an E-Rate program limitation since the program's inception. It is the result of imposing a funding cap at $2.25 billion (without even any provisions for cost-of-living adjustments [COLA]), coupled with the demands, nationwide, for expanded E-Rate funding support. Furthermore, planned and/or projected changes to the E-Rate program by the FCC could potentially impact, even more, the availability of funding support through this program. The FCC's intent to support Broadband Services, for instance, is one such initiative that may soon be considered an eligible service, but not necessarily by increasing the E-Rate funding cap.

6.3    M-DCPS Policy on E-Rate Priority One Expenses

It must be noted that, **"M-DCPS does not take into account any E-Rate funding, as a source of revenue, when establishing and seeking Board approval for each year's school budget.** Consequently, all E-Rate eligible Priority One, Telecommunication expenses are paid in full, on a monthly basis, to our telecommunications common carrier. This expense is also outlined, and always carried at full cost (100%), in the Budgets presented to the Board for approval yearly. However, it must be noted that, M-DCPS does seek E-Rate funding support for these types of services through the application process each E-Rate Funding Year, but relies on the FCC Forms 472 Billed Entity Applicant Reimbursement (BEAR) process, as outlined in the SLD Website[36] for recovery of funds for these expenditures.

Graph "D" below, "Total Dollars (in Millions) Recovered from Telecommunication Expenses Each E-Rate Funding Year," identifies the telecommunications expenditures (Priority One Services) recovered each Funding Year by M-DCPS. Note that the steady growth of funds recovered is proportional to the growth trends, Districtwide, associated with Telecommunications Services, as well as additional costs associated with the use of, and the move towards, advanced Internet Access technology. Also note that the spike associated with Funding Year / School Year 2007-2008 is the result of additional funds collected resulting from Appeals won from withheld funds.

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[36]  http://www.usac.org/sl/tools/required-forms/form472-instructions.aspx

## TELECOM FUNDS (in Millions) Recovered
## Each E-Rate Funding Year



Bar chart showing TELECOM FUNDS (in Millions) Recovered Each E-Rate Funding Year:
- 1998: $5.8
- 1999: $6.0
- 2000: $6.1
- 2001: $6.6
- 2002: $7.0
- 2003: $7.6
- 2004: $8.1
- 2005: $8.5
- 2006: $8.6
- 2007: $10.1
- 2008: $8.8
- 2009: $9.2

6.4     Show Cost Allocation on E-Rate Priority Two Expenses and Ancillary
        Costs

Conversely, all Priority Two associated costs (District's portion of the expenses), are generally paid at the District's aggregate percentage, and directly to the vendors. As well, all the associated ancillary requirements necessary to actually make the requested E-Rate services work, (e.g., electrical components, computers and terminals, certain equipment software, professional development, and other such identified components) must be paid by the District. This is a required practice of the E-Rate program.

In the case of M-DCPS, the E-Rate portion paid by the program is then sought by the vendors from the SLD. In the cases where there are associated charges that are not E-Rate eligible, M-DCPS either pays for these expenses on a separate Purchase Order and Invoice or ensures that these charges are outlined in a separate line item of the Purchase Order itself.

6.5    Provide Comprehensive Existing Budget to Support the E-Rate Related Purchases

It must be noted that all funds requested are generally not all approved. This is based on program funding caps and the limited funds running out before all levels of funding (according to poverty guidelines first) are met.

Prior to the start of each Funding Year, Budget meetings are held to develop a more comprehensive approach to funding all approved E-Rate application requests – as it relates to the applicant's cost participation (specifically either the 10% of the total cost not paid by E-Rate, or the actual percentage required).  As a result, Capital Department will work with the Field Services and the E-Rate departments to coordinate work activity and payment of the aforementioned costs.  Specific details are outlined yearly, starting with the proposed Budget Plans.[37]


## 7.0    OUTLINE EVALUATION PROCESS WITHIN IT STRATEGIC PLAN

### *E-Rate Required Element #5.*       PROVIDE  ONGOING  EVALUATION

> The plan must include an **"ongoing evaluation process"** that enables the school or library to monitor progress toward the specified goals and make mid-course corrections in response to new developments and opportunities as they arise.


As noted in the Plan, "Program Evaluation Process" section (See IT Strategic Plan, page 42), the "evaluation [process] is a core organization competence" and, in fact follows the ISTE Standards.[38]  These standards are the roadmap to teaching effectively and growing professionally in an increasingly digital world.

Plan success is determined based on multiple criteria and feedback.  In fact, the stakeholders meet regularly to monitor the status of each of the outlined projects, and hence the Plan.  As well, another criterion to determine success is obviously the analyses of ROI (return on investment) and metrics regarding expenditures, and on-time performance.[39]  Further, the division of project deliverables into phases assures that stakeholders will have timely products that can be reviewed and evaluated to assess the required and expected performance of the products/services. (See Appendix D, page D-7.)

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[37]  http://financialaffairs.dadeschools.net/ES10-11/index.asp

[38]  http://www.iste.org/AM/Template.cfm?Section=NETS

[39]   For details, see IT Strategic Plan, page 30, regarding discussion of TCO / ROI.

7.1     Provide for Mid-Course Corrections

Evaluations provide information which can be used to make mid-course corrections.  As part of the projects' evaluation process, modifications can be made to ensure that all goals are met, and/or adjusted accordingly. This process secures the successful completion of the projects and avoids "unmet goals."

New needs, including emerging technologies and innovations, as presented at conferences and even as identified through publications, can be turned into proposed projects in this format.


7.2     Outline Cycle Process

There is an established methodology to initiate and even modify projects as outlined in Appendix D (See Strategic Plan, Appendix D, pages D-6 and D-7.).  Conversely, any particular project that is later deemed not required, or canceled, will still be documented to preserve a record of the actual project. (See Strategic Plan, Appendix D, page D-8.)


**8.0     CONCLUSION**

The IT Strategic Plan recognizes that the purpose of developing and implementing a technology plan is not necessarily just to produce a plan, a guideline, or a blueprint; but, rather to produce a document, a process, intended to achieve the following RESULTS:

- Ensure achievement of high academic standards by all students.
- Develop our students so that they are able to successfully compete in the global economy.
- Recruit, develop, and retain high-performing, diverse, and motivated faculty and staff.
- Actively engage all family and community members to become our partners in implementing this Plan, to actively and positively raise and then maintain high student achievement.
- Reform business practices to ensure efficiency, effectiveness, and high ethical standards.

Technology is THE tool for improving - *and ultimately transforming* - both teaching and learning. Used as a tool routinely, it will prepare students to move from school to career settings with the skills necessary to succeed economically in today's workplace. Used as a tool effectively, it will also impact student achievement and prepare them for the future.  With this in mind, there must be such an IT Strategic Plan, in place, with a clear vision of how the integration of technology might benefit students while building a technology-rich environment. Technology continues to evolve at a pace that is astonishing and unprecedented, and the District must be prepared and able to embrace these changes.

M-DCPS envisions all learners of all ages to use technology anywhere anytime, and to access information, communicate, collaborate, construct knowledge, and prepare for the information technology workforce of the new millennium.[40] Further, the District strongly supports the initiatives to bridge the information and technology gaps of its students.  M-DCPS visualizes classrooms fully equipped with technology that would help to bring the world to students, teachers, and staff.  Such an experience would provide limitless opportunities for learning, both within and outside the classroom, regardless of time, space, and physical barriers.

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[40]  See IT Strategic Plan, page 9.

# Information Technology Strategic Plan

## 2011-2014

# APPENDIX B

# FOUNDATION PROJECTS

## Miami-Dade County Public Schools

# Table of Contents

# Timeline for Implementing the Foundation Projects

The graph below displays the timeline for each of the "Foundation" projects. It assumes approval of this Plan in 2011 with a start date for most initiatives on or after July 1, 2011, although it is possible that some of these projects may have started prior to the Plan's effective day. Any delay in approval will delay these start dates respectively.

| | 2010-11 | | | | 2011-2012 | | | | 2012-2013 | | | | 2013-2014 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |

1. **Increase Access and Security for Personal Devices (VLAN) (07/01/11–06/30/14)**

2. **Increase Wireless Access to District Resource Info. (10/07/10 –06/30/14)**

3. **LINK, Broadband in DA Schools (02/02/10–01/31/13)**

**Race to the Top (RTTT)**

4. **Automate IPEGS, Create Data Sys., & Link Eval. Data (10/01/10–06/30/13)**

5. **End-of-Course Data System (01/01/11–06/30/13)**

6. **Professional Development Management Tool (01/10/11–06/30/13)**

7. **Required IT Infrastructure Upgrades (08/02/10–06/30/14)**

8. **Technology Training for Technology Supp. Technicians (07/01/11–06/30/14)**

9. **Upgrade and/or Maintain the Mainframe and Network (07/01/11–06/30/14)**

07/01/10          07/01/11          07/01/12          07/01/13          07/01/14

# Foundation Projects Proposed Funding from Capital, E-Rate, and Grants

| | M-DCPS IT Strategic Plan Foundation Projects | Pillar | Cost Savings over 3 Years | Total Costs | Funding Required for the 1st Year | Total Funding Already Identified | Remaining Funding to be Identified In Year 1 | Remaining Funding to be Identified in Year 2 | Remaining Funding to be Identified in Year 3 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Increase Access and Security for Multiple Personal Devices VLAN (Virtual Local Area Network) Creation: Evaluate, configure, and provide, including security safeguards, group members' access as needed. | Student, Parent and Community Engagement, Education, Financial Efficiency and Stability, & School/District Leadership | | $ 40,000 | $ 40,000 | | | | |
| 2 | Increase Wireless Access to District Resource Information by allowing wireless access to all parents and students to District information and the Portal via their PDAs, laptops, computers, etc. | Student, Parent and Community Engagement and Education | | $ 46,000,000 | $ 4,100,000 | | | | |
| 3 | LINK (Learn Ideas, Navigate Knowledge), Broadband Adoption in Households with Free/Reduced-Price Lunch in Differentiated Accountability (DA) Schools. The project will provide broadband education, awareness, training, access, equipment, and support to community-anchor institutions, job-creating strategic facilities, and vulnerable populations. | Student, Parent and Community Engagement, Education, Financial Efficiency and Stability, & School/District Leadership | | $ 4,469,748 | $ 1,500,000 | | | | |
| 4 | Race to the Top (RTTT) – Automate IPEGS, Create Data System, and Link Evaluative Data. This project will automate the existing IPEGS to link to a new data system with student achievement information and teachers' professional development activities. | Student, Parent and Community Engagement, Education, & School/District Leadership | | $ 1,240,000 | $ 620,000 | | | | |
| 5 | Race to the Top (RTTT) – End-of-Course Data System will capture data for all subjects tested and also collect data on IB and AICE. | Student, Parent and Community Engagement, Education, & School/District Leadership | | $ 100,000 | $ 25,000 | | | | |
| 6 | Race to the Top (RTTT) – Professional Development Mgmt. Tool. This project will replace the existing Professional Development Menu and Registration System. | Student, Parent and Community Engagement, Education, & School/District Leadership | | $ 1,200,000 | $ 600,000 | | | | |
| 7 | Required IT Infrastructure Upgrades will allow the District to meet contractual obligations and sustain operations. Upgrades include Cognos and SAP applications, among others. | Education, Financial Efficiency and Stability, & School/District Leadership | | $ 350,000 | $ 250, 000 | | | | |
| 8 | Technology Training Program for All Technology Support Technicians (TSTs) ensures a standardized knowledge base and consistent delivery of instructional content and administrative applications at all schools. | Student, Parent and Community Engagement, Education, Financial Efficiency and Stability, & School/District Leadership | | $ 192,000 | $ 64,000 | | | | |
| 9 | Upgrade and/or Maintain the Supporting Mainframe and Network Hardware/Software for optimal performance of District applications, including energy and cost advantages and increased functionalities. | Student, Parent and Community Engagement, Education, Financial Efficiency and Stability | | $ 31,490,526 | $ 10,496,842 | | | | |

TOTAL:     $85,082,274

| **Increase Access and Security for Multiple Personal Devices (VLAN Creation)** | **Aligns With District Pillars:** #1Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and School/District Leadership. |
|---|---|

**Purpose:** This project will maintain District information security by preventing unauthorized users from accessing sensitive and confidential information.  Users like students requiring Internet and research access, collaboration site access, etc. will only be allowed into specific, limited virtual LANs (VLANs – Virtual Local Area Networks) that will not allow them to see core business and academic information.  This will keep M-DCPS in compliance with a variety of federal, state, and local statutes.  There is no expense for software purchase. The only cost is ITS staff labor to create individual VLANs (including wireless).

| **Total Costs**: **$40,000** | | | **1<sup>st</sup> Year Costs:  $40,000** | | | **Funding:** |
|---|---|---|---|---|---|---|
| Labor: $40,000 | Software: | Services: | Labor: $40,000 | Software: | Services: | **Start:** 07/01/11 |
| | | | | | | **End:**   06/30/14 |

**Qualitative Benefits:**
a. Makes appropriate Internet resources available to students and non-employee user.
b. Allows those users to attach their personal devices to the network without threatening core District functions.

**Quantitative Benefits:**
a.  Ensures security for District sensitive and confidential data and saves litigation expenses.
b.  Saves District expense of providing each student with hardware like laptops.
c.  Saves expense of providing hard-wired network drops as wireless capabilities can now be provided to all.

| **Risks:** | **Other Related Strategic Actions:** |
|---|---|
| Failure to fund this project will lead to an almost 100% chance that the District's network will be continuously infected and/or hacked.<br><br>**Mitigation:**<br>Secure adequate funding. | **Foundation: NA**<br><br>**Portfolio: NA** |

**Major Activities:**
a.  Assess current hardware and software capabilities for wireless at each location.
b.  Determine best VLAN setups to take into account student and user needs.
c.  Insure that all necessary student resources can be accessed using the VLANs created.
d.  Implement upgrade, test, document changes, and disseminate information to users as needed.

# Increase Wireless Access to District Resource Information

**Aligns With District Pillars:** #1 Student, Parent and Community Engagement and #2 Education.

**Purpose:** To increase access to District resource information by allowing wireless access to all parents' and students' access to District information and the Portal, via their personal PDAs, laptops, computers, etc. The project will:

- Install campus wide District wireless at all schools.
- Update and expand the data network's backbone at all schools to 10 Gigabits.
- Segment data networks at all schools using VLANs and Participate domain for student traffic.
- Converge technology such as voice and data to utilize a common transport system.

| Estimated Total Costs: $46,000,000 | | | | 1st Year Costs: $4,100,000 | | | | Funding: Capital |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start**: 10/07/10 |
| | | | | | | | | **End:** 06/30/14 |

**Qualitative Benefits:**
a. Enhance education experience for all students.
b. Educate parents on the significance of using the Internet, not only for the child's education, but as a resource to make themselves more marketable employees.
c. Provide teachers and school staff easy-to-use technology as a tool for instruction.
d. Provide instructional materials to students beyond the school day.

**Quantitative Benefits:**
a. Expanding wireless technology will lead to a significant cost reduction in wired infrastructure. Add, moves, and changes of technology can be accomplished by physically moving end equipment.
b. Capital will reduce its costs by reducing the number of conduits installed.
c.

## Risks and Mitigation Strategy

**Risk:**
a. Students will not use technology.

**Mitigation:**
Encourage students to bring personal devices and allow District supported "social networking."

b. Teachers will not easily adapt use of technology.

**Mitigation:** Provide additional professional development Districtwide.

c. No funding for District's E-Rate cost and ineligible items.

**Mitigation:** Work with Capital to establish a funding source, specifically set aside for District's percentage and ineligible items.

## Other Related Strategic Actions:

**Foundation:**
a. LINK, Broadband in DA Schools
b. Technology Training Program for all Technology Support Technicians (TSTs)
c. Upgrade/Maintain Mainframe and Network Hardware/Software

**Portfolio:**
d. Adult/Community Education Student Management System
e. After Graduation Evaluation
f. Capital Portal
g. Classroom Retrofit for Interactive Boards
h. Computer Refresh
i. Electronic Signature Forms Flow
j. Fire-Life Safety Inspection Application
k. Individual School and Administrative Sites Bandwidth Upgrade
l. School and Location Notification System
m. X2 Aspen Elementary Student Scheduler

## Major Activities:
a. Determine resources and develop a timeline to implement.
b. Review infrastructure at all schools and apply for E-Rate accordingly.
c. Expand enhancements and functionalities gained during the pilot at Terra Sr.
d. Implement enhancements, document, and train staff as needed.

## LINK (Learn Ideas, Navigate Knowledge), Broadband Adoption in Households with Free/Reduced-Price Lunch in Differentiated Accountability (DA) Schools

**Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, and #4 School/District Leadership.

**Purpose:** To provide broadband education, awareness, training, access, equipment, and support to community-anchor institutions, job-creating strategic facilities, and vulnerable populations. This project will:

- Ensure broadband awareness to over 345,458 students and their families countywide.
- Provide 6,000 students/families with computers.
- Provide 10,000 low-income families with lower price broadband Internet service after the first year.
- Provide technology skills training for the targeted sub-group of 30,000 free/reduced-price lunch students/families from the 35 Differentiated Accountability schools.
- Provide the first step towards household broadband adoption within M-DCPS.

**Total Costs: $4,469,748**
Federally covered: $3,473,498
M-DCPS: $996,250
        ($905,750 Labor & $90,500 Connectivity)

**1$^{st}$ Year Costs: $1,500,00**

**Funding: ARRA and IN-KIND**

| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start**: 02/02/10 |
|-------|--------------|----------|----------|-------|--------------|----------|----------|---------------------|
|       |              |          |          |       |              |          |          | **End:** 01/31/13   |

**Qualitative Benefits:**
a. Close the gap within the "knowledge Divide."
b. Enhances the "Links to Learning" Initiative.
c. 24/7 access to the M-DCPS Portal with increased after-hours traffic.
d. Improved academic performance, parent, and community relations.

**Quantitative Benefits:** Sustainable household Broadband adoption among the targeted population.

**Risks:**

a. Low adoption rate

**Mitigation:**
School site liaisons, Information Technology Services, and Parent Academy trainers ensure adoption by students, parents, and community.

b. Sustainable broadband adoption

**Mitigation:**
Continue to provide training for students and parents with Parent Academy and available staff.

**Other Related Strategic Actions:**
**Foundation:**
a. Increase Wireless Access to District Resource Information
b. Technology Training Program for All Technology Support Technicians (TSTs)
c. Upgrade/Maintain Mainframe and Network Hardware/Software

**Portfolio:**
d. After Graduation Evaluation
e. Individual Schools and Administrative Sites Bandwidth Upgrade

**Major Activities:**
a.  Get Board approval of Agenda Item to accept the Grant award.
b.  Submit ongoing federal baseline and quarterly Reports.
c.  Create Bid 051-KK04 to procure PCs and broadband access.
d.  Coordinate with School Operations to identify resources and develop a timeline to implement.
e.  Coordinate with WLRN, Public Relations, Parent Academy, municipal partners, and other relevant partners to begin implementation of awareness campaign.
f.  Schedule PC disbursements to successful students.
g.  Verify successful installation and operation of broadband accounts, assist as needed.
h.  At end of period, measure sustainability.

The program has built upon the District's successes in implementing technology-infused instruction and various digital inclusion strategies including the Superintendent's Links to Learning Program, "one-to-one" technology-integrating technology in the classroom (i.e., assigning one computer per student to be used in and out of the classroom), the Elevate Miami-Rites of Passage Program in partnership with the City of Miami, and The Education Fund's FamilyTech Program.

An in-kind match of learning software has been approved as a match for the purposes of this award.  The grant funds will cover costs for program coordination, hourly trainers for family workshops, school liaison stipends, software development, computers, Internet connectivity, activities for a community-wide awareness campaign focused on the value of getting connected, and indirect costs.

Official notification of this grant award was received on March 10, 2010, which is after the start of the grant period. Reimbursement of grant-related expenditures is authorized effective February 1, 2010.

# Race to the Top (RTTT) – Automate IPEGS, Create Data System, and Link Evaluative Data

**Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, and #4 School/District Leadership

**Purpose:** This project will automate the existing IPEGS (Instructional Performance Evaluation and Growth System) to link to a new data system with student achievement information and the teachers' professional development activities.

| Total Costs: $1,240,000 | | | 1st Year Costs $620,000 | | | Funding: | |
|---|---|---|---|---|---|---|---|
| Labor: 1,240,000 | Software: | Services: | Labor: 620,000 | Software: | Services: | **Start:** 10/01/10 | |
| | | | | | | **End:** 06/30/13 | |

**Qualitative Benefits:**
a. Ensures that the users' needs, including federal and state requirements for data, will be addressed through its development and implementation process.
b. Facilitates the documentation, analyses, and reporting of data and thus enhances communication with all stakeholders (i.e., parents, community members, DOE representatives, etc.).

**Quantitative Benefits:**
a. Reduces security risks and errors from incompatibility with other District systems.
b. Saves the District the expense (staff and time) of combining data from disparate systems that function independently.
c. Reduces staff time in producing data, reporting, and transmitting information.

**Risks:**

System does not meet District's needs.

**Mitigation:**
Seek input and frequent feedback from relevant stakeholders.

**Mitigation:**
Ensure that the scope and requirements are well written, documented, and tested.

**Other Related Strategic Actions:**
**Foundation:**
a. Increase Wireless Access to District Information
b. RTT- Professional Development Management Tool

**Portfolio:**
c. After Graduation Evaluation
d. Individual School and Administrative Sites Bandwidth Upgrade

**Major Activities:**
a. Assess needs and determine state and District requirements.
b. Determine resources and develop a timeline to implement.
c. Document requirements, develop, test, pilot, and implement.
d. Provide system and user documentation; training and support for post-implementation, as needed.

| **Race to the Top (RTTT) – End-of-Course Data System** | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, and #4 School/District Leadership |
|---|---|

**Purpose:** This project will create a data system that will capture end-of-course data for all subjects tested, including Algebra, Biology, History, Civics, etc. The system will also collect the results of both the IB (International Baccalaureate External Written Examinations) and AICE (Cambridge Advanced International Certificate of Education).

| **Total Costs**: $100,000 | | | **1st Year Costs: $25,000** | | | **Funding:** |
|---|---|---|---|---|---|---|
| Labor: 100,000 | Software: | Services: | Labor: 25,000 | Software: | Services: | **Start:** 01/01/10 |
| | | | | | | **End:** 06/30/13 |

**Qualitative Benefits:**
a. Ensures that the users' needs, including state requirements for data, will be addressed through its development and implementation process.
b. Facilitates the documentation, analyses, and reporting of data and thus enhances communication with all stakeholders (i.e., parents, community members, DOE representatives, etc.).

**Quantitative Benefits:**
d. Ensures security and compatibility with other District systems.
e. Saves the District the expense (staff and time ) of combining data from disparate systems that function independently.
f. Reduces staff time in producing data, reporting, and transmitting information.

| **Risks:** | **Other Related Strategic Actions:** |
|---|---|
| System does not meet District's needs. | **Foundation:** <br> a. Increase Wireless Access to District Information <br> b. RTTT – Automate IPEGS, Create Data Systems, and Link Evaluative Data |
| **Mitigation:** <br> Seek input and frequent feedback from relevant stakeholders. | **Portfolio:** <br> c. After Graduation Evaluation <br> d. Individual School and Administrative Sites Bandwidth Upgrade |
| **Mitigation:** <br> Ensure that the scope and requirements are well written, documented, and tested. | |

**Major Activities:**
a. Assess needs and determine federal, state, and District requirements.
b. Determine resources and develop a timeline to implement.
c. Document requirements, develop, test, pilot, and implement.
d. Provide system and user documentation; training, and support for post-implementation, as needed.

| **Race to the Top (RTTT) – Professional Development Management Tool** | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, and #4 School/District Leadership |
|---|---|

**Purpose:** This project will replace the existing Professional Development Menu and Registration system, a key component of the District's professional development initiative.

| **Total Costs**: **$1,200,000** | | | **1st Year Costs: $600,000** | | | **Funding:** |
|---|---|---|---|---|---|---|
| Labor: 1,200,000 | Software: | Services: | Labor: 600,000 | Software: | Services: | **Start**: 01/10/10 |
| | | | | | | **End**:   06/30/13 |

**Qualitative Benefits:**
a. Facilitates the entering, monitoring, and documentation of staff's professional development activities.
b. Increases compatibility with other District systems.

**Quantitative Benefits:**
a. Reduces security risks.
b. Saves the District the expense in staff and time of maintaining an independent system, that is not compatible with other District systems.
c. Reduces staff time in producing data, reporting, and transmitting information (e.g., recertification).

| **Risks:** | **Other Related Strategic Actions:** |
|---|---|
| System does not meet District's needs. | **Foundation:** a. Increase Wireless Access to District Information b. RTT – Automate IPEGS, Create Data System, and Link Evaluative Data |
| **Mitigation:** Seek input and frequent feedback from relevant stakeholders. | **Portfolio:** c. After Graduation Evaluation d. Individual School and Administrative Sites Bandwidth Upgrade |
| **Mitigation:** Ensure that the scope and requirements are well written, documented, and tested. | |

**Major Activities:**
a. Assess needs and determine concerns with current system.
b. Determine resources and develop a timeline to implement.
c. Document requirements, develop, test, pilot, and implement.
d. Provide system and user documentation; training, and support for post-implementation, as needed.

| **Required IT Infrastructure Upgrades** | **Aligns With District Pillar:** #1 Student, Parent and Community Engagement, #2 Education, and #3 Financial Efficiency and Stability. |
|---|---|

**Purpose:** This project will upgrade the existing core hardware and software systems necessary to meet contractual obligations and sustain District operations. This includes such items as release upgrades for IBM Cognos applications, which serve as the District's Business Intelligence (BI) tool and Budget Planning system; and SAP which serves as the District's Finance, Purchasing, Human Resources, Recruiting, and Payroll system.

| **Total Costs: $350,000** | | | **1st Year Costs: $250,000** | | | **Funding:** |
|---|---|---|---|---|---|---|
| Labor: 350,000 | Maintenance NA | Hardware: NA | Labor: 250,000 | Maintenance NA | Hardware: NA | **Start:** 08/02/10 |
| | | | | | | **End:** 06/30/14 |

**Qualitative Benefits:**
a.  Ensures continuity with current data, processes, and learning experiences.
b.  Simplifies the users' experiences with the tool and enhances its use.
c.  Single sign on provides immediate access to linked, role-specific planning.
d.  Predefined rules ensure users see the templates they need.
e.  Complex calculations at the client eliminates traffic and supports data-driven decisions.

**Quantitative Benefits:**
a.  Preserves the investment made in software, hardware, and staff training.
b.  Preserves the value of its interoperability with other District core business products.

| **Risks:** | **Other Related Strategic Actions:** |
|---|---|
| Failure to fund this strategic action will result in incompatibilities with existing systems and software and eventually render current releases unsupported by the vendor.<br><br>**Mitigation:**<br>**None** | **Foundation: NA**<br><br>**Portfolio: NA** |

**Major Activities:**
a. Budget Office must assign resources and budget, as their applications must be upgraded and integrated concurrently.
b. Determine best upgrade strategy and impact on current systems.
c. Inform all stakeholders of possible changes in their systems.
d. Identify the resources to implement and develop the timeline.
e. Inform CAB and relevant parties.
f. Implement the upgrade, test, document changes, and disseminate information to users as needed.

| **Technology Training Program for All Technology Support Technicians (TSTs)** | **Aligns With District Pillar:** #1 Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** Provide schools and other District locations with an effective and efficient technology support team by ensuring a standardized knowledge base for all technical resources thereby ensuring consistent delivery of instructional content and administrative applications. This project will:

- Institute an Information Technology Training Program (ITTP) for all Technology Support Technicians (TSTs).
- Establish a catalog of course offerings.
- Maintain records of each individual TST's participation in the program.
- Develop an M-DCPS Certification program.
- Allow the District to comply with state mandates for online FCAT testing and student assessments by ensuring that all technical requirements are met.
- Allow for the expeditious completion of the Superintendent's Initiatives, as evidenced by recent Haitian Relief efforts and Links to Learning Initiatives, by ensuring that all TSTs are properly trained.
- Ensure that all technical staff is proficient in current and future technologies.
- Ensure that all technical resources adhere to a common standard and that accountability is applied equitably.

| **Total Costs: $192,000** | | | | **1st Year Costs:  $64,000** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor $192,000 | Connectivity | Hardware | Software | Labor $64,000 | Connectivity | Hardware | Software | **Start**: 07/01/11 |
| | | | | | | | | **End:**  06/30/14 |

**Qualitative Benefits:**
a.  Enables principals to concentrate efforts on student achievement rather than acting as technicians.
b.  Improves TSTs' morale by investing in their professional development.
c.  Improves ITS' ability to address schools' needs by having a more knowledgeable and adequately trained technician to support instructional and administrative applications.
d.  Provide TSTs with a common chain of command to ensure that all District priorities and standards are aligned.

**Quantitative Benefits:**
a.  TSTs can be assigned to areas with critical needs or staff shortages as required because all processes and necessary skill sets can be replicated throughout the team.
b.  District will save money by centralizing the TSTs under ITS, thereby not having to have a dedicated technician at every school.

| Risks: | Other Related Strategic Actions: |
|---|---|
| a. Not all individuals learn at the same rate.<br><br>**Mitigation:**<br>Provide them with remediation training and/ or senior technician mentorship.<br><br>b. Technicians will be too busy to attend scheduled classes.<br><br>**Mitigation:**<br>Offer technical training library online and offer one-to-one mentoring.<br><br>c. Individuals at ITS may not have the time or possess the required skill sets to teach certain classes.<br><br>**Mitigation:** Reach out to all TSTs to see where they can assist with the course offerings depending on their particular areas of expertise. | **Foundation:**<br>a.  Increase Wireless Access to District Resource Information<br>b.  LINK, Broadband in DA schools<br>c.  Upgrade/Maintain Mainframe and Network Hardware/Software<br><br>**Portfolio:**<br>d.  Classroom Retrofit for Interactive Boards<br>e.  Computer Refresh<br>f.  Individual School and Administrative Sites Bandwidth Upgrade<br>g.  X2 Aspen Elementary Student Scheduler |

**Major Activities:**
a. Survey TSTs to determine what their training needs are.
b. Build Technical Support Teams based on areas of expertise and specializations.
c. Conduct regular Live Meetings with all TSTs to share information.
d. Conduct training sessions in classroom settings.
e. Provide standardization training on HEAT and other administrative applications.
f.  Develop Web-based time reporting system for technicians.
g. Conduct regular Operations Reviews with all TSTs by RCST (Region Center Support Team).

# Upgrade and/or Maintain the Supporting Mainframe and Network Hardware/Software.

**Aligns With District Pillar:** #1 Student, Parent and Community Engagement, #2 Education, and #3 Financial Efficiency and Stability.

**Purpose:** Upgrade and/or maintain the supporting mainframe and network hardware/software for optimal performance of District applications, dovetailing the energy and cost advantages, alongside the increased functionalities.

| Total Costs: $31,490,526 | | | | 1st Year Costs: $10,496,842 | | | | Funding: |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start:** 07/01/11 |
| | | | | | | | | **End:** 06/30/14 |

**Qualitative Benefits:**
District applications will run at optimal performance and have current technologies available.

**Quantitative Benefits:**
a. Increased uptime
b. Increased savings and cost avoidance

**Risks:**

Funding is not secured.

**Mitigation:**
Hardware/software continues at the current release.

**Other Related Strategic Actions:**
**Foundation:**
a. Increase Access and Security for Multiple Personal Devices (VLAN)
b. Increase Wireless Access to District Resource Information
c. RTTT – Automate IPEGS, Create Data System, and Link Evaluative Data
d. RTTT – End-of-Course Data System
e. RTTT – Professional Development Management Tool
f. Technology Training Program for all Technology Support Specialists (TSTs)

**Portfolio:**
g. Capital Portal
h. Classroom Retrofit for Interactive Boards
i. Computer Refresh
j. School and Location Notification System
k. X2 Aspen Elementary Student Scheduler
l. X2 Aspen Online Subject Selection

**Major Activities:**
a. Negotiate with vendor to provide state-of-the-art equipment and service for channel capacity at the best savings to the District.
b. Maintain mainframe reliability through appropriate staffing and vendor support of installed releases.
c. Maintain network reliability through maintenance service contracts for both network operational software and hardware to current releases, according to the BOS (Business and Operational Services) Infrastructure Roadmap (i.e., Anti-virus, TippingPoint, intrusion detection, content filtering, SAN (Storage Area Network), Safe FTP (a safe File Transfer Protocol), SQL (Structured Query Language) Server 2008, SQL Server Reporting Services 2008, and database upgrades according to SAP (Systems, Applications and Products) maintenance plan.

# Information Technology Strategic Plan

## 2011-2014

# APPENDIX C

# PORTFOLIO PROJECTS

**Miami-Dade County Public Schools**

# Table of Contents

# Portfolio Projects Proposed Funding

| | M-DCPS IT Strategic Plan Foundation Projects | Pillar | Cost Savings over 3 Years | Total Costs | Funding Required for the 1st Year | Total Funding Already Identified | Remaining Funding to be Identified in Year 1 | Remaining Funding to be Identified in Year 2 | Remaining Funding to be Identified in Year 3 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Academies Tracking | Student, Parent and Community Engagement & Education | | $ 26,560 | $ 23,560 | | | | |
| 2 | Adult/Community Education Student Management System | Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; & School/District Leadership | | $ 1,652,560 | $ 554,000 | | | | |
| 3 | After Graduation Evaluation | Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; & School/District Leadership | | $ 35,000 | $ 35,000 | | | | |
| 4 | Capital Portal | Student, Parent and Community Engagement; Financial Efficiency and Stability; & School/District Leadership | | $ 1,000,000 | $ 100,000 | | | | |
| 5 | Central Irrigation Management Program | Education; Financial Efficiency and Stability & School/District Leadership | | $ 834,000 | $ 834,000 | | | | |
| 6 | Classroom Retrofit for Interactive Boards | Education | | $ 53,071,200 | $ 53,071,200 | | | | |
| 7 | Computer Refresh | Education | | $ 69,265,701 | $ 23,088,567 | | | | |
| 8 | Electronic Signature Forms Flow | Student, Parent and Community Engagement; Financial Efficiency and Stability; & School/District Leadership | | $ 480,000 | $ 400,000 | | | | |
| 9 | Enhance Disaster Recovery Services for Critical District Mainframe and Server Applications through SunGuard. | Financial Efficiency and Stability | | $ 1,500,000 | $ 300,000 | | | | |

## Portfolio Projects Proposed Funding (continued)

| | M-DCPS IT Strategic Plan Foundation Projects | Pillar | Cost Savings over 3 Years | Total Costs | Funding Required for the 1st Year | Total Funding Already Identified | Remaining Funding to be Identified in Year 1 | Remaining Funding to be Identified in Year 2 | Remaining Funding to be Identified in Year 3 |
|---|---|---|---|---|---|---|---|---|---|
| 10 | Fire-Life Safety Inspection Application | Financial Efficiency and Stability & School/District Leadership | | $ 600,000 | $ 120,000 | | | | |
| 11 | Form Automation | Student, Parent and Community Engagement & Education | | $ 29,280 | $ 23,280 | | | | |
| 12 | Individual School and Administrative Sites Bandwidth Upgrade | Student, Parent and Community Engagement & Education | | $ 913,461 | $ 305,547 | | | | |
| 13 | Mainframe Application Replacement | Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; & School/District Leadership | | $ 13,550,000 | $ 13,550,000 | | | | |
| 14 | Referral Replacement System | Student, Parent and Community Engagement; Education; & School/District Leadership | | $ 29,280 | $ 29,280 | | | | |
| 15 | School and Location Notification System | Student, Parent and Community Engagement & Education | | $ 250,000 | $ 250,000 | | | | |
| 16 | Student/Employee Records Enhancement | Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; & School/District Leadership | | $ 446,650 | $ 446,650 | | | | |
| 17 | X2 Aspen Elementary Student Scheduler | Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; & School/District Leadership | | $ 3, 073,431 | $ 1,123,218 | | | | |
| 18 | X2 Aspen Online Subject Selection | Student, Parent and Community Engagement; Education; Financial Efficiency and Stability; & School/District Leadership | | $ 43,311 | $ 19,311 | | | | |

**TOTAL: $146,800,434**

| Academies Tracking | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement and #2 Education. |
| --- | --- |

**Purpose:** To develop a way of identifying students by academy within a school. This will provide Schools of Choice with a way to track these students and run statistical analyses to determine if the academy is achieving its objectives.

| Total Costs: $26,560 | | | | 1st Year Costs: $23,560 | | | | Funding: Schools of Choice |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Labor $26,560 | Connectivity | Hardware | Software | Labor $23,560 | Connectivity | Hardware | Software | **Start**: <br> **End:** |

**Qualitative Benefits:** Show that students in academies outperform non-academies' students. Reports to make these determinations are not part of the Scope Document for this project.

**Quantitative Benefits:** The Schools of Choice office will be able to determine which academies are elevating student performances by the use of a set of automated evaluation criteria.

| Critical Success Measures <br><br> Reports show that students are being identified in ISIS by academy. | Other Related Strategic Actions: <br> **Foundation: NA** <br><br> **Portfolio: NA** |
| --- | --- |

**Major Activities:**

Identify funding.

| Adult/Community Education Student Management System | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** Replace the existing VACS (Vocational Adult Community System) with a Web-based student registration system. The project will provide an online student, course, and payment management system to replace the existing legacy VACS system.

| Total Costs: $1,652,560 | | | | 1st Year Costs: $554,000 | | | | Funding: Adult Education |
|---|---|---|---|---|---|---|---|---|
| Labor $962,560 | Connectivity | Hardware $20,000 | Software $670,000 | Labor $134,560 | Connectivity | Hardware $20,000 | Software $400,000 | **Start**: <br> **End:** |

**Qualitative Benefits:** The District will be able to better manage and report adult/community education data to meet state and federal accountability guidelines. In addition, the system will add the following to existing functionality:
a. Allow tracking of financials using a variable billing system.
b. Allow online enrollment of students.
c. Increase efficiencies in all processes due to a Web-based interface.
d. Increase efficiencies in all financial transactions because of direct integration with SAP.
e. Improve processes for reporting data and accessing business intelligence tools.
f. Integrate seamlessly with the existing Data Warehouse.

**Quantitative Benefits:** ROI is calculated at six years based on reduced need for support staff time and mainframe technology. The system will:
a. Move community education from paper/pencil-based registration to a unit, record-data collection system, saving thousands of hours of staff time.
b. Reduce intake and registration time for students.
c. Suspend the need for any further mainframe development to support adult education.
d. Significantly reduce training costs because of significant intuitive interface improvements.
e. Its integration with SAP will reduce staff time because financials will not be double posted.
f. Significantly reduce need for paper reports and forms, saving duplication and storage costs.

| Critical Success Measures | Other Related Strategic Actions: |
|---|---|
| | **Foundation:** |
| 1. There will be 21 adult education centers online with the Web-based student management system in the implementation phase. | a. Technology Training Program for All Technology Support Technicians (TSTs) |
| | b. Upgrade and/or Maintain the Supporting Hardware/Software |
| 2. Community education will be successfully transitioned to Web-based system from paper and pencil registration. | **Portfolio:** |
| | c. After Graduation Evaluation |
| | d. Individual School and Administrative Sites Bandwith Upgrade |
| | e. Student/Employee Records Enhancement |
| 3. All state reporting files will be generated using the new system on year two of implementation. | |
| 4. All stakeholder data will be interfaced with DIYH (Data In Your Hands) system by year one implementation. | |

**Major Activities:**

a. Identify funding.
b. Refresh RFP documents.
c. Send RFP and participate in process.
d. Participate in selection of vendor and assign resources for implementation.

| After Graduation Evaluation | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** To foster continuing improvement and communications for graduate and separated staff and develop a *Beyond Today* portal solution. The project will:

- Provide continued access and secure information.
- Post information in a timely manner.

| **Estimated Total Costs: $35,000** | | | | **1st Year Costs: $35,000** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor $35,000 | Connectivity | Hardware | Software | Labor $35,000 | Connectivity | Hardware | Software | **Start**: 1st Quarter 2010-2011 |
| | | | | | | | | **End:** 4th Quarter 2010-2011 |

**Qualitative Benefits:**
a. Enables continuing access to important District information related to specific employees and students.
b. Maintains confidentiality.
c. Improves parent and community relations.

**Quantitative Benefits:** Reduces staff and time resources to provide student/employee records to stakeholders.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| 1. Conduct survey to measure reaction. | **Foundation:** |
| | a. Increase Wireless Access to District Resource Information |
| 2. Measure hits on Beyond Today portal. | b. Upgrade/Maintain Mainframe and Network Hardware/Software |
| | **Portfolio:** |
| | c. Adult/Community Education Student Management System |
| | d. Individual School and Administrative Sites Bandwidth Upgrade |

**Major Activities:**

a. Determine resources and develop a timeline to implement.
b. Test enhancements and new functionalities, and modify as needed.
c. Implement enhancements.
d. Develop strategy for making staff and graduates aware.

| Capital Portal | **Aligns With District Pillar**: #1 Student, Parent and Community Engagement**,** #3 Financial Efficiency and Stability and #4 School/District Leadership. |
|---|---|

**Purpose:** Provide to the public, vendors, and staff the necessary information about Capital projects via a Web portal. This includes simplified project budgets and high-level project schedules for the public; project documents and correspondences to vendors; and project details to selected District staff.

| **Estimated Total Costs: $1,000,000** | | | | **1st Year Costs: $100,000** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor $500,000 | Connectivity | Hardware $100,000 | Software $400,000 | Labor $80,000 | Connectivity | Hardware | Software $20,000 | **Start**: _____ |
| | | | | | | | | **End:** |

**Qualitative Benefits:**
a. There will be a single source for all Capital-related data.
b. The existing Capital systems (including SAP) will be the data source.
c. There will be increased transparency for the District's Capital projects.
d. There will be electronic forms allowing for automatic interfacing of project information.

**Quantitative Benefits:**
a. Increased transparency minimizes the effort to satisfy public information requests. Estimated annual savings will be $100,000.
b. Online correspondence between vendor and District staff eliminates processing time-consuming forms, forms' retrieval, manual entry of project data, and increases efficiency. Estimated annual savings will be $200,000.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| 1. Real time access to all Capital-related information. | **Foundation:** Increase Wireless Access to District Resource Information |
| 2. Vendor submitting requests and project information via portal application. | **Portfolio:** a. Fire-Life Safety Inspection Application b. School and Location Notification System |
| 3. District staff tracking project status via application. | |

**Major Activities:**

a. Develop project scope.
- Key data sources
- Key processes
- Security roles
b. Develop application.
c. Train users.
d. Implement.

| Central Irrigation Management Program | **Aligns With District Pillars:** #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** This project:

- Provides a long-term solution for the maintenance of athletic fields.
- Provides remote access management for athletic/playfields irrigation systems.
- Facilitates efficient water usage and reduces water consumption generating savings for the District.
- Reduces field damage caused by weather by allowing to set remotely rain delays and prevent overwatering and unnecessary irrigation usage.
- Provides convergence of technology by enabling the Central Irrigation Control System to leverage the District's Wide Area Network (WAN) generating additional savings.

| **Estimated Total Costs: $834,000** | | | | **1st Year Costs: $834,000** | | | | **Funding:** Capital |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start**: |
| | | | | | | | | **End:** |

**Qualitative Benefits:**
a. Improves the quality of the fields.
b. Improves the longevity of the athletic/play fields thus reducing the replacement cost of the fields.
c. Improves parent and community relations.
d. Provides additional time for school staff and coaches to focus on students' academic and physical attributes.

**Quantitative Benefits:**
a. Reduces staff and time resources to provide system control and field maintenance, reduces cost, and generates savings supporting the District's Sustainability Initiative.
b. Generates savings through reduction in water consumption and mitigating damage caused by overwatering.

**Critical Success Measures**

1. Compliance with mandated water restrictions

2. Savings generated by reduction in water consumption

3. Savings generated by remote access to irrigation systems

4. Reduction in damaged fields caused by weather, by allowing remote ability to set rain delays

5. Improvement in the quality and longevity of athletic fields while reducing field replacement costs of the fields

**Other Related Strategic Actions:**
**Foundation:**
a. Increase Wireless Access to District Resource Information
b. Upgrade/Maintain Mainframe and Network Hardware/Software

**Portfolio:**
c. Capital Portal
d. Individual School and Administrative Sites Bandwidth Upgrade
e. School and Location Notification System

**Major Activities:**

a. Determine resources and develop a timeline to implement.
b. Expand the program to all school site locations.
c. Test enhancements and new functionalities, and modify as needed.
d. Implement enhancements, document, and train staff as needed.

| Classroom Retrofit for Interactive Boards | Aligns With District Pillar: #2 Education. |
|---|---|

**Purpose:** Provide interactive whiteboards to enhance classroom instruction, facilitate integration of online resources, engage students, record, and post presentations. This project:

- Provides the needed boards at school sites to allow for seamless and easy integration and presentation on a computer screen of educational software, Web sites, and other online resources.
- Increases for students their interest in educational content by presenting up-to-date information in a variety of formats.
- Provides a "touch function" which turns lessons into interactive experiences and supports many different learning styles.
- Allows teachers to record their presentations and post them for future use.

**Estimated Total Costs: $53,071,200** | **1$^{st}$ Year Costs: $53,071,200** | **Funding:**

| Labor | Electrical Wiring $8,845,200 | Hardware $44,226,000 | Software | Labor | Electrical Wiring $8,845,200 | Hardware $44,226,000 | Software | **Start**: <br> **End:** |
|---|---|---|---|---|---|---|---|---|

**Qualitative Benefits:**
a. Enhances instructional content facilitating learning.
b. Facilitates teachers' integration of information and provides archival functions.
c. Ensures the use of current technology and instructional processes.

**Quantitative Benefits:** Reduces the time teachers use to plan lessons with multiple electronic sources and to re-use the lesson plans.

**Critical Success Measures**

1. All selected classrooms (100%) will have interactive boards.

2. All teachers (100%) who have an interactive board will use them daily.

**Other Related Strategic Actions:**
**Foundation:**
a. Technology Training Program for all Technology Support Technicians (TSTs)
b. Upgrade/Maintain Mainframe and Network Hardware/Software

**Portfolio:**
Individual School and Administrative Sites Bandwith Upgrade

**Major Activities:**

a. Plan purchase with approved vendor.
b. Create contract.
c. Plan delivery and installation with appropriate staff.
d. Develop and implement training plan for teachers.
e. Develop and implement technical support and process for Technology Support Technicians (TSTs).
f. Follow up with vendor, if needed, to correct defects or resolve problems.

| Computer Refresh | **Aligns With District Pillar:**<br>#2 Education. |
|---|---|

**Purpose:** Provide schools with the needed computers to achieve a 3 to 1 ratio and meet the state mandates for computer-based testing. This project:

- Provides the needed computers at school sites to maintain equity among students by providing equal access.
- Ensures that the District will be able to meet the state mandates for online testing, including subject-area tests.
- Ensures that the District will meet national standards endorsed by President Obama's administration and major technology organizations.

| Estimated Total Costs: $69,265,701 | | | | 1$^{st}$ Year Costs: $23,088,567 | | | | Funding: |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware<br><br>$69,265,701 | Software | Labor | Connectivity | Hardware<br><br>$23,088,567 | Software | **Start**:<br>**End:** |

**Qualitative Benefits:**
a. Enables equitable access to online testing for all students.
b. Facilitates standardization for installation, maintenance, and use.
c. Meets nationally endorsed standards.

**Quantitative Benefits:** Reduces staff and time resources to support online testing.

| **Critical Success Measures**<br><br>1. The District's student to computer ratio will be 3:1.<br><br>2. All students (100%) who need to complete online tests will have access to a computer. | **Other Related Strategic Actions:**<br>**Foundation:**<br>a. Technology Training Program for all Technology Support Technicians (TSTs)<br>b. Upgrade/Maintain Mainframe and Network Hardware/Software<br><br>**Portfolio:**<br>c. After Graduation Evaluation<br>d. Individual School and Administrative Sites Bandwith Upgrade |
|---|---|

**Major Activities:**

a. Plan purchase with approved vendor.
b. Plan delivery and installation with appropriate staff.
c. Follow up with vendor, if needed, to correct defects or resolve problems.

| Electronic Signature Forms Flow | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** Investigate the feasibility of purchasing a system to allow for electronic signature and a new forms-flow process.  This project:

- Facilitates faster and immediate routing of documents.
- Reduces the District's paper usage.
- Reduces costs associated with the printing of forms with duplicate parts.

| Estimated Total Costs:  $480,000 | | | | 1st Year Costs:  $400,000 | | | | Funding: |
|---|---|---|---|---|---|---|---|---|
| Labor $80,000 | Connectivity | Hardware $40,000 | Software $360,000 | Labor $60,000 | Connectivity | Hardware $40,000 | Software $300,000 | **Start**: <br> **End:** |

**Qualitative Benefits:**
a. Enables faster access to signed forms (e.g., student transfer suspension forms, and employee evaluation forms).
b. Automates review of forms for Zero to Sunset.
c. Improves parent and community relations.

**Quantitative Benefits:** Reduces paper-associated cost and supports the District's Sustainability Initiative.

| **Critical Success Measures:** <br><br> 1. Decrease the District's cost of printing three-part forms by 20% in year one, 30% in year two, and 50% in year three. <br><br> 2.  Increase use of digital signature. <br><br> 3. Eliminate 20% of paper forms in year one, 30% in year two, and 50% in year three. | **Other Related Strategic Actions:** <br> **Foundation: NA** <br><br> **Portfolio: NA** |
|---|---|

**Major Activities:**

a. Determine resources and develop a timeline to implement.
b. Test enhancements and new functionalities, and modify as needed.
c.  Implement enhancements, document, and train staff as needed.

| Enhance Disaster Recovery Services for Critical District Mainframe and Server Applications. | **Aligns With District Pillar:** #3 Financial Efficiency and Stability. |
|---|---|

**Purpose:** To continue the M-DCPS disaster recovery services on the District's mainframe and server applications through SunGuard.

| **Total Costs**: $1,500,000 (FY 2010-2013) | | | | **1st Year Costs:** $300,000 | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start:** |
| | | | | | | | | **End:** |

**Qualitative Benefits:**
Business continuity

**Quantitative Benefits:**
After three weeks, restore-time in Philadelphia, SAP and mainframe operations could be restored in case of a disaster to the data center.

| **Critical Success Measures:** | **Other Related Strategic Actions:** |
|---|---|
| 1. Applications will be accessible and properly working. | **Foundation:** Upgrade/Maintain Mainframe and Network Hardware/Software |
| 2. There will be a three-week interruption of service. | **Portfolio:** Mainframe Replacement |
| 3. Auditing standards will be maintained. | |

**Major Activities:**

a. Continue our existing Mainframe business needs.
b. Negotiate with vendor at the best savings to the District.

| Fire-Life Safety Inspection Application | **Aligns With District Pillars:** #3 Financial Efficiency and Stability and #4 School/District Leadership. |
|---|---|

**Purpose:** To provide the District with an automated solution that identifies, manages, and reports on the various fire-life safety deficiencies within the District's facilities. This application will record the different inspections conducted by the various municipalities, as well as the in-house inspections conducted by the Departments of Fire-Life Safety and Maintenance and capture the deficiencies identified as part of any facility's assessment. The application will need to have the capability of capturing deficiencies via a hand-held device or manually, and schedule inspections and re-inspections.

| **Estimated Total Costs: $600,000** | | | | **1$^{st}$ Year Costs: $120,000** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor $200,000 | Connectivity | Hardware $100,000 | Software $300,000 | Labor $60,000 | Connectivity | Hardware | Software $60,000 | **Start**: |
| | | | | | | | | **End:** |

**Qualitative Benefits:**
a. Single source of all safety related deficiencies
b. The ability to forward deficiencies on to the resolving source (e.g., Maintenance, Capital, and site administrator)
c. The capability to track deficiencies
d. The capacity to capture deficiencies from the field during the inspection as opposed to entering manually after inspection
e. The provision of reports on a more timely basis

**Quantitative Benefits:**
a. Capturing deficiencies in the field eliminates manual entry later. Estimated annual saving will be $50,000.
b. Direct feed to resolving source speeds the resolution, avoiding further damage and risk. Estimated annual savings will be $200,000.
c. Single source of all "non-construction" deficiencies eliminates the overhead of managing multiple databases. Estimated annual savings will be $50,000.
d. Scheduling inspections provides the ability to manage resources. Estimated annual savings will be $50,000.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| 1. Single deficiency database | **Foundation:** a. Increase Wireless Access to District Resource Information b. Upgrade/Maintain Mainframe and Network Hardware/Software |
| 2. Direct feed to resolving source | **Portfolio:** |
| 3. Capturing deficiencies in the field with the use of hand-held technology | c. Capital Portal d. Individual School and Administrative Sites Bandwidth Upgrade e. School and Location Notification System |
| 4. District, facility, and discipline-based reports | |

**Major Activities:**

a. Create and process the RFP for software.
b. Acquire software.
c. Acquire hardware.
d. Convert existing disparate deficiency databases.
e. Implement.

| Form Automation. | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement and #2 Education. |
|---|---|

**Purpose:** To develop a foundation for a single location for all enterable forms. This application will allow schools to enter needed information for a form and then print it or save it to their PC. In this initial phase, the foundation of the system will be developed and three suspension forms will be created. Each form will be in three languages (English, Spanish, and Haitian-Creole.) Any data entered by the school or retrieved from the Data Warehouse will only be shown in English. In a future phase, schools would be able to save the form in the application for later retrieval.

| **Total Costs**: $29,280 | | | | **1st Year Costs:** $23,280 | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor $29,280 | Connectivity | Hardware | Software | Labor $23,280 | Connectivity | Hardware | Software | **Start:** |
| | | | | | | | | **End:** |

**Qualitative Benefits:** Schools will no longer need to store and locate forms since they will be available for retrieval at any time from the online application.

**Quantitative Benefits:** There will be a reduction in the number of forms that must be purchased from vendors. The estimated saving for the three suspension forms is approximately $40,000 per year.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| 1. All (100%) of the schools will use the online application in place of the three-part special forms purchased through a vendor.<br><br>2. There will be no (0%) new purchases of suspension forms by the District. | **Foundation: NA**<br><br>**Portfolio: NA** |

**Major Activities:**

Identify funding.

| Individual School and Administrative Sites Bandwidth Upgrade | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement and #2 Education. |
|---|---|

**Purpose:** Improve the infrastructure service to teachers, students, parents, and other employees by upgrading the bandwidth to individual school sites and administrative sites, as well as by increasing the Internet bandwidth, in support of the new multi-media technologies.

| **Total Costs**: $913,641 | | | | **1st Year Costs: $304,547** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start:** |
| | | | | | | | | **End:** |

**Qualitative Benefits:**
Multi-media will be available seamlessly to the user.

**Quantitative Benefits:**
a. Increase in E-Rate funding
b. Increased bandwidth usage
c. Increased capabilities

**Critical Success Measures**

1. It will take less time to access instructional applications and the Internet, and there will be fewer interruptions in accessing them.

2. There will be less HEAT Incidents reporting problems with access to instructional applications and the Internet.

3. There will be fewer expenses maintaining the infrastructure.

**Other Related Strategic Actions:**

**Foundation:**
a. Increase Wireless Access to District Resource Information
b. LINK, Broadband in DA Schools
c. RTTT – Automate IPEGS, Create Data System, and Link Evaluative Data
d. RTTT – End-of-Course Data System
e. RTTT – Professional Development Management Tool
f. Technology Training Program for all Technology Support Technicians (TSTs)
g. Upgrade/Maintain Mainframe and Network Hardware/Software

**Portfolio:**
h. Adult/Community Education Student Management System
i. After Graduation Evaluation
j. Capital Portal
k. Classroom Retrofit for Interactive Boards
l. Computer Refresh
m. Electronic Signature Forms Flow
n. Fire-Life Safety Inspection Application
o. School and Location Notification System
p. X2 Aspen Elementary Student Scheduler
q. X2 Aspen Online Subject Selection

**Major Activities:**

a. Provide required documents to attain maximum dollars for the District.
b. Negotiate with vendor to provide state-of-the-art equipment and service for channel capacity at the best savings to the District.
c. Upgrade bandwidth to individual school sites and administrative sites.

| Mainframe Replacement | **Aligns With District Pillar:** #1 Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** This project will replace existing mainframe selected applications in finance and human resources with applications that will interface with the District's SAP modules and ensure accuracy, streamlined workflows, analyses, and cost savings. The project will:

- Eliminate applications that are not integrated with any District applications.
- Free personnel resources to work on other applications.
- Expand existing SAP modules and facilitate seamless integration and accuracy.
- Support efficient workflows.
- Provide fast, reliable, and useful data for decision making.
- Promote planning, analyses, and access to dynamic and static cost reports.

**Applications include**:

| | |
|---|---|
| Data Warehouse Upgrade for Historical Archiving | PARS (Payroll) |
| META (Multicultural Education Training and Advocacy) | SDES (Staff Development System) |
| TRVL (Travel) | UWAY (United Way) |
| Asset Management System (Property Control) | Food Service Accounting System |
| Internal Funds Replacement | Food Service Ordering System |
| Textbook Ordering System | Replace Maintenance Work Order System |
| Utility Management Application | |

| Total Costs: $13,550,000<br>See Projects' Details after the X2 project. | | | 1st Year Costs: $13,550,000 | | | Funding: | |
|---|---|---|---|---|---|---|---|
| Labor: | Maintenance | Hardware: | Labor: | Maintenance | Hardware: | **Start:** August 2011 | |
| | | | | | | **End:** | |

**Qualitative Benefits:**
a. Ensures longevity and interoperability of applications.
b. Simplifies the users' experiences with the applications and enhances its use.
c. Capitalizes on skills, experience, and training from previous SAP modules.

**Quantitative Benefits:**
a. Preserves the investment made in software, hardware, and staff training for ERP/SAP.
b. Preserves the value of its interoperability with other District financial and personnel products.

| **Critical Success Measures**<br><br>All (100%) of the new applications will provide the same data and equivalent processes that the mainframe applications provided. | **Other Related Strategic Actions:**<br>**Foundation: NA**<br><br>**Portfolio: NA** |
|---|---|

**Major Activities:**

a. Develop RFP process and/or contract with vendor and document timelines for project implementation.
b. Develop application requirements and document.
c. Contract personnel/integrator/implementator.
d. Select M-DCPS staff to work in the project, train, and plan resources.
e. Develop application, test, modify, implement, and finalize.
f. Document system and train users,
g. Establish and document processes for support, maintenance, and upgrades after implementation.

| Referral System Replacement | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, and #4 School/District Leadership |
|---|---|

**Purpose:** This project will create a single online system to enter, track, and process to completion District referrals including Public Records Requests and the Superintendent's Projects and Tasks. The system will have:
- Flexibility to allow departments to enter a referral, at any established level.
- Capability to track online the referral process to completion.
- Multiple levels of delegation.
- Built-in approval system.
- Capacity to create administrative reports.

| Total Costs: **$29,280** | | | 1st Year Costs $29,280 | | | Funding: |
|---|---|---|---|---|---|---|
| Labor: | Software: | Services: | Labor: | Software: | Services: | **Start**: 07/01/11 |
| | | | | | | **End:** 10/31/11 |

**Qualitative Benefits:**
a. Ensures that the users' needs will be addressed through its development and implementation process.
b. Facilitates entering, tracking, and process documentation.
c. Ensures similar procedures and compatibility for the referral processes.
d. Facilitates the users' experiences because the processes will be similar and the system will be the same.

**Quantitative Benefits:**
a. Saves the District the expense (staff and time ) of gathering data from disparate systems that function independently.
b. Reduces staff time in entering and reporting information.

| **Critical Success Measures**<br><br>All (100%) of District referrals, Public Records Requests, and the Superintendent's Projects and Tasks will be entered, tracked, and completed through the system. | **Other Related Strategic Actions:**<br>**Foundation:**<br>Increase Wireless Access to District Information<br><br>**Portfolio:**<br>Individual School and Administrative Bandwidth |
|---|---|

**Major Activities:**

a. Assess needs and current status of existing applications that process referrals.
b. Determine resources and develop a timeline to implement.
c. Document requirements, develop, test, pilot, and implement.
d. Provide system and user documentation; training, and support for post-implementation, as needed.

| School and Location Notification System | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement and #2 Education. |
|---|---|

**Purpose:** This project will automate the process to obtain and disseminate information for a new M-DCPS school, Charter school, or administrative work location through the District Portal.

| Total Costs: $250,000 | | | | 1<sup>st</sup> Year Costs: : $250,000 | | | | Funding: |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor | Connectivity | Hardware | Software | **Start**: 4<sup>th</sup> Quarter 2010-2011 |
| | | | | | | | | **End:** 3<sup>rd</sup> Quarter 2011-2012 |

**Qualitative Benefits:**
a. Enables faster access to the data and provides up-to-date information for all existing schools, Charter schools, and administrative work locations.
b. Provides templates to create easy-to-use and understandable forms to aid decision making.
c. Automates the process to update databases that provide current data for the M-DCPS' Data Warehouse.
d. Improve the reporting process for the DOE MSID file, DOE Annual Contact File, and the Annual Florida Education Directory by FASA.
e. Maintains confidentiality and data security.
f. Facilitates analyses and reporting processes.
g. Improves accountability.

**Quantitative Benefits:**
a. Reduces staff and time resources for updating M-DCPS databases.
b. Reduces staff and time resources to collect, compile, and provide data for DOE reporting.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| 1. All (100%) of the staff who need to be notified about new schools and locations will be notified. | **Foundation:** Increase Wireless Access to District Resource Information |
| 2. All (100%) notifications will be sent in a timely and consistent way. | **Portfolio:** Capital Portal |

**Major Activities:**

a. Assess the needs and system requirements, and document them as needed.
b. Determine resources and develop a timeline to implement.
c. In collaboration with ITS staff, create user-friendly interfaces and report templates for assessment data.
d. Test enhancements and new functionalities, and modify as needed.
e. Implement enhancements and additions, document and disseminate information, and train staff as needed.

| Student/Employee Records Enhancement | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, **#**3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** Purchase digital system to replace employee/student records on microfiche.  This project:

- Provides long-term solution for the maintenance of personnel file information and provides a solid method for records retention compliance (30 years after the employee terminates employment).
- Provides back-up capabilities (current microfiche has no method of being backed up).
- Facilitates faster and immediate access to records and information.
- Expedites the production of personnel files (e.g., subpoenas, public information requests, etc.).
- Provides portability and occupies less space (The current Lektriver was purchased in 1994 and is NOT under maintenance contract.).

**Estimated Total Costs:  $446,650** | | | | **1st Year Costs:  $446,650** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor $146,650 | Connectivity | Hardware | Software $300,000 | Labor $146,650 | Connectivity | Hardware | Software $300,000 | **Start**: <br> **End:** |

**Qualitative Benefits:**
a. Enables faster access to the employees'/students' records.
b. Maintains confidentiality.
c. Improves parent and community relations.
d. Meets Records Retention Law.

**Quantitative Benefits:** Reduces staff and time resources to provide student/employee records to stakeholders.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| 1. Decreased response time for the production of personnel files <br><br> 2. Streamlined production process <br><br> 3. A system that is easily backed up for security and disaster recovery | **Foundation: NA** <br><br> **Portfolio: NA** |

**Major Activities:**

a. Determine resources and develop a timeline to implement.
b. Test enhancements and new functionalities, and modify as needed.
c. Implement enhancements, document, and train staff as needed.

| X2 Aspen Elementary Student Scheduler | **Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership. |
|---|---|

**Purpose:** Develop and implement a scheduling system for elementary schools. This project will:

- Automate the scheduling process by eliminating manual entries and procedures, populating and updating class rosters, producing schedules and reports quickly, and facilitating backup and recovery processes.
- Provide flexible accessibility, anytime and anywhere with appropriate authorization and security controls.
- Provide standardization and centralization of data entering and monitoring, and thus save time, reduce errors, and facilitate corrections.
- Eliminate dependency on schools' individual budgets.

| **Estimated Total Costs: $3,073,431** | | | | **1ˢᵗ Year Costs: $1,123,218** | | | | **Funding:** |
|---|---|---|---|---|---|---|---|---|
| Labor | Connectivity | Hardware | Software | Labor $476,218 (including contractors) | Connectivity | Hardware $98,000 | Software $549,000 | **Start**: _____ **End:** |

**Qualitative Benefits:**
a. Enhances the accuracy and value of scheduling information and facilitates secured access to it.
b. Improves parent and community relations.

**Quantitative Benefits:** Reduces staff time, effort, and expenses.

| **Critical Success Measures** | **Other Related Strategic Actions:** |
|---|---|
| All elementary schools (100%) will have their schedules ready by the start of the school year. | **Foundation:** a. Technology Training Program for all School-Based Technicians (SBTs) b. Upgrade/Maintain Mainframe and Network Hardware/Software **Portfolio:** Individual School and Administrative Sites Bandwidth Upgrade |

**Major Activities:**

a. Document the system's requirements.
b. Write the Request for Proposal (RFP) and its timeline, and implement or monitor as needed.
c. Manage and monitor the vendor's implementation.
d. Provide data specifications, needed interfaces, security protocols, and analyses as needed.

# X2 Aspen Online Student Subject Selection

**Aligns With District Pillars:** #1 Student, Parent and Community Engagement, #2 Education, #3 Financial Efficiency and Stability, and #4 School/District Leadership.

**Purpose:** Advise X2 Corporation in development and implementation of an online, subject-selection component that allows for teacher recommendations, a separate secured student portal, and an improvement to their student scheduling system component for teacher certification verification. This project will:

- Automate the scheduling process by eliminating manual entries and procedures, populating and updating class rosters, producing schedules and reports quickly, and facilitating backup and recovery processes.
- Return instructional time lost to the hard, copy-card process.
- Provide flexible accessibility, anytime and anywhere with appropriate authorization and security controls.
- Provide standardization and centralization of data entering and monitoring, and thus save time, reduce errors, and facilitate corrections.
- Provides notification when classes are assigned to teachers without an appropriate certification.

| Estimated Total Costs: $ 43,310.50 | | | | 1st Year Costs: $ 19,310.50 | | | | Funding: |
|---|---|---|---|---|---|---|---|---|
| Labor $16,000 | Connectivity | Hardware | Software $27,310.50 | Labor $16,000 | Connectivity | Hardware | Software $3,310.50 | **Start**: <br> **End:** |

**Qualitative Benefits:**
a. Enhances the accuracy and value of scheduling information and facilitates secured access to it.
b. Improves awareness of out-of-field teachers and encourages appropriate placement of staff.
c. Improves parent and community relations.

**Quantitative Benefits:**
Reduces staff time, effort, expenses, and most importantly reduces the instructional time lost through the current subject selection card process.

**Critical Success Measures**

1. There will be an additional pilot with 13 secondary schools, mid-school year 2010-11.

2. All secondary schools (100%) will be using the system by mid-school year 2011-12.

**Other Related Strategic Actions:**
**Foundation:**
a. Technology Training Program for all Technology Support Technicians (TSTs)
b. Upgrade/Maintain Mainframe and Network Hardware/Software

**Portfolio:**
Individual School and Administrative Sites Bandwidth Upgrade

**Major Activities:**

a. Document the system's requirements.
b. Manage and monitor the vendor's implementation.
c. Provide data specifications, needed interfaces, security protocols, and analyses as needed.

| Mainframe Replacement Projects | | | | |
|---|---|---|---|---|
| **Project** | **Project Name** | **Description** | **District Pillar** | **Costs** |
| 1 | Data Warehouse Upgrade for Historical Mainframe Systems | Provide historical data for: ACES (Automated Charter School Employee System) ATS (Applicant Tracking System) LEAV (Leave of Absence Record System) PERS (Personnel Reporting System) REVS (Retirement Earnings Verification System) TCHR (Teacher Certification Documentation System) | Financial Efficiency and Stability | $ 400,000 |
| 2 | META (Multicultural Education Training and Advocacy) | Provide META requirements tracking by creating inquiry, update, and search features by employee and location. | Student, Parent and Community Engagement | $ 50,000 |
| 3 | PARS (Payroll Absence Reporting System)/PARL/RSTR (Payroll Approval System) | Report time, attendance, and provide electronic approval of payroll rosters for transportation bus drivers and bus aides only. | Financial Efficiency and Stability | $ 250,000 |
| 4 | SDES (Staff Development Education System) | Provide an online certification system that allows inquiries and updates of professional development courses. | Student, Parent and Community Engagement & Financial Efficiency and Stability | $ 500,000 |
| 5 | TRVL (Travel) | Replace the application for documenting and reimbursing travel expenses. | Financial Efficiency and Stability | $ 250,000 |
| 6 | UWAY | Replace the application to enter information for the United Way Fund Raising Campaign. | Student, Parent and Community Engagement | $ 150,000 |
| 7 | Asset Management System (Property Control) | Track the District's assets from purchase to salvage while interfacing with the District's financial system SAP. | Financial Efficiency and Stability | $ 500,000 |
| 8 | Food Service Accounting System | Modify the District's financial system SAP to include reports and processes that are used to manage the accounting of the financial transactions for the Department of Food and Nutrition. | Financial Efficiency and Stability & School/District Leadership | $ 300,000 |
| 9 | Food Service Ordering System | Orders food based on menus. Replacement requirements. Food and Nutrition must purchase back-of-the-house system. | Financial Efficiency and Stability & School/District Leadership | $ 300,000 |
| 10 | Internal Funds System Replacement | Purchase a Web/server-based system to replace current mainframe Internal Funds system. | Financial Efficiency and Stability & School/District Leadership | $ 250,000 |

| Mainframe Replacement Projects | | | | |
|---|---|---|---|---|
| 11 | Replace Maintenance Work Order System | Replace the existing Maintenance Work Order System (COMPASS) with a best of breed system that interfaces with the District's financial system, manages work load and resources, schedules preventive maintenance, and tracks maintenance costs by facility and system. | Financial Efficiency and Stability | $ 4,000,000 |
| 12 | Textbook Ordering System | Develop an application that manages the schools' inventories, generates textbook orders based on the population in the classroom, and takes into consideration the state's contractual parameters established by the DOE and the publisher. | Financial Efficiency and Stability & School/District Leadership | $ 600,000 |
| 13 | Utility Management Application | Replace the existing legacy Utility Management System with an application that tracks, monitors, and reports the District's consumption of energy, communications, water, sewer, and trash. | Financial Efficiency and Stability & School/District Leadership | $ 6,000,000 |

# Information Technology
# Strategic Plan

# 2011-2014

# APPENDIX D

# ITS Weighting Project
# Methodology
# and
# Portfolio Processes

# Miami-Dade County Public Schools

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# Introduction

This document "steps through" how the ITS Form to Weigh Proposed Projects is used for determining a feasibility score. ITS uses this score along with an assessment of risks, benefits, cost of ownership, and external factors (e.g., related state mandates, demographics, economic conditions, etc.) to recommend or select projects for implementation. The document also details the selection to completion/cancelation process for IT projects.

# Project Weighting Questions

The following chart shows 27 project related questions and the associated weights. During staff meetings, the questions were evaluated and retained or modified by the ITS Executive Team (direct and extended direct reports). They discussed the weights in various meetings. The final weights were determined by averaging independent assessments from each of the ITS direct reports who were encouraged to seek input from their staff.

Each direct report rated each question according to the following key:

> 5 = Extremely important
>
> 4 = Important
>
> 3 = Somewhat important
>
> 2 = Probably not important
>
> 1 = Not important

The ITS Executive Team re-assesses these questions and the associated weights periodically. This is key since priorities, goals, and objectives will vary over time.

# Questions and Weight Values

| Question | Alignment | Weight |
|---|---|---|
| 1 | Does the project align with the District Goal (i.e., Student Achievement)? | 3.94 |
| 2 | Does the project align with Pillar 1, Student, Parent and Community Engagement? | 4.06 |
| 3 | Does the project align with Pillar 2, Education? | 4.06 |
| 4 | Does the project align with Pillar 3, Financial Efficiency and Stability? | 4.06 |
| 5 | Does the project align with Pillar 4, School/District Leadership? | 3.94 |
| | **Benefits** | |
| 6 | Will the project contribute to improved academic performance? | 3.63 |
| 7 | Will the project improve integration of technology into the classroom? | 3.50 |
| 8 | Will the project enhance M-DCPS student's learning experience? | 3.81 |
| 9 | Will the project improve communications amongst all stakeholders? | 3.06 |
| 10 | Will the project improve safety for students and staff? | 4.19 |
| 11 | Will the project attract and retain students in our District? | 3.38 |
| 12 | Will the project replace a mainframe application? | 3.00 |
| 13 | Will the project enhance the accountability and performance reporting process? | 3.81 |
| | **External Requirements** | |
| 14 | Is the project the result of an oversight, audit recommendation, or regulatory compliance? | 3.88 |
| 15 | Will the project require Board Rule changes? | 2.94 |
| 16 | Will the project require union involvement? | 2.81 |
| 17 | Can the project be implemented in three-month deliverables? | 3.25 |
| 18 | Does the project have vendor dependencies? | 2.94 |
| | **Financial** | |
| 19 | Is there a positive Return on Investment for this project? | 4.25 |
| 20 | Is the Payback Period less than two (2) years? | 3.50 |
| 21 | Is there an external or grant funding source for the project? | 4.38 |
| 22 | Is there an internal funding source for the project? | 3.63 |
| | **Risks** | |
| 23 | Is the impact low or moderate should this project fail to deliver the expected outcomes? | 3.00 |
| 24 | Does the project employ only proven technology? | 3.13 |
| 25 | Will the project impact interfaces to/from other applications currently in production? | 3.75 |
| 26 | Are there other projects dependent on the completion of the project? | 3.63 |
| 27 | Does the project depend on the completion of other projects for its success? | 3.38 |

# How the ITS Project Weighting Tool Works

**Major Steps**

1.  ITS staff who directs the project and the project owner answer each of the 27 "Yes/No" questions found on the ITS Form to Weigh Proposed Projects.

2.  The tool associates every "no" answer with zero (0) and every "yes" answer with one (1).

3.  The tool multiplies the "Yes / No" response ("1" or "0") by the weight for each question.

4.  The tool adds up the total score.

5.  ITS staff performs a risk and technical assessment as well as a financial benefits analysis.

6.  ITS staff and the project owner make their recommendation or selection to the ITS Executive Team.

8.  The Executive Team makes a "go / no-go" decision and prioritizes the Approved Projects.

# Selecting Initiatives from the Portfolio

This diagram provides a high-level overview of how major, non-mandatory initiatives are selected.  The following diagram shows this process in greater detail:
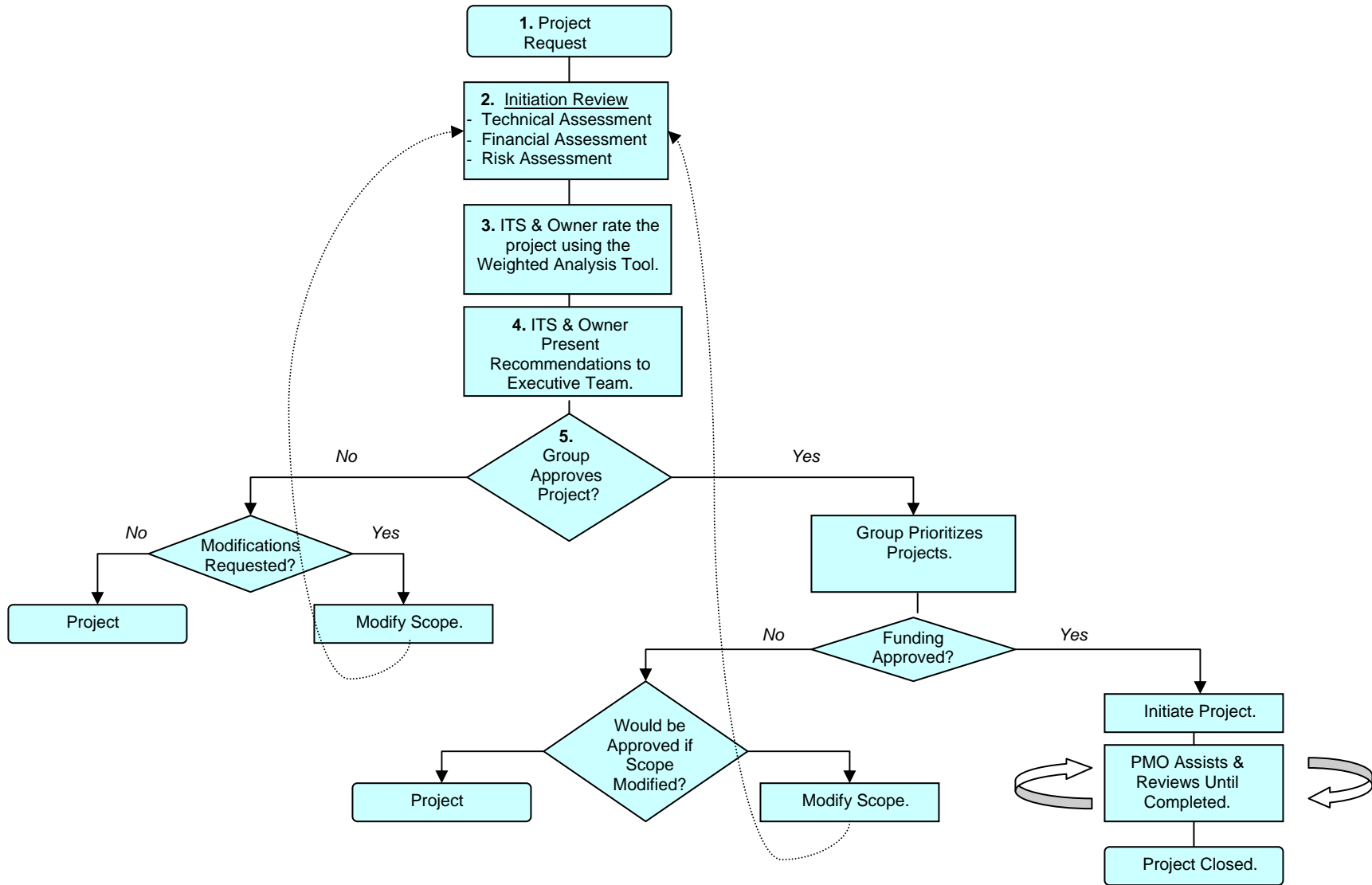
## Implementing Strategic Initiatives from the Portfolio

As each approved Project is initiated, the following actions take place to ensure that projects stay on track and meet the needs of the District:

1. Success metrics are implemented to track progress against costs, time, quality, and outcome.

2. Projects exceeding three (3) months and/or having a budget exceeding $10,000 are sub-divided into phases.  Each phase must produce at least one tangible deliverable with value to the District.  The metrics and strategic fit will then be re-evaluated. Depending upon the outcome of this review, the project will be:

   a. Permitted to continue with the next phase as planned.
   b. Permitted to continue only after a successful scope review.
   c. Put on hold.
   d. Canceled.

3. Once the project "Goes Live," the metrics' gathering process continues.  This is to evaluate whether the benefits claimed in the Business Case are achieved.

4. The continuous process of measurement during, and after each project will be a driving force for ensuring quality and value to the District.  The Project Management Office (PMO) managed by the ITS Program Management/Process Engineering Director will be responsible for this function.

5. The ITS PMO will be a resource to support information technology projects. Accountabilities include project portfolio management, standards management, communications, as well as training and mentoring project managers.

## Updating the Portfolio Projects

The M-DCPS IT Strategic Plan is a living document.  The projects listed in Appendix C are dynamic and will be updated on a regular basis.

Each project listed in Appendix C will be in various stages of development.  For example, some projects may be at the conceptual stage while others are actually in the process of being implemented.  The following chart shows a list of possible status conditions which will be documented at ITS.

| Status | A Strategic Project That Has Been… |
|---|---|
| **Proposed** | Submitted for review to the M-DCPS ITS Executives. |
| **Modified** | Changed to reflect scope, cost, funding source, and/or timing modifications. |
| **In Progress** | Approved and is currently being developed or implemented. |
| **Completed** | Delivered to the customer. |
| **Canceled** | Indefinitely suspended or permanently removed from the portfolio. |

## Canceling Portfolio Projects

Some Portfolio projects listed in Appendix C may not be implemented.  However, it is important to preserve a record of these projects since:

- There could be a renewed interest in this project at some future date.

- The baseline is necessary to measure the success of the planning process.

For this reason, **Canceled** projects will not be removed from Appendix C until this plan is revised for the next three-year cycle *(FY 2014 - FY 2017)*.

# Information Technology Strategic Plan

## 2011-2014

# APPENDIX E

# Survey Questions
# &
# Results

**Miami-Dade County Public Schools**

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# Online Employee Portal Survey

**1. Which Portal are you using?** *

○ Employee
○ Parent
○ Principal Vice /Assistant Principal
○ Student
○ Teacher

**2. Did you find the information you were seeking?**

○ YES
○ NO

**3. What additional information would you like to see displayed?**

**4. How did you hear about the Portal?**

○ E-mail
○ Word of mouth
○ Newsletter/Bulletin
○ Surfing the Net School
○ Other

**5. How often do you access the Portal?**

○ Daily
○ Weekly
○ Monthly
○ Other

# Online Student/Parent Portal Survey

**Which Portal are you using?**

- ○ Parent
- ○ Student

**Did you find the information you were seeking?**

- ○ YES
- ○ NO

**What additional information would you like to see displayed?**

[What additional information would you like to see displayed?]

**How did you hear about the Portal?**

- ○ E-mail
- ○ Newsletter
- ○ School
- ○ Surfing the Net
- ○ Word of Mouth
- ○ Other

**How often do you access the Portal?**

- ○ Daily
- ○ Weekly
- ○ Monthly
- ○ Other

# Portal Surveys Response Summaries

In order to prioritize ITS projects, staff surveys stakeholders to determine what their needs are. Technology Delivery, an ITS department, developed and posted an online survey about the Portal services. This survey is available to students, employees, and parents in their respective Portals. An ITS staff member read the comments from the surveys for the 2008-2009 and 2009-2010 fiscal years for each of the groups. Consistent themes appeared in each group's responses.

For the students, the 2009-2010 school year's responses indicated that they wanted to see their class schedules; their grades, including conduct grades and GPA; FCAT scores, and assignments or homework. The previous year's comments again revealed that they wanted to see the GPA and class schedules; they also wanted to see test scores, such as the FCAT.

The employees in the 2009-2010 school year's responses mentioned that they would like to see benefits, payroll information, and their professional development activities. They also seemed to have more problems with the site and to like the "old one better." The responses from the previous year indicated again that they wanted to see payroll information, such as leaves, benefits, W2 forms, pay stubs, etc.

Parents' responses seem to indicate that they may need additional training or assistance in using the Portal. Their comments in the 2009-2010 surveys showed that they had problems accessing the system, changing information, finding information, etc. They also wanted to know how to volunteer at their children's schools, wanted information about homework assignments, and to have the teachers' e-mails. The previous year's responses were similar, but more comments seemed related to being able to access information about grades, attendance, and test scores. Again, having teachers' e-mails appeared often and responses about problems with accessing information were frequent.

Although the analysis was qualitative and general in nature, it is important to note that there are similar comments between the years and that ITS staff regularly reads and addresses these comments. ITS staff meets and works with other M-DCPS departments to determine the feasibility of providing the services requested, as was the case last year with the discussion about posting the students' schedules.

The ITS Office of Program Evaluation staff analyzed and summarized the closed-ended responses in the Portal surveys. These responses provided background information to the comments discussed above and reflected responses for fiscal year 2008-2009 and fiscal year 2009-2010. There was a total of 6,420 responses from 2,803 students, 2,453 employees, and 1,164 parents in 2008-2009; and a total of 7,899 responses from 2,748 students, 2,054 employees, and 3,097 parents in 2009-2010. The questions (which appear at the beginning of this Appendix) were: 1. Did you find the information that you were seeking?, 2. How did you hear about the Portal?, and 3. How often do you access the Portal? The results presented below reflect the responses within each Portal.

In the answers to the question about whether they found the information that they were seeking, a higher percentage of students selected **"Yes" (76%)** in 2009-10 than in 2008-2009 **(70%)**. For employees, they had a higher percentage of **"Yes" (84%)** responses in 2008-09 than in 2009-2010 **(75%)**. Parents, like the employees, had a higher percentage of **"Yes" (65%)** responses in 2008-2009 than in 2009-2010 **(58%)**. For both employees and parents, their success at finding information in the Portal decreased between the two years. This drop may reflect increased expectations and interest in information not yet available in the Portal. It is important to note that the majority of respondents reported that they found the information that they were seeking and that District staff is addressing parents' requests for additional information and help, as noted in the comments section.

Figure 1. Percentages of "Yes" Responses to Question - Did you find the information you were seeking? Across the Two Years.
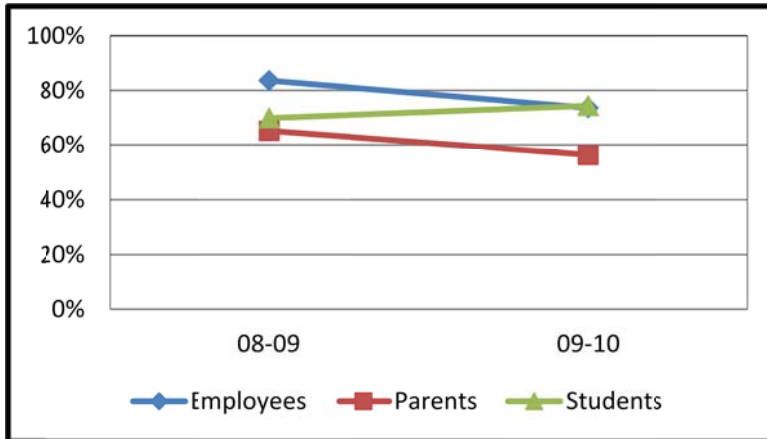
## Portal Surveys (continued)

The responses to the question about how each group heard about the Portal showed that **parents** (81% in 2008-2009 and 76% in 2009-2010) **and students** (81% in 2008-2009 and 86% in 2009-2010) **heard about the Portal by "surfing the net,"** while **employees heard about it through a variety of sources** (e.g., e-mail (26% in 2008-2009 and 29% in 2009-2010) and word of mouth (25% in 2008-2009 and 17% in 2009-2010)).

Figure 2. Percentages of Each Portal Group's Response to
How Respondents Heard about the Portal Across the Two Years.
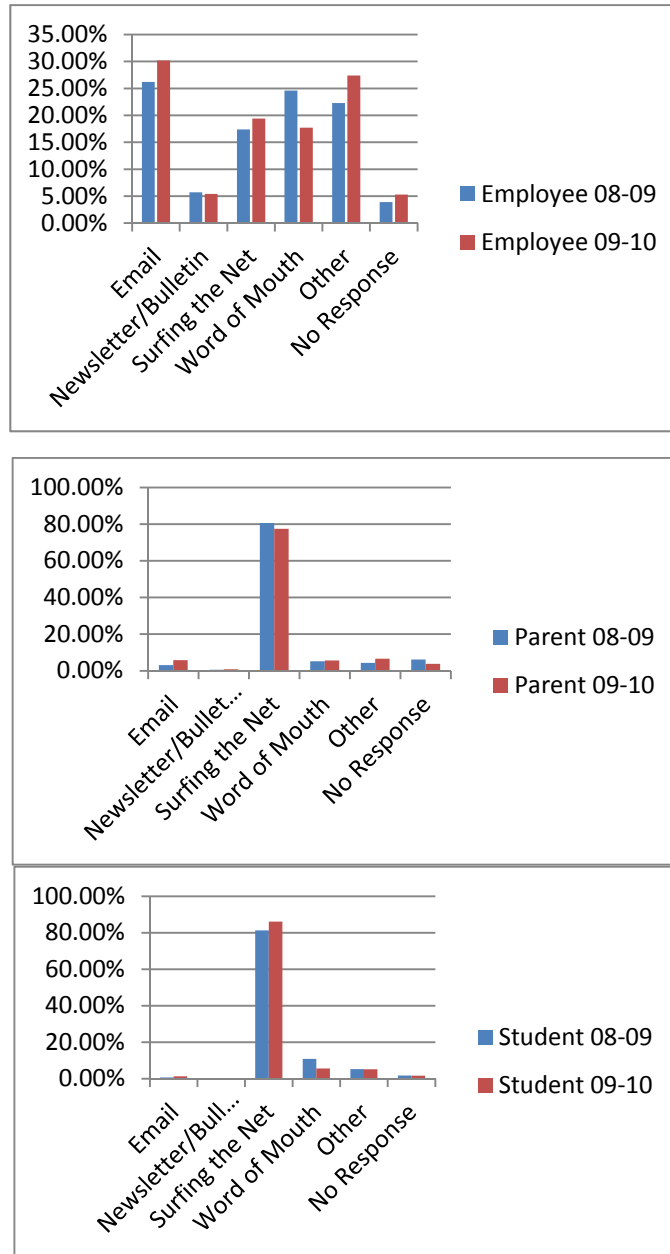
**Portal Surveys** (continued)

The last question asked respondents how often they access the Portal. All groups reported an **increase in accessing their respective Portals daily** between the two years, 2008-2009 and 2009-2010. For students, daily access increased from 36% to 40%; for employees, the increase was from 41% to 65%; and for parents, the increase was from 37% to 40%. Employees report using the Portal daily to a higher extent that the other groups. This may reflect its usefulness for them.

Figure 3. Percentages of Each Portal Group's Response of Daily To How Often They Access the Portal Across the Two Years.
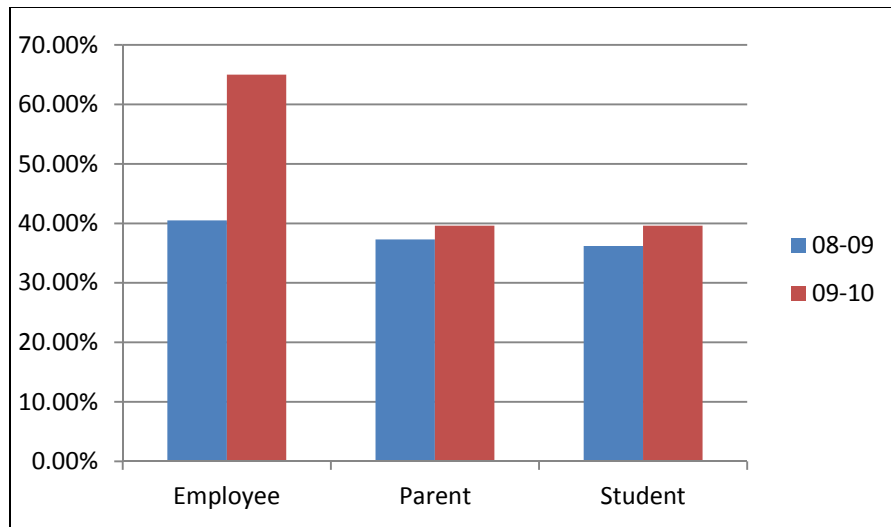
# Broadband Survey Summary

The results from another survey on the use of District available software and parents' willingness to allow their children to participate in a new District project also provided data about ITS services. A combined survey and parent permission form was developed by Attendance Services and the Office of Program Evaluation (OPE). This was sent to parents of students in Differentiated Accountability (DA) schools who are eligible to receive Free or Reduced-Price Lunch.

The thirty-eight (38) principals of the DA Schools received a Weekly Briefing and an e-mail with a roster of students who were identified as Free or Reduced-Price Lunch eligible and a copy of the Survey/Permission Form to be printed at the school. These lists totaled 31,748 students. Principals were asked to distribute the surveys to the students on the list to take home and be filled out by their parent or guardian. Students then returned the completed survey/form and these forms were sent to OPE for analyses. There were 2,438 responses which represents a return rate of approximately 8%. However, it is not known how many forms were actually distributed to students and made it home. The responses received came from 26 of the 38 schools targeted which means that 68% of the schools were represented.

The conclusions from the survey (The detailed results follow this summary.) indicated that the response rate overall was quite low and the results provide only a suggestion of what the actual numbers might be but these results come from parents who were interested in computers and Internet and mostly willing to sign the permission form. **With 74% of the parents stating that they would like to have a computer and Internet access and willing to pay a small sum for Internet access, there does seem to be a need for this project**.

# PARENTAL PERMISSION TO RECEIVE BROADBAND EDUCATION, TRAINING, ACCESS & EQUIPMENT SUPPORT

Dear Parent:

M-DCPS is implementing a project called Beyond the Bell Virtual Learning. This project will provide the opportunity for families and students to access individualized educational software and other school system resources through the internet.

M-DCPS, with its designated community partners, would like to provide both computers and internet access to all families and students who would like to have access to these resources. Eligible families will receive access to individualized district-licensed on-line learning paths available on the District website at http://dadeschools.net/.

In order to implement this project, the family and student identity information provided below may be shared with or released to our community partners and the Parent Academy.

If you would like to participate in this project, please answer the survey questions below, provide the following information about your child, and sign the parent permission slip below.

1. Please check the choice that reflects your situation.
**(Select only one.)**
☐  I do not have a computer or internet access but would like to have them.
☐  I have a computer in my home but do not have internet access and I would like internet access.
☐  I have a computer in my home and do not want internet access at any price.
☐  I have a computer and internet access.
If you answered that you do not have a computer or that you already have a computer but not internet access and you would be interested in getting a computer and/or internet access please answer the following question.

2. If you were provided with a computer, how much would you be willing to pay for internet access per month?
**(Select only one.)**
☐ $0
☐ $10
☐ $20
☐ $30

## Student Identifying Information

Student's Name: First Name _____ Last Name _____ Date of Birth _____
School _____ _____ Student ID# _____ Grade _____

## Parent/ Guardian Permission

I hereby give permission for my child _____ to participate in Beyond the Bell Virtual Learning Project. I authorize the above student and family information to be provided to M-DCPS partners in order for my family to receive a computer and access to the internet from home, if necessary. I also agree to participate in the necessary training so that I may assist my child in accessing this important educational resource

_____   _____   _____
*Parent/Guardian's Name*                                *Parent/Guardian's Signature*                              *Date*

# Miami-Dade County Public Schools

**Broadband Survey**

**2009-10**

March 2010

**OFFICE OF PROGRAM EVALUATION**
**1500 Biscayne Boulevard**
**Miami, Florida 33132**

*Jerome L. Levitt, Ph.D.,*
*Executive Director*

# THE SCHOOL BOARD OF MIAMI-DADE COUNTY, FLORIDA

The District is implementing a project to provide the opportunity for families and students to access individualized educational software and other school system resources through the internet. To determine the degree to which students in at-risk schools have the opportunity to use the District available software at home and to gauge the willingness of parents to allow their children to participate in this project, a combined survey and parent permission form was developed by Attendance Services and the Office of Program Evaluation (OPE). This was sent to parents of students in Differentiated Accountability (DA) schools who are eligible to receive Free or Reduced Price Lunch.

A Weekly Briefing was sent to thirty-eight (38) Principals of DA Schools on 10/23/09 and they were also sent via email a roster of students who were identified as Free or Reduced Price Lunch eligible and a copy of the Survey/Permission Form to be printed at the school. These lists totaled 31,748 students. Principals were asked to distribute the surveys to the students on the list to take home and be filled out by their parent or guardian. Students then returned the completed survey/form and these forms were sent them back to Attendance Services and Office of Program Evaluation for data entry and analysis.

Results

The following two tables summarize the results of the Survey. There were 2,438 responses which is a return rate of approximately 8%. However, it is not known how many forms were actually distributed to students and made it home. These responses came from 26 of the 38 schools targeted which means that 68% of the schools were represented. Table 1 displays the number of responses to the question of computer ownership and internet access for each grade level. The most frequent response indicates that most respondents (74%) do not have a computer or internet access but would like to have them. Combining that group with those respondents who have a computer but do not have internet, we see that 82 percent of the respondents do not have internet connections. A negligible number have a computer but do not want internet access at any price. Table 2 displays the amount the respondents would be willing to pay for internet across the various categories of ownership and access.

Table 1 – Computer and Internet Access by Grade

| Grades | I do not have a computer or internet access but would like to have them. | I have a computer and internet access. | I have a computer in my home and do not want internet access at any price. | I have a computer in my home but do not have internet access and would like internet access. | Total N | % |
|---|---|---|---|---|---|---|
| K | 166 | 56 | 1 | 16 | 239 | 9.80 |
| 1 | 129 | 36 | 1 | 9 | 175 | 7.18 |
| 2 | 142 | 33 | 1 | 18 | 194 | 7.96 |
| 3 | 150 | 24 | 1 | 19 | 194 | 7.96 |
| 4 | 140 | 30 | 2 | 16 | 188 | 7.71 |
| 5 | 114 | 26 | 1 | 10 | 151 | 6.19 |
| 6 | 149 | 39 | 2 | 19 | 209 | 8.57 |
| 7 | 172 | 28 | 0 | 10 | 210 | 8.61 |
| 8 | 199 | 23 | 5 | 18 | 245 | 10.05 |
| 9 | 127 | 33 | 2 | 15 | 177 | 7.26 |
| 10 | 80 | 27 | 1 | 16 | 124 | 5.09 |
| 11 | 115 | 36 | 3 | 12 | 166 | 6.81 |
| 12 | 120 | 29 | 4 | 13 | 166 | 6.81 |
| Total N | 1803 | 420 | 24 | 19 | 2438 | |
| % | 73.95 | 17.23 | 0.98 | 7.83 | 100 | |

As we can see in Table 2 most respondents would be willing to pay $10 or $20 per month (49%) although a substantial percentage would like free internet access (39%) and only 12% would be willing to pay $30. Those respondents with a computer but without internet access are most (71%) willing to pay $10 to $20 per month.

Table 2 – Computer and Internet Access by Amount Willing to Pay For Internet Access

| Willing to pay | | I do not have a computer or internet access but would like to have them. | I have a computer and internet access. | I have a computer in my home and do not want internet access at any price. | I have a computer in my home but do not have internet access and would like internet access | Total |
|---|---|---|---|---|---|---|
| $0 | N | 558 | 325 | 19 | 41 | 943 |
| | % | 30.95 | 77.38 | 79.17 | 21.47 | 38.68 |
| $10 | N | 509 | 30 | 3 | 89 | 631 |
| | % | 28.23 | 7.14 | 12.50 | 46.60 | 25.88 |
| $20 | N | 483 | 36 | 2 | 47 | 568 |
| | % | 26.79 | 8.57 | 8.33 | 24.61 | 23.30 |
| $30 | N | 253 | 29 | 0 | 14 | 296 |
| | % | 14.03 | 6.90 | 0.00 | 7.33 | 12.14 |
| $40 | N | 1803 | 420 | 24 | 191 | 2438 |
| | % | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

# Information Technology
# Strategic Plan

# 2011-2014

# APPENDIX F

# SWOT Results

**Strengths, Weaknesses, Opportunities, and Threats**

# Miami-Dade County Public Schools

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# ITS Existing Strengths

In the opinion of recent audits by external agencies,[1] ITS has done a good job at providing quality services to the District. It has provided and managed information technology infrastructure, enterprise applications, and support services well. In addition, ITS is in the process of identifying how these services could be further improved as reflected in  this Strategic Plan. The list of existing strengths follows.

1. District leadership is committed to using technology effectively as a tool to achieve the District's objectives.

2. ITS application implementation model is best in class as evidenced in the success and recognitions received for the implementation of the Portals, Gradebook, Student Scheduler, and ERP/SAP applications.

3. ITS support model for applications and infrastructure maintains good customer services while managed by less-than-industry standards' personnel resources.

4. The District provides formal and informal support to incorporate technology into the curriculum in a cost-effective and timely manner.

5. ITS does a commendable job of managing E-Rate and funding opportunities to enhance technology.

6. The infrastructure "foundation" necessary for secure, intra-District communication and Internet access exists and includes Internet safety policies and technology protection measures (e.g., filtering technology to comply with the Children's Internet Protection Act better known as CIPA).

7. Procurement standards for new hardware and software have been established and are managed by the Technology Standards Committee.

8. The District has procedures in place to properly track physical computer assets. Items of certain category or dollar amount (>= $750) automatically feed the Property Control system once received and paid.

9. ITS is doing an excellent job of keeping legacy applications operational.

10. The District has implemented a standards-based infrastructure to meet basic data/voice communications requirements.  In addition, ITS monitors the network for security breaches and capacity management.

11. The District has in-depth historical data that could be leveraged to streamline processes, provide on-line reports, and improve predictive analysis.

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[1]  Ernst & Young (E&Y), information provided by ITS' Chief Information Security Officer for the 2008-09 fiscal year

**ITS Existing Strengths** (continued)

ITS has addressed and met most of the Districts' needs, even with its staff shortages and lack of appropriate funding, as evidenced in its growth and the number of new applications developed or supported. However, based on the analyses conducted during the development of this Plan, the following opportunities for improvement have been identified, as follows.

**Opportunities for Improvement**

1. In order to support the District's needs, as applications are migrated and/or new applications are implemented, the existing hardware infrastructure will need expansion.

2. There is an extensive computer network available at schools, administration, and support facilities that provides access to the Internet and administrative functions. However, it is anticipated that the current network infrastructure will not meet future capacity and performance requirements to support multi-media, intensive e-curriculum and applications.

3. Over the past years, the number of lost staff due to lack of funds and retirements has depleted the knowledge base and support that ITS once had, especially with regards to its legacy applications and their maintenance.

4. ITS staff performs their services well but services are generally focused on maintaining "back-office" functions because of tool and staff limitations. As more technology is delivered to the schools, students, teachers, and administrators will require more support. To improve productivity, new system management tools are required.

5. There are numerous enterprise applications to assist with managing the District's operational functions, but opportunities to further streamline work processes and increase productivity may be limited. New systems for workflow automation, imaging, and online monitoring tools could fundamentally improve business management in the District.

6. Although ITS has a Program Management/Process Engineering team, lack of staff resources limits the team's work.

These opportunities for improvement pointed out some of the known weaknesses (which follow) that are often imposed on ITS by external or internal influences, including the nation's financial crisis and current state mandates, such as those for online testing.

# Known Weaknesses

1. Not refurbishing the desktops and software leads to continuous breakdowns, longer support calls and desktops visits to fix problems, and loss of productivity. Student performance may be detrimentally affected by breakdowns or no computer time.

2. Application breaks occur more often and take longer to fix because there are no new personnel resources, there has been an irreversible loss of institutional knowledge, and there are no resources (time or personnel) to implement succession planning.

3. There is a lack of personnel to support 1:1 initiatives.

4. Technical Support:
   a. Given the proliferation of technology and lack of personnel resources, quality support is not sustainable.
   b. There is inadequate access to technical support.
   c. School-site technical support needs additional personnel to facilitate coordination.
   d. Technical support skills vary among technicians.
   e. Current tools need to be enhanced/upgraded to proactively monitor the applications and systems.
   f. The Service Desk services need additional personnel to fully support the school sites.

5. Support teams are focused on operational support. Additional resources are necessary to plan required network expansion to support e-learning.

6. Decentralized authority over curriculum technology selection presents difficult training challenges that jeopardize M-DCPS' ability to meet the mandate to ensure teachers and students will be proficient with new technologies by 2013.

7. The vision for effectively employing distance learning and technology must be fully supported by teachers and administrators to prevent ineffective investments in technology.

8. The District does not have the ability to provide a sufficient number of PCs to facilitate online state testing.

9.  Configuration and hardware/software assets:
    a.  Standards have been developed but are not always followed. This could be due to communication issues, a technical compatibility problem, and/or autonomous governance.
    b.  Today, the current asset tracking system indicates what hardware and software we own, but not what software is on which hardware. Improved integration of asset information with the Service Desk application will improve time to resolution. Understanding this relationship would help support staff diagnose root cause and resolve problems more quickly.

10. There is an underlying problem of perpetuating old customized software. Manifestations include:
    a.  Sub-optimal business process workflow,
    b.  Inability to consistently meet reporting requests within required timeframe,
    c.  Prolonged development time as a result of the retirement/attrition of knowledgeable programming staff, and
    d.  Ever increasing support resources required to support "brittle" applications. For example, one simple change becomes more difficult over time since this change impacts other interfacing customizations.

## District Challenges Impacting ITS

As mentioned before, some of the known weaknesses discussed above were imposed by external influences that continue to affect the course of education and the services provided. There are also District challenges, which are also imposed by external factors that impact ITS and some of these are listed below.

1.  Failure to meet the requirements of the No Child Left Behind (NCLB), Class Size, and A+ mandates

2.  Increasing pressure to support and provide 1:1 capability

3.  The "Digital Divide"

4.  Class size reduction which negatively impacts ITS funding. This problem is further compounded by the cost associated with new reporting requirements and providing new services such as hosting virtual education programs.

5.  Loss of FTE funding due to students leaving the District for private and Charter schools

6.  Increasing budget pressures due to less available revenue

7.  Collapse of the real-estate market and property values

8. Loss of staff resources due to budget shortfalls and attrition

9. Sufficient capital for replacing aging infrastructure and computers

In addition, there are potential threats that may also affect ITS' capabilities to meet the District's needs; some of these potential threats appear below.

**Potential Threats**

1. National and state legislature such as Race to the Top and Florida's Senate Bill 6 will greatly affect the District including funding, teaching practices, and support. For ITS, there will be a need to program changes, develop interfaces, applications, and reports, and provide additional technical assistance.

2. The state mandate to provide computer-based testing, including online testing in subject areas and end-of-year tests will impact personnel and time resources.

3. Potential decrease in state funding due to the collapse of the real-estate market and property values and additional monies for vouchers, or federal funding may impact the District's ability to maintain current systems or move forward on strategic e-curriculum solutions.

4. E-Rate allocations could diminish due to nation-wide demand for the program and/or budget cuts resulting in a weakened ability to offset network related expenses.

5. State mandated reporting/compliance requirements continue to increase. This results in a reduced capability to meet internal District requirements or achieve progress on strategic initiatives.

6. A dramatic positive turn-around in the economy could result in greater losses of institutional knowledge and skills as technical staff may leave due to an inability to compete with compensation packages offered in the private sector as happened in the late 1990s.

7. The popularity of Charter and private schools has created a drain on financial resources as a portion of the student population leaves the District.

8. Teachers are not mandated to use technology today. However, there are new mandates that require teachers and students to be proficient with technology. It may be difficult to achieve this proficiency mandate unless the technology is more fully utilized.

9. Individual departments continue to install large-scale systems without sufficient regard to how they would interface with other systems within the District.

10. Although technology's dynamism provides opportunities for new approaches to educational issues, new threats to data assets and information privacy exists. If information is available to students, parents and staff, then it may also be available to people with malicious intentions. The District must provide the tools, staff, training, and flexibility to protect these assets.

Nationally, there are recognized challenges affecting all educational institutions as the 2010 Horizon Report: K-12 Edition points out and the e-mail forwarding the report summarizes.[2] Their list of critical challenges, which appears below, shows some of the same issues that have been noted above and reinforce the need to address technology within the culture it impacts. The report notes that:

- Digital media literacy continues its rise in importance as a key skill in every discipline and profession.

- Students are different, but educational practice and the materials that support it are changing, only slowly.

- Many policy makers and educators believe that deep reform is needed, but at the same time, there is little agreement as to what a new model of education might look like.

- A key challenge is the fundamental structure of the K-12 education establishment.

- Many activities related to learning and education take place outside the walls of the classroom — but these experiences are often undervalued or unacknowledged.

The challenges are many and powerful, but based on the existing strengths and recent accomplishments, ITS is confident that it can and will meet the demands of the 21st-century students whom it serves. ITS is committed to implementing and supporting the most efficient and cost-effective infrastructure and systems to enhance the students' learning experiences. ITS will capitalize on future opportunities to provide the best-in-kind services to the District and its students. The list of future opportunities follow.

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[2] 2010 Horizon Report: K-12 Edition from CoSN (Consortium for School Networking), e-mail from info@cosn.org to Ms. Debbie Karcher on April 20, 2010

# Future Opportunities

1. Technology provides a stream of opportunities for new approaches to age-old educational issues, especially by providing interesting, self-contained educational applications to students and opening new avenues of communication with parents.

2. Increased student performance may be achieved through e-curriculum that is more engaging.

3. A robust computer network provides 24/7 access anywhere to educational content and offers increased student exposure to learning materials.

4. Reducing cost liabilities by leveraging state/federal matching funds and public/private grants will enhance the infrastructure and procure the electronic curriculum that provides technology solutions to the classroom. The i3 Investing in Innovation grant is an example of maximizing available national funding sources to advance learning.

5. The potential for reducing building and maintenance costs due to new instructional delivery methods from any location in the world on a 24/7 basis will facilitate learning.

6. Reduced operating costs by streamlining both instructional and non-instructional processes will provide additional funding for teaching.

The <u>2010 Horizon Report: K-12 Edition</u>[3] also lists key trends that support the future opportunities noted above and show the importance of technology in today's society. The report points out that:

- Technology is increasingly a means for empowering students, a method for communication and socializing, and a ubiquitous, transparent part of students' lives.

- Technology continues to profoundly affect the way we work, collaborate, communicate, and succeed.

- The perceived value of innovation and creativity is increasing.

- There is increasing interest in just-in-time, alternate, or non-formal avenues of education, such as online learning, mentoring, and independent study.

- The way we think of learning environments is changing.

These opportunities, if capitalized, will empower ITS to support the District's needs and create an effective environment that supports and enhances learning for students.

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[3] <u>2010 Horizon Report: K-12 Edition</u> from CoSN (Consortium for School Networking), the link to the report appeared in the e-mail from <u>info@cosn.org</u> to Ms. Debbie Karcher on April 20, 2010.

# Information Technology
# Strategic Plan

# 2011-2014

# APPENDIX G

# Terms and Acronyms

# Miami-Dade County Public Schools

# Terms and Acronyms

| Terms | Definitions |
|---|---|
| A+ | "Assistance + for Low Performing Schools" Program - Targets additional support to D and F schools within the state of Florida, based on FCAT scores |
| ARRA | The American Recovery and Reinvestment Act of 2009, abbreviated ARRA and commonly referred to as the Stimulus or The Recovery Act, is an economic stimulus package enacted in February 2009 to provide federal aid to education. |
| Blog | According to Wikipedia, a blog is a contraction of the term "Web log," is a type of Web site, usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. |
| Capital | Within the context of the District, Capital has significance as a separate funding source. |
| CM | Change Management – Managing changes in the technology environment when and as they occur. Technology changes are according to best practices submitted to the Change Advisory Board (CAB) for approval before implementation. |
| Data In Your Hands | Data In Your Hands is an Intranet, interactive, Web-reporting application built and maintained by the Data Systems division of the Assessment, Research and Data Analysis department to provide adult and secondary career technical education data to decision makers in a more timely and user-friendly manner. |
| Differentiated Accountability | A federal program also referred to as DA initiated in 2008 that allows Florida greater flexibility in providing the needed technical assistance and interventions to the schools with greatest need. . . Low performing schools are identified for Differentiated Accountability based on schools' performance as measured by school grades and Adequate Yearly Progress. |
| Digital Divide | Gap between information rich and information poor citizens within the U.S; based on computer availability |
| DW | Data Warehouse – A copy of operational data specifically structured for querying and reporting |
| Education Fund's FamilyTech | Since 1985, The Education Fund has worked side-by-side with the private sector to direct resources where they are needed most in Miami-Dade schools. In cooperation with Citibank, the FamilyTech program has given to date approximately 10,000 refurbished Internet-ready computers to parents and students, who are also trained in their use. Additionally, teachers received instruction to incorporate computer technology into the classroom curricula. |

# Terms and Acronyms

| Terms | Definitions |
|---|---|
| Elevate Miami – Rites of Passage | A partnership between M-DCPS and the City of Miami through the Education Compact that resulted in the creation of the *Elevate Miami* life skills course taught to sixth grade students who attend schools within the city. Students who complete the required coursework and also meet important academic and behavioral benchmarks during the school year earn a free computer and Internet access for their homes. |
| E-Rate | Federal Government program that provides $2.25 billion funds to connect public school classrooms to the Internet as well as telecommunications infrastructure upgrades. |
| E-Ratable | A project that could be funded wholly or partially due to E-Rate eligibility (Federal Program) |
| ERP | Enterprise Resource Planning is a software architecture whose purpose is to facilitate the flow of information between all business functions inside the boundaries of the organization and manage the connections to outside stakeholders. Built on a centralized database and normally utilizing a common computing platform, ERP systems consolidate all business operations into a uniform and enterprise-wide system environment. |
| FASA | Florida Association of School Administrators who publish the Annual Florida Education Directory |
| FCAT | Florida Comprehensive Assessment Test – Assesses student achievement of the high-order cognitive skills represented in the Sunshine State Standards (SSS) in reading, writing, mathematics, and science. A secondary purpose is to compare the performance of Florida students to the reading and mathematics performance of students across the nation using a norm-referenced test (NRT). All students in Grades 3-10 take the FCAT Reading and Mathematics tests in the spring of each year. All students in Grades 4, 8, and 10 take FCAT Writing; FCAT Science is administered to all students in Grades 5, 8, and 10. |
| FY | Fiscal Year – Is an organization's year-long accounting calendar and can vary from a calendar year. M-DCPS' fiscal year runs from July 1 to June 30. |
| IT | Information Technology – Refers to the collection of products and services that turn data into useful, meaningful, accessible information. IT also refers to the District's Instructional Technology department. |
| ITS | Information Technology Services – Department within M-DCPS focused on delivering and maintaining information technology solutions for the District |
| LAN | Local Area Network – A group of computers and associated devices that shares a common communications line or wireless link and typically shares the resources of a single processor or server within a small geographic area (e.g., a single school) |

# Terms and Acronyms

| Terms | Definitions |
|---|---|
| Legacy System | An information system currently used in the District, which has been in existence for a long time. An example is the District's mainframe. |
| Links to Learning | Originally called Beyond the Bell, this program accessed through the Portal targets students in grades 3 to 11 and provides enrichment activities in reading, math, and science. |
| M-DCPS | Miami-Dade County Public Schools – 4th largest K to12 school district in the United States, referred to as the "District" throughout the IT Strategic Plan |
| MSAF | Management Science of America Finance – M-DCPS' accounting / financial system replaced by ERP. It is better known as MSA. |
| MSID | The Florida DOE maintains a Master School Identification (MSID) file containing information on every public school in the state, such as active school status, school ID number, school type(s), grade levels taught, and other data that can be used to amplify school-based analyses. |
| NCLB | No Child Left Behind Act – Reform of the Elementary and Secondary Education Act (ESEA) enacted in 1965. It redefines the federal role in K to 12 education. Intent is to improve education in public schools. Specific District IT initiatives to address NCLB reporting requirements efficiently include the District's Data Warehouse project and Gradebook application. |
| PC | Personal Computer – PCs are used in classrooms, for business operations, and administration within the District. |
| PM | Project Manager – Manages the delivery of one or several IT projects and/or IT programs assigned to his/her area of responsibility. Project managers are responsible for overall project success in broad areas of cost, schedule, and quality. |
| PMO | Project Management Office – Supports IT related project management within M-DCPS including process improvement and training. |
| Race to the Top (RTTT) | Federal program offering $4 billion to states that implement coherent, compelling, and comprehensive education reform. Reforms must include 1. standards and assessments that prepare students to succeed in college and the workplace; 2. building data systems that measure student growth and success and informs stakeholders; 3. recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most; and 4. turning around lowest-achieving schools. |
| RFP | Request for Proposal – Issued by the District's Procurement Department in order to obtain bids from District-approved vendors |
| ROI | Return on Investment – Financial metric commonly used in business case analysis |

# Terms and Acronyms

| Terms | Definitions |
|---|---|
| Safe FTP | A secure File Transfer Protocol is a standard network protocol used to copy a file from one host to another over a TCP/IP-based network, such as the Internet. TCP refers to Transmission Control Protocol and IP refers to Internet Protocol, both are communication protocols. |
| SAN | A storage area network is an architecture to attach remote computer storage devices (such as tape libraries) to servers in such a way that the devices appear as locally attached to the operating system. A SAN typically is its own network of storage devices that is generally not accessible through the regular network by regular devices. |
| SAP | Systems, Applications and Products is a suite of business software products to support all processes, including financial and human resource management. M-DCPS is currently implementing selected modules from the SAP Business Suite. |
| SAP Basis | Business Application Software Integrated Solution is a SAP (Systems, Applications and Products) component which allows several applications to interact and communicate among them. |
| SQL | Structured Query Language is a database computer language designed for managing data in relational database management systems (RDBMS).  Its scope includes data query and update, data access control, etc. |
| SUS | Systems User Support  – Department within M-DCPS which provides support to IT users through the HEAT ticket system and follow-ups. |
| TCO | Total Cost of Ownership  – Includes initial costs plus recurring costs (typically maintenance) |
| Virtual School | Course(s) delivered through the Internet commonly called "on-line" courses |
| VPN | Virtual Private Network  – A way to use a public telecommunication infrastructure, such as the Internet, to provide remote offices or individual users with secure access to their organization's network. VPN structure is important to protect the information's integrity and confidentiality. |
| Wikipedia | A free online encyclopedia which anyone can edit |