
# Review, Analysis, and Upgrade of SBBC's Strategic Information Technology Planning Blueprint

*Version 1.0*

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**Attachments:**

Attachment A: Summary of SBBC Principals Survey on Technology

Attachment B: SBBC Vendor Survey on Technology

Attachment C: Broward Tech Audit Project Assessment Rubric

Attachment D: SBBC Technology RFPs/Contracts from October 2004 - October 2006

Attachment E: Top forty-six (46) SBBC Technology Vendor Listing Based on Actual Payments from January 2005 - October 2006

Attachment F: School Department-based Technical Support Report

Attachment G: Assess the Budget Impact and Cost Effectiveness of all Recent and Currently Proposed IT RFPs and IT Contracts within SBBC

Attachment H: Review of Total Cost of Ownership, Cost Benefit and Return on Investment

Attachment I: Review of Audit Requests, Exceptions, and Observations of ETS from January 2005 to October 2006

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# 1.0 Background and Rationale

During the spring/summer of 2003, under the leadership of Dr. Frank Till, the School Board of Broward County (SBBC) grew increasingly concerned about the leadership and learner/ customer-centered focus of its "Educational Technology Services Department." The district leadership was also concerned that the district/ETS was functioning and attempting to maintain SBBC's "Digital Infrastructure" without a well developed IT Blueprint. In August of 2003, the school approved the superintendent's recommendation to hire CELT Corporation to conduct an extensive analysis of SBBC's information technology needs, assess current information technology initiatives, and provide specific recommendations with clearly focused action plans and corresponding benefits/results. The final web-based report/blueprint was presented to and accepted by the SBBC in June of 2004. This document aligned the successful implementation of the school district's vision, mission, and goals and contemporary education reforms to a comprehensive and cost-effective information technology system. Without seamless and reliable implementation of SBBC's information technology blueprint, many of SBBC's current and future educational initiatives will be marginalized or may fail altogether.

As stated, it has been nearly two years since the School Board of Broward County completed an extensive review of its contemporary educational reforms/improvements and aligned them to an enterprise-wide information technology system. To date, there has not been an evaluation of SBBC's implementation of the IT Blueprint. Also, during this timeframe, the vast majority of hardware, software, and network components within SBBC have been covered under some type of maintenance/upgrade program. Today, technology planning, IT architecture, and systems integration services are just as critical to the successful implementation of information technology as other related technology components. As a result of SBBC's past financial and human resources investment in technology, development of a strategic *Information Technology Blueprint/Plan,* and ongoing public stewardship, it is critical that the following steps be taken:

1. Review SBBC's implementation of the strategic *Information Technology Blueprint/Plan.*
2. Analysis of SBBC's current and emerging teaching, learning, and leadership development initiatives.
3. Upgrade – SBBC's strategic *Information Technology Blueprint/Plan.*

In addition, this review includes a detailed analysis of these other areas:

1. Assess the budget impact and cost effectiveness of all recent and currently proposed IT RFPs and IT contracts within SBBC.
2. Review the cost benefit analysis, return on investment, and Total Cost of Ownership models used by the district/ETS to make informed procurement decisions.
3. Identify current/emerging needs and educational initiatives with SBBC and assess the capacity of the IT Blueprint implementation activities and district/ETS staff to support their successful implementation.

4. Read and report the status of previous audit requests, exceptions, and observations of ETS from January 2005 to October 2006.
5. Assess how effectively the district/ETS staffs use "Service Level Agreement" contracts for payment of major information technology vendors based upon performance level.

## 1.1 Executive Summary

The newly appointed CIO, in 2004, and ETS management accepted all of the *Information Technology Blueprint* Recommendations and committed the plan to the School Board of Broward County on September 21, 2004. This was an impressive decision. It involved initiating the initial eighty-four (84) IT Blueprint projects. Many that had not existed before. This current (as of October 2006) list of ETS technology projects is now one hundred (100). These projects cover improvements in all aspects of SBBC's use of technology from curriculum/staff development, business applications, and infrastructure to community access. These are discussed in detail in the body of this report.

In 2004, the original IT Blueprint recommendations were estimated to cost approximately 450 million dollars over the next three years. In the past two years, ETS has committed approximately 125-175 million dollars towards these blueprint projects. Fifty-six percent of the projects (56) were completed with (5) five requiring remedial work. Thirty-three percent of the projects (33) are active and (15) fifteen of these need remedial work. This was a significant step forward in implementing the IT Blueprint recommendations.

**Budget Tracking**. The only budget data was the original budget projections, by project, that was contained in the IT Blueprint in 2005. There has been no actuals tracking. It should be noted, that the financial system does not have the capability to do project based budgeting or /tracking.

**Schedule Tracking**. The schedule/milestone tracking is through the current ETS project management office (PMO) . The system has the capability to document a detailed plan by detail task and milestones for each project. It should be noted that some projects did not have a project plan so there is a recording of actuals only, some of the data is inaccurate.

As of October 2006, the status for the 100 projects is as follows:

- 56% (56) were completed, 20% (11) were delivered late ranging from 1-8 months.
- 33% (33) are active, 63% (21) are missing their scheduled milestones
  - 13 due to schedule slippage or lack of funding
  - 8 due to inaccurate data of no project plan or inaccurate reporting
- 6% (6) are on hold
- 4% (4) were combined
- 1% (1) was cancelled

As of October 2006, in the 100 projects there have been 31 projects added after the blueprint was completed. The process by which these were added is..

- 14 were Board approved
- 10 were Senior Management / Capital Review Committee approved
- 3 were state requirements
- 4 were ETS management approved

There still need to be improvements in this process, since some departments don't know that projects have been added that affect them.

As of October 2006, the effectiveness of the 100 projects is as follows (it should be noted these ratings are judgments based on observations/interviews. The rubric that was used as a guideline is shown in Attachment C.

- 16% (16) are very effective
- 53% (53) are effective
- 18% (18) are minimally effective
- 6% (6) are not effective
- 7% (7) on hold/cancelled (were not rated)

## 1.2 Summary of the 100 Projects' Status and Effectiveness Ratings

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |
| **TOTALS:** | **56** | **33** | **6** | **1** | **4** |

### 1.2.1 Completed – Very Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | **12** | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

| | |
|---|---|
| STP 5004 | Distance Learning -- Pilot |
| ETS 6011 | Distance Learning – Blackberry |
| ETS 6004 | Distance Learning – Video Conference |
| FAC 5002 | Technology Refresh |
| HRS 5002 | Online Staff Development |
| ETS 5009 | AS/400 Consolidation |
| ETS 5010 | Data Center Printers |
| ETS 5012 | Central Software Distribution |
| ETS 5048 | District Wireless Strategy |
| ETS 5045 | School Callout – Parent Link |
| ETS 5032 | Re-establish Standards Committee |
| CUR 5005 | Online Staff Development |

### 1.2.2 Active – Very Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | **4** | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

| | |
|---|---|
| CUR 5001 | Develop CD/IM |
| CUR 5003 | Curriculum Integration |
| CUR 5007 | Special Populations |
| FIN 6001 | ERP (Enterprise Resource Management - Brite) |

### 1.2.3 Completed - Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

| | |
|---|---|
| CUR 5006 | Digital Learning Study |
| ETS 5044 | Digital Learning Support |
| STP 5005 | Virtual Learning Center |
| FAC 5001 | Facilities and Technology Standards |
| ETS 5049 | Student Technology Refresh |
| ETS 5025 | User/Learner Support –Service Level Management |
| ETS 5008 | e-Rate Effectiveness |
| ETS 5016 | Portable Connectivity |
| ETS 6010 | Active Directory for Network Group |
| ETS 7001 | Budget Forecast Videoconferencing |
| ETS 6000-0 | One Broward Pilot |
| ETS 5027 | District Continuity Project Manager |
| ETS 5028 | District Continuity Checklist |
| ETS 5030 | Mainframe Upgrade |
| ETS 5004 | Food Service Upgrade |
| ETS 5005 | Data Warehouse Access |
| ETS 6001-0 | Knexus – Pilot |
| ETS 5037 | Compass Upgrade |
| HRS 5001 | Bi-weekly Pay |
| ARS 5004 | HRMS Position Control |
| ETS 5046 | Education Technology Plan |
| ARS 5005 | HRMS Separations |
| ARS 5006 | Check Sequencing – Direct Deposit |
| ETS 5031 | Year End Mainframe Load Reduction/Archiving |
| HRS 5003 | HRMS Tracking |
| HRS 5006 | PAF Automation |
| HRS 5007 | Leaves |
| HRS 5008 | Retroactive Change |
| HRS 5009 | ZA 7I Changes |
| ARS 5002 | Budget Conferences |
| ARS 5003 | Qualified Instructors for Principal Budget |
| COS 5003 | Grants Training |
| FIN 5001 | Combine U6-U0 |
| FIN 5002 | SA-IA Review |
| FIN 5003 | Budget Communications |
| FIN 5004 | Reduce Approval Signatures |
| FIN 5005 | Change School Budget Schedules |
| FIN 5006 | Year End Closing |
| FIN 5007 | Financial Reports |

### 1.2.4 Active – Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | **14** | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

| | |
|---|---|
| CUR 5002 | Curriculum Standards |
| RAE 5001 | Online Assessment |
| ETS 6013 | Video via United Steaming |
| ETS 6005 | One Broward -Pilot |
| ETS 5041 | Refresh – Memory Upgrades |
| HRS 5002 | Staff Development System |
| HRS 6001 | Highly Qualified Teacher Reporting |
| HRS 7001 | Highly Qualified Teacher Phase 2 |
| ETS 5039 | Digital Divide |
| ETS 5013 | Network Quality |
| ETS 5014 | WAN Strategy |
| ETS 6002 | District Wireless Phase 2 |
| CUR 5009 | Student Technology Internship Program (STIP) |
| ETS 6006 | Meeting Collaboration Tools |

### 1.2.5 Completed – Minimally Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 15 | **4** | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

| | |
|---|---|
| ETS 5042 | ETS Change Management |
| ETS 5021 | District Planning |
| ETS 5023 | ETS Project Management Office |
| ETS 5040 | Transition Management |

### 1.2.6 Active – Minimally Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | **12** | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

| | |
|---|---|
| CUR 5008 | Media Center into Office of Information Technology |
| COS 5004 | eMentoring |
| ARS 5001 | Technical Support |
| ETS 5015 | Network Convergence |
| ETS 5017 | Single Sign On |
| ETS 5018 | BECON Wireless |
| ETS 5007 | Continuity Plans |
| ETS 6002 | District Wireless Phase 2 |
| ETS 5029 | Time Management – Kronos |
| SIU 6002 | Security Tracking (STAR) |
| ETS 6012 | Centralized technical support upgrades |
| ETS 6007 | Independent Enabling Devices Access (IDEA) |

### 1.2.7 Completed – Not Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | **1** | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

ETS 5033 Total Cost of Ownership

### 1.2.8 Active – Not Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | **3** | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | 1 | |

ETS 5020 Network Continuity

ETS 5047 Customer Resource Management (CRM)

ETS 6003 Gradebook – Pinnacle

### 1.2.9 On Hold

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | **6** | 1 | |

| | |
|---|---|
| COS 5002 | Catalog Equity Objectives |
| STP 5001 | Community Engagement Plan |
| CUR 5004 | Community Technology Centers |
| ETS 5003 | Document Management System |
| RAE 5002 | Student Information System |
| ETS 5026 | Catalog ETS Services |

### 1.2.10 Cancelled

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 16 | 12 | 4 | | | |
| Effective = 53 | 39 | 14 | | | |
| Minimally Effective = 18 | 4 | 12 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 7 | | | 6 | **1** | |

| | |
|---|---|
| ETS 5006 | County Summit |

### 1.2.11 Combined – Not Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 15 | 11 | 4 | | | |
| Effective = 55 | 41 | 14 | | | |
| Minimally Effective = 15 | 4 | 9 | | | 2 |
| Not Effective = 6 | 1 | 3 | | | **2** |
| On hold/ Cancelled = 9 | | | 8 | 1 | |

COS 5001 Program Planning

ETS 5021 Strategic Management System

### 1.2.12 Combined – Minimally Effective

| | Completed | Active | On Hold | Cancelled | Combined |
|---|---|---|---|---|---|
| Very Effective = 15 | 11 | 4 | | | |
| Effective = 55 | 41 | 14 | | | |
| Minimally Effective = 15 | 4 | 9 | | | **2** |
| Not Effective = 6 | 1 | 3 | | | 2 |
| On hold/ Cancelled = 9 | | | 8 | 1 | |

ETS 5032 New Technologies

COS 5002 School level Planning

Most notable for positive progress/results are the following:

1. the Enterprise Resource Planning (ERP) system
2. the data warehouse expansion with tools
3. the teacher portal Broward Education Enterprise Portal (BEEP)
4. the school administrators' portal (Project Knexus)
5. the automated call out system (ParentLink)
6. the expansion/reliability of the digital network capacity across the district
7. the significant expansion of the Network Operations Center (NOC)
8. the technology budget controls and reports
9. the conversion of the district to one area code
10. a district wide implementation of a technology refresh program
11. the district wide conferencing/distance learning capability
12. the telecommunications bid/E-rate benefits
13. the technology standards committee
14. the central software distribution/update capability (LanDesk)

Most notable for district technology projects/installations with implementation problems are:

1. the Gradebook (Pinnacle)
2. the help desk system –Customer Resource Management (CRM)
3. the time management system (Kronos) and coordination with the upgrade to the substitute central teachers system
4. the ETS Project Management Office (PMO)
5. the instability/effectiveness of the e-mail system (CAB)

Most notable for projects with little or no progress were:

1. increased school based technology support
2. implementing a district wide Document Management System
3. implementing an online assessment system
4. expanding ETS customer liaisons for major organizations of the district/schools
5. upgrading to a contemporary student system
6. transitioning to school based information and technology centers
7. implementing proficiency based job descriptions
8. installing additional Information Technology Infrastructure Library (ITIL) processes
9. the effectiveness of the ETS Project Management Office (PMO) and implementing a district wide PMO.

10. streamlining the ETS governance structure, including continuing the effort to restructure the Technical Advisory Committee (TAC)
11. the ETS practice of separating development from on going support to minimize new project installation problems.
12. the establishment of formal service levels of agreement (SLA) for ETS' internal customers and services from external vendors
13. the use of a Total Cost of Ownership (TCO) model for technology projects
14. implementing a district wide project management office (PMO) with scorecard capability

## 1.3 Principals' Survey

One hundred and fifty seven 157 (63%) of the districts 250 principals responded A summary of the principals' survey indicated a high positive percentage on effectiveness of technology solutions. The major areas of negative percentages where improvements should be focused are:

1. Implementation planning and training of district wide application projects, Pinnacle, Kronos, and Knexus specifically
2. Reliability/effectiveness of the email system Cab
3. Accuracy of financial reports
4. Help from the district on disaster recovery plans
5. Much more visibility of ETS and involvement by principals in technology projects

In addition, when asked what would help them the most from a technology viewpoint, the principals indicated, more effective technology support at the schools and again much more customer focus/attention from ETS.

## 1.4 Vendors' Survey

Only 6 (24%) of the requested top 25 vendors responded. This is a very minimum sampling of vendors, so caution should be applied to any of these responses. A summary of the vendor survey showed the purchasing processes were all positive; in fact 100% positive for bid notification, time to respond, awards notification and payment. Even with this small sample, there was one area being suggested for improvement by these responding vendors. This was the Quality of Service or Service Level Agreements (SLAs).

## 1.5 Major Recommendations

Specific recommendations for improved focus are listed below. It should be noted that the cost estimates are not all incremental costs. Reallocations, reprioritizing saving from other projects and efficiencies can support some of these costs.

Some projects do not require new incremental dollars. These are accomplished by prioritizing the work of existing staff. Encourage a zero based process, where all projects get ranked and then fit to the existing budget/staff. In this some projects get eliminated because they are judged to be less important to achieving the districts mission and goals.

The recommendations are listed in three categories: Instructional, Business, and Infrastructure technology recommendations.

### 1.5.1 Instructional Technology Recommendations

#### 1.) Eliminate the 'crisis of confidence' that exists between the district and ETS

There is a current lack of trust and confidence in ETS' ability to deliver successful projects. Rebuilding this trust is vital to the district and improving ETS customers' relationships.

The ETS Project Management Office (PMO) has the capability to track milestone achievement on each project. As an aside, there is no capability to track project budgets versus actuals.

- 56% (56) were completed, 20% (11) were delivered late ranging from 1-8 months.
- 33% (33) are active, 63% (21) are currently missing their scheduled milestones
  - 13 due to schedule slippage or lack of funding
  - 8 due to inaccurate data of no project plan or inaccurate reporting

Projects with issues at the start of the school that contributed to this lack of confidence include the time management system- Kronos, the gradebook system – Pinnacle, the central help desk system, Customer Resource Management – CRM and the instability of the email system – CAB.

Some of the possible actions to help build the relationships and trust and improve delivery performance are discussed. Establish a major focus in ETS for the next 3-6 months to make what is installed work and work reliably. Do not introduce any new initiatives until existing projects work. Redirect management and staff time/attention to solve these issues for the schools.

In our judgment, ETS is capable and has the capacity to do successful installations. However there are several areas for improvement to minimize the examples of current installation problems:

a. include effective training on each project so every user knows what to expect and how to get help;
b. set up a temporary help desk to expedite problem resolution for the initial installation of each major new application;
c. expand the ETS Project Management Office (PMO) to coordinate the timing of multiple installations planned to occur at the same time;
d. mandate every change go through the ETS change management process. Not all projects currently go through this process;
e. appoint a principal as a co-sponsor with an ETS leader for each application issue;
f. reassign current ETS staff to help each application team –on special assignment for the period of time it takes to remedy current project issues. These project issues include the grade book (Pinnacle), the time management system (Kronos) and the email system (CAB) and the help desk system – Customer Resource Management – (CRM). Overpower each of these projects to make them successful. Think of the district technology support staff as extensions of the central ETS staff to help in issue resolution.
g. introduce a freeze on all changes for this temporary period. This will provide the needed staff to be redirected onto the focus teams that would be required. Reduce and/eliminate activities that reduce management/staff focus except on these problem areas.
h. increase the focus of the ETS staff at the time of installation so as to ensure a successful installation, this means free-up resources. ETS management needs to have a process of separating development of new projects from support of current projects. Current staff finds themselves in the position of supporting all their current projects, which is a full time job, with the added task of developing this new project. This is a very risky position for everyone. This certainly impacts the organizations capacity to implement new projects successfully. There are best practice models that show how to separate new project development from support of currently installed projects.

**3-year cost**: $300-$500K (not an incremental cost)

## 2.) Increase the School Based Technical Support

The real issue here is that this has been reviewed many times. There have been many recommendations. Most have never been acted upon. This area will require management courage and initiative to solve this problem. It is not easy, most districts in the US struggle with this problem.

This is the most important topic for improvement from the principals' survey. The most effective option is to have on site technical support at every school. However this is the most costly. There is a continuum of activities that start with very little funding to the full scale on site support. There are models where the central IT organization can significantly help the school based technical support staff. The following discusses various options in the order of less to more expensive.

a. The very first option is to reconsider and review the recommendations in the thoughtful report done on this subject in Feb. 2005. It was titled, 'School and Department Based Technical Support'. This is included in attachment F. This report had 23 recommendations covering Microcomputer techs, teachers, area instructional techs, principals, media centers, tech teams, service levels, and technology integration specialists. This analysis was done with principals for principals.

   **3-year cost:** $100K-$500K (not an incremental cost)

b. Initiate a program to assist principals with the 171-microcomputer technicians that exist now. This program would be managed by ETS and include, defining a standard hiring criteria, assist in interviewing, conducting training, defining job descriptions, offering certifications, conduct back filling, and input on evaluations to the principal. Miami Dade has a very effective model to review.

c. Implement a program to introduce elements of the ITIL (Information Technology Infrastructure Library) processes for technical support at the schools. Currently ETS is in the process of implementing ITIL centrally, but elements of this apply to school based staff also. Problem, change and service level management all are relevant to school based staff. These school based best practices are being implemented in some European schools. The documents will be sent to the ETS customer services director.

d. Continue to implement programs that use students to assist in the role of hands-on technical support roles.

e. Continue with the efforts to transition to a center for information and technology at every school by organizationally merging the on site technical support with the library media staff to create this new organization.

**3 year cost:** $200K-$400K

f. Improvements are needed in the ETS help desk software and organization for better support to the district (currently the ETS help desk staff has been reduced and the system has had less function – this is a real problem since this happened concurrently.) The system has not provided the value for the $1.6M spent to date. A major effort is required that includes an analysis of the direction for this project. More investment is needed to either complete the system or to change to another system.

**3-year cost:** $500K – $750K

g. Create an additional ETS Tech team by zero basing the activities of the central help desk department. This would reprioritize the work in this department with the objective of freeing up 4-6 people to be reallocated to provide another tech team to help school based staff

**3-year cost:** None

h. Reorganize the current staff of 171 microcomputer techs into zone teams. There are twenty-seven zones in the district. This would have the effect of reducing support at some schools and increasing it at others. It would also have the effect of taking away some techs that were funded by the principal. This would give an average of 6 techs per zone. Adding additional techs would cost more money

**3-year cost:** $4.0M for adding 1 additional tech/zone

i. Change the support and instructional allocations (SA-IA) to make this a formula driven job for each school. There are many models. For example, one such model might be 1 tech per elementary school, 2 techs per middle school, and 3 techs per high school/center. This model would require 130 more microcomputer technicians. These can be implemented through time.

**3-year cost:** $18M-$21M

## 3.) Implement a Contemporary Student Information System

The district will need a major transition to a web based student system. The district did host a series of vendor presentations in 2004. These were exploratory to see what available. While some of the features of these systems were impressive, only 2 had Florida State reporting requirements built in. This project should be sponsored again and taken off the back burner. The longer an integrated system is not in place, the more independent solutions will be implemented, such as the Gradebook, the autodialer – Parentlink, independent scheduling systems, etc. There is potential to make this joint project with other large Florida districts to minimize the costs.

**3-year cost:** $15M – $20M

### 4.) Implement an Online Assessment System

Procure a Web-based, district-wide online assessment system utilizing valid and reliable test items that are aligned to district curriculum, state standards, and the statewide assessment (FCAT) and integrate the system with Curriculum Development and Implementation Management (CD/IM) System. Ensure that assessment results populate the diagnostic component of the AIP and are used to drive instruction.

**3-year cost:** $1.5M – $2M

### 5.) Implement School Based Information and Technology Centers

The transition of the school based library/ media role to heading the center of information and technology is recommended. The best practice is to have library/media person also head the technology and instructional support activities at that school. This would be a school-based center to provide all the information and technology needed in that school. This may be happening based on some principals' leadership, but there is not a concerted plan or strategy district wide.

**3-year cost:** $25K – $50K (not an incremental cost)

*New Recommendation*

### 6.) Implement Proficiency Based Job Descriptions

The objective of this project is to increase accountability and foster a sense of life long learning, all employees in any organization need to know the specific requirements, skills and knowledge of the job. This project would define what proficiencies are needed for every job, and then measure the effectiveness of the employee's proficiencies. Specifically start with the teacher's job descriptions.

**3-year cost:** $500K – $800K (not an incremental cost)

## 1.5.2 Business Technology Recommendations

### 7.) Implement a Document Management System

A district wide document management system has great cost savings potential. Consider a strategy that covers creating, printing, copying, storing, distributing, retrieving, archiving, and viewing documents as the scope of this project. This would include bundling the copiers, faxes, printers, imaging, scanners, portable devices, and consumables for one bid instead of treating each one as a separate bid. In addition, having one system to store, retrieve, archive, and distribute would be simpler than having multiple ones. Such a system would cover all agendas, reports, minutes, and reference documents (including construction

documents). There currently are multiple efforts in the district to set up independent document management systems (facilities, management audits, and ETS).

**3-year cost:** $8M – $12M (savings of $5-$7M)

*New Recommendations*

#### 8.) Review Outside Agencies to Refurbish and Distribute Surplus Computers to the Community

Currently the district is doing this in house. This is fine as a pilot. However there are agencies that can assume this role. Examples include, **Computers for Youth** and **National Christina Foundation (NCF).** This will allow employees to do other productive tasks.

**3-year cost:** $25K - $50K (not an incremental cost)

#### 9.) Implement a District-wide Project Management Office (PMO)

Include in this effort the installation of balanced scorecards, project monitoring, total cost of ownership (TCO), service level agreement (SLA)s and approval processes for each project in each department. This would ensure consistency across all departments. Provide a way to prioritize district projects, provide a common reporting method for management, promote data driven decisions and provide a basis for continuous improvement.

**3-year cost:** $300K -$500K

### 1.5.3 Infrastructure Technology Recommendations

#### 10.) Upgrade the ETS Project Management Office (PMO)

Expand the responsibilities of the ETS PMO so that it adds real value to the organization, not just report what others have reported to it. The basic process is in place, but now upgrade the scope so the PMO facilitates a dedicated project status meeting once a week, with trend charts, on every technology project in the district. Consider adding the plan versus actual tracking of budgets and schedules for each project, tracking of action items and provide the visibility of issues so management can take action. Currently this plan versus actuals tracking for budgets and schedule does not exist. This technology status meeting would be chaired by the CIO and run by the head of the PMO and attended by relevant stakeholders. In addition the process for establishing new projects needs to be strengthened. No project should get added until the business area senior manager agrees to the project. Its time to have integrity in the PMO processes.

**3-year cost:** $25K – $50K (not an incremental cost)

### 11.) Install Additional Information Technology Infrastructure Library (ITIL) Processes

In order to run large IT shops there are processes that help to make the organization run more reliably, consistently and proactively. The ITIL change management process was installed here, but it seems ineffective. With an organization of approximately 125 staff, less than one change a week gets processed through the change management process. This suggests not all changes are being captured. In addition, the other 9 processes of ITIL are not being planned or installed. These are service desk management, incident/problem management, configuration management, release management, service level management, availability management, capacity management, continuity management, and financial management. It is our recommendation that at a minimum one new ITIL process gets installed every six months. Further, the next recommended process to be installed is problem management.

**3-year cost:** $150K - $175K (not an incremental cost)

### 12.) Implement ETS Service Level Agreements (SLAs)

The major steps in a SLA process are:

a. Define a catalog of services for the organization,
b. Commit to a SLA for each of the services in the catalog. This would be a written agreement with the customer
c. Monitor the SLA with specific measurements,
d. Publish/meet with the customer on regular status,
e. Provide continuous improvement on the SLA year over year,
f. Link the customer service levels to the vendor service levels needed to support the committed customer service levels and
g. Include a pay clause based on SLA performance with the vendor.

In ETS' case, focus has been on step c) monitor the SLA with specific measurements. ETS is now poised to include the other steps.

**3-year cost:** $50K – $100K (not an incremental cost)

### 13.) Implement Total Cost of Ownership (TCO)

While the original research was done well, there was only one real result; base-lining ETS with other districts. There were no other results. This was not embedded into the culture, either in the district, or within ETS, as stated in the original goal. The concepts of identifying savings to calculate payback and rate of return were not part of the original TCO

project. There were no changes to any district business process such as using for technology project priority setting, collecting savings, or changing any district forms. Specific recommendations include:

a. Develop and implement a template/spreadsheet to standardize the collection of line item costs by year and project total, commitments of savings, calculations of payback, and return on investment.
b. Include this for all ETS projects for the PMO charter, technology RFPs, board agenda item requests, and budget review committee forms.
c. Implement an enterprise view/scope on all projects. Current practices tend to look at only the specific subprojects. Examples could include the document management system listed in these recommendations.
d. As a follow on activity, establish the major cost drivers for technology in the district and establish an on-going process for cost reduction.

**3-year cost:** $25K – $50K (not an incremental cost)

### 14.) Improve the E-mail System – CAB

This system is currently unreliable for many district users as it is not available some number of minutes/hours most days. It is not clear if this is district wide or just in specific locations. It has been stated, that SBBC is the largest customer for concurrent users of all FirstClass (CAB) installations. Further there are some product functionality problems, i.e., at times it takes 1-2 days to get emails. The recommendation is to conduct a thorough review to pinpoint the causes of these issues and resolve them. If the solutions are not possible with this product, then conduct a pilot to move to an alternative email system.

**3-year cost:** $100K – $3M

## *New Recommendations*

### 15.) Expand ETS Customer Liaisons

There are continuing last minute surprises on projects needing ETS' help. In order for ETS to be viewed as a partner in the districts activities, a more proactive approach is needed. One significant way of doing this is to establish customer liaisons for each major organization in the district. The CIO would have an agreement with each senior manager that this customer liaison will attend the senior manager staff meetings, be a part of the strategy discussions of that organization and be expected to offer/initiate solutions for that organization. Currently there

are two of these customer liaisons, one for Curriculum, and one for Facilities. Consider adding these additional positions, Purchasing/Finance, Human Resources, four area superintendents, Maintenance/Transportation,

**3-year cost:** $500K – $700K

### 16.) Streamline ETS Governance Groups and Processes

Currently there is a standards committee, applications committee and the Technical Advisory Committee (TAC).

a. There is an implied ETS executive steering committee, the senior management committee that would take positions on district wide priorities. A process is needed to approve any project being established. There can be some minimum guidelines that require any project exceeding x$ , needing approval from the districts Budget review committee or senior management.
b. The standards committee is effective for the district.
c. The recommendation is that TAC be reduced significantly from its 80 some members to approximately 15 members. ETS/TAC has already presented a tentative proposal to align TAC to the 13 Blueprint Chapters to the Board. We applaud this effort to institutionalize the Blueprint within the organization for an effective way of operating. In addition, the reduced membership should include the CIOs of local large businesses and educational institutions.
d. The applications committee could be merged with the software sub-committee of the standards committee or the revised TAC committee.

**3-year cost:** $5K - $15K (not an incremental cost)

### 17.) Appoint a group with the responsibility to Review and Approve all Technology Spending Outside ETS

The district needs more controls on technology spending being done outside ETS since it is 38% ($63.0M) of the total technology dollars ($165.0M) spent for the time period investigated.

The thirteen (13) RFPs/contracts reviewed appear to be good value for the dollars spent. There is no evidence of vendor bias. There needs to be a Total Cost of Ownership (TCO) and Return on Investment (ROI) analyses for each proposal made prior to an RFP. This would give management a way to prioritize. The specific issues on the RFPs/contracts include:

a. **The Gradebook – Pinnacle:** The development effort to port the application to OS/X was not been delivered on time from the vendor. The contract was proper, but the vendor didn't

deliver as planned. The CIO has withheld payments pending the fixes being successfully installed at SBBC.

b. **The help desk system – Customer Resource Management (CRM):** The users are not satisfied with the functionality of the system. In addition, reducing the actual number of service desk staff and not providing needed system automation functions at the same time will result in an ineffective help desk. In addition the current installation provides significant data on problems in the SAP Data warehouse, but the ETS staff are not using this data. This data includes, where the problem occurred, what was the problem, how long it took to resolve, what application was involved, and who had the problem. Each of these can be used in a proactive manner to help district staff avoid such problems in the future.

c. **The copier bid** in process at this time. This bid should be examined from a total document management system view across the district. SBBC is still continuing to separately bid copiers, faxes, printers, scanners, consumables, and services. There is significant opportunity for large cost savings by bundling these into a single bid including a system to create, store, search, retrieve, and archive documents. This would be the start of a document management strategy. There is not an issue with the RFP but with the strategy.

# 2.0 Review for Curriculum and Assessment

The *2004 SBBC Information Technology Blueprint* identified four major initiatives in the area of Curriculum and Assessment. They include the following:

- C&A-1: Comprehensive Approach for Building a CD/IM System (CUR05001)
- C&A-2: Technology Standards Articulation & Alignment Across the Curriculum (CUR05002)
- C&A-3: Curriculum/Technology Integration Approaches (CUR05003)
- C&A-4: Online Assessment Tools (RAE05001)

All of these initiatives are considered long-term projects, with the first three identified as high priority and the final project as a medium priority. BCPS has made excellent progress on the first three projects and recently reactivated the final initiative in the Curriculum and Assessment collection of projects.

## 2.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | 4 | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | 2 | 2 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **C&A-1:** Comprehensive Approach for Building a CD/IM System | CUR05001 | open - 84% | high | long |
| **C&A-2:** Technology Standards Articulation & Alignment Across the Curriculum | CUR05002 | open - 80% | high | long |
| **C&A-3:** Curriculum/Technology Integration Approaches and Applications | CUR05003 | open - 82% | high | long |
| **C&A-4:** Online Assessment Tools | RAE05001 | open- 18% | medium | long |

## 2.2 General Observations

The projects and/or initiatives outlined in this section of the IT Blueprint directly impact every teacher and student within BCPS. They are significant in both the depth and breath of their impact. The coordinated effort between Curriculum and Instruction and ETS to advance these activities to their current levels of accomplishment is noteworthy. BCPS has become a nationally recognized as a result of these projects.

## 2.3 Detail Review of Each Action Plan/Recommendations

### *CUR05001 C&A-1: Comprehensive Approach for Building a Curriculum Development and Instructional Management (CD/IM) System*

BCPS will continue the development of the CD/IM application. District leadership will identify the modules that are most important and/or of highest priority and will focus district resources (funding and manpower) on these components first. This includes the development and implementation of tools to assure that administrators and teachers are able to implement curriculum and instructional objectives based on data.

**Status**

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

**Effectiveness**

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

Phase 1 of the CD/IM initiative includes the development and rollout of the BCPS teacher portal, called the Broward Enterprise Education Portal (BEEP). This gateway provides teachers with “a secure, single point of access to digital resources for teaching and learning” (from the BEEP website), including the full collection of the Learning Village resources, Virtual Counselor, professional development opportunities, district calendars, testing schedules, and a wide variety of teaching resources for all disciplines for pre-K- grade 12. Usage rates for BEEP by teachers are being tracked and the New Teacher Academy professional development includes BEEP training.

A formal evaluation of the BEEP initiative was completed after the first year of development and implementation and the evaluation report was released in March of 2005. In the report, pilot teachers (system users and first pilot test group) indicate that BEEP is a beneficial resource to teaching, learning, and instruction. Evaluation results expressed that this project was on time, on schedule, and positively benefited

the teachers. Since that time, an online BEEP survey has been conducted via the BEEP portal. In general, teacher and administrator response to BEEP has been very positive.

BEEP user statistical data has been collected on the number of teachers who are accessing the BEEP portal on a regular basis. Tags have been placed on several key pages to record statistics. To date the usage numbers are outstanding and show continuous growth. BEEP was a 2006 winner of a Digital Education Achievement Award (DEAA).

### Remedial Steps

**Remedial Step 1:** Continue to refine and advance the BEEP teacher portal strategy to further address the needs of teachers within SBBC. Expand access to instructional applications, enhance resources features/functionality, and customize BEEP for differentiated teacher cohort groups.

**Remedial Step 2:** Continue the strategic planning process to determine a portal infrastructure and strategy (including, but not limited to KNEXUS) that are flexible and adaptable enough to meet the needs of the multiple and diverse audiences within BCPS. Incorporate all the existing features and content that exists in BEEP into the comprehensive solution when feasible.

## *CUR05002 C&A-2: Technology Standards Articulation and Alignment Across the Curriculum*

Fully integrate the National Educational Technology Standards for Students (NETS•S) into the Broward curriculum standards and district curriculum frameworks all levels in all disciplines. Incorporate information literacy, computer science, and 21st century skills as needed to enhance and complement NETS•S. The alignment of the NETS•S for all students with the Florida Sunshine standards will ensure that all students attain the necessary skills during their K-12 learning experience to be successful and productive citizens of the greater Broward community and beyond. Develop processes for determining the grade levels in which appropriate NETS Standards will be introduced and mastered in order to meet the grade 8 NCLB technology requirements by 2006.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The action plan in this IT Blueprint project has been refined to reflect the impact of the BEEP project. Instead of creating a scope and sequence in grades K-12 for areas of integration, BCPS is aligning technology standards to lesson plans that support the Sunshine State Standards by incorporating these lesson and unit plans under the curriculum content area in the BEEP Learning Village organizer. This integration strategy provides the seamless alignment of content to technology skills that SBBC seeks and is shown to be beneficial for both teachers and students.

To track the attainment of the NETS proficiencies, the BEEP Learning Village Instructional Organizer is being used to align the assessment rubrics under all of the curriculum content area. This alignment is a work in progress and will take time to complete.

Although the BCPS investigated a variety of assessment tools, such as learning.com's online Tech Literacy tool, adoption was postponed indefinitely. This action was in response to news from the Florida DOE that a student tech literacy assessment tool will be available to all Florida school districts at no cost. The tool is currently being piloted in other school districts and will be available for use in 2007. This tool, along with student portfolios, is planned to assess literacy attainment.

### Remedial Steps

**Remedial Step 3:** Continue to align the assessment rubrics under all of the curriculum content areas using the BEEP Learning Village Instructional Organizer. Identify strategies, resources, and funding sources for additional staff to accelerate this process.

## *CUR05003 C&A-3: Curriculum/Technology Integration Approaches and Applications*

Focus instruction at all levels in all disciplines toward appropriate instructional strategies including project-based learning, acceleration, and independent practices. Support these approaches to teaching and learning with the development of scientifically researched best practice technology and curriculum integration strategies. Develop selection criteria for specific content/course applications.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

The Digital Education Teacher Academy (DETA) is the primary vehicle by which SBBC is addressing and encouraging the integration of technology across all disciplines by all teachers in all grade levels. To date, 4,000 teachers and administrators have participated in DETA. Classroom teachers demonstrate proficiency in the NETS for teachers via pre- and post-assessments and portfolios of work produced in the DETA program. DETA teachers are integrating technology into daily classroom practice as shown by observations, samples of student work, lesson plans, and classroom walkthroughs. They are using the strategies, techniques, and methods used in the DETA program to delivery curriculum content and assess students.

STAR survey results, along with other data points, have been used to develop a gap analysis of schools that are at the entry, intermediate, or advanced levels of integration of technology into the curriculum. Criteria and data points have been developed to determine placement. A professional development program that meets the entry, intermediate, and advanced levels has been made available to all schools in Broward County. It is notable that most schools have teachers at various levels of integration.

Two formal external evaluations of DETA were published in the summer of 2002 and March of 2004; they evaluated the effectiveness of the program. Another evaluation will occur at the end of 2006. Classroom teachers indicate that the DETA activities meet their needs for learning how to integrate technology tools into daily classroom practice. Continuous improvements to the DETA program are being made based on teacher feedback, FAU professor feedback, updates to the Broward vision, new resources procured by the district, and scientifically based research.

Benchmark goals for the number of teachers participating in DETA have been met. TCO of the DETA program has been cost effective and costs streamlined as the program is institutionalized. FCAT Explorer usage data (the number of students using FCAT Explorer daily/weekly) is being monitored and will be crosschecked with FCAT scores in the near future. School visitations and feedback indicate that students are using FCAT Explorer under the direction of classroom teachers, especially in low performing, superintendent's schools.

### Remedial Steps

**Remedial Step 4:** Continue to develop, expand, and refine the DETA program. Implement, refine, and expand the Global Learning Initiative through Digital Education for Students (GLIDES) effort currently in the pilot stages. This initiative focuses on the integration of technology tools and resources to support and encourage project-based learning.

## *RAE05001 C&A-4: Online Assessment Tools*

Procure (either develop or purchase) a Web-based, district-wide online assessment system utilizing valid and reliable test items that are aligned to district curriculum, state standards, and the statewide assessment (FCAT) and integrate the system with

Curriculum Development and Implementation Management (CD/IM) System. Ensure that assessment results populate the diagnostic component of the AIP and are used to drive instruction. Note: If in step 6, there is no vendor system selected that meets the requirements, there will be a biennial re-release of the RFP to continue to explore available alternatives.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

This project has been successful in developing an RFP for an online assessment system. However, based on budget limitations, the RFP has not been released and no date for release has been set.

In the interim, BCPS has developed mini-benchmark assessment tests (BATs) that are administered at the classroom on a weekly basis. A Lexmark MFP printer/scanner is located in each school to allow teachers to garner immediate feedback from these paper-based tests. The mini-BAT data is dumped automatically into Virtual Counselor for review and planning.

Additionally, licenses for an online assessment tool, QUIA, have been procured and distributed through the DETA program. QUIA is popular among teachers receiving the licenses, as determined by their feedback. The teachers noted that QUIA is an easy to use web-based application that allows them to create simple online assessments, games, and surveys.

### Remedial Steps

**Remedial Step 5:** Continue to seek a funding strategy that will allow the district to follow through with the RFP process for a comprehensive online assessment system that will integrate with BEEP.

**Remedial Step 6:** Further evaluate and consider QUIA for district-wide procurement and if adopted align it to existing BEEP teacher tools.

## 2.4 New Action Plans/Recommendations

None

# 3.0 Review for Teaching and Learning Technologies

The *2004 SBBC Information Technology (IT) Blueprint* identified four major initiatives in the area of Teaching and Learning Technologies. They include the following:

- TLT-1: Students with Disabilities (CUR05007)
- TLT-2: Transform the Role of Library/Media to Information and Technology Centers (CUR05008)
- TLT-3: Student Technology Internship Program (STIP) (CUR05009)
- TLT-4: E-Mentoring (COS05004)

One additional project was developed that links directly to this section of the IT Blueprint:

- Access Video Content via United Streaming (ETS6013)

All of these initiatives are considered long-term projects. The first two projects are identified as high priority; the third project is low priority; and the final project is classified as medium priority. The additional project is considered a low priority. BCPS has made excellent progress on the first and third projects and continues to advance the remaining projects the teaching and learning technologies arena.

## 3.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | 5 | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | 2 | 2 | 1 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **TLT-1:** Students with Disabilities | CUR05007 | open - 94% | high | long |
| **TLT-2:** Transition the Role of Library/Media to Information and Technology Centers | CUR05008 | open - 20% | high | long |
| **TLT-3:** Student Technology Internship Program (STIP) | CUR05009 | open - 91% | low | long |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **TLT-4:** E-Mentoring (combined with Section XII CAP-3) | COS05004 | open - 31% | medium | long |
| **Related Projects not in the Blueprint** | **PMO #** | **Status** | **Priority** | **Time** |
| Access Video Content via United Streaming | ETS6013 | open - 20% | low | long |

## 3.2 General Observations

The projects outlined in this section are focused on specific student audiences and district staff members, but hold the potential to eventually impact much larger audiences. Two of the initiatives that are nearly complete are pilot projects ready to advance to broad scale implementation upon the availability of funding.

## 3.3 Detail Review of Each Action Plan/Recommendations

### *CUR05007 TLT-1: Students with Disabilities*

Research, develop, pilot, and expand scientifically researched, best-practice teaching and learning strategies to address the unique needs of the district's special programs and audiences.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

#### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

This project is expected to be closed prior to the end of 2006. Special education staff members have developed training modules and a model *Smart Classroom* representing the universal access and universal design principles (UA/UD). Training has been conducted, a curriculum that expands the IDEA guidelines developed, and a design for district-wide implementation completed.

It should be noted that the one-to-one wireless laptops of mobile carts project has negatively impacted some special education classrooms within the district. A number of special education classrooms have lost full time access to computers in their classrooms, as teachers within buildings are now required to share. With their

generally small populations, special education classrooms rarely need 20 computers at once, but almost always need at least 3 to 5 modern computers to serve their diverse student population.

### Remedial Steps

**Remedial Step 1:** Develop a team that includes membership from ESE and Instructional Technology to determine the costs involved in adopting the *Smart Classroom* prototype district-wide. Determine specifications as to what is needed such that the district can reallocate funds to enable each school location to design and develop such a classroom. This *Smart Classroom* prototype holds the potential of providing universal access/universal design environments for all BCPS students.

**Remedial Step 2:** Analyze and reevaluate the current distribution of computer resources within special education classrooms across the district. Develop solutions, including discussions with and/or guidelines for principals to ensure for equal scheduling of equipment in schools.

## *CUR05008 TLT-2: Transition the Role of Library/Media to Information and Technology Centers*

Transform the role of school library/media centers into information and technology centers that support students in becoming information-literate, lifelong learners who have an understanding of how to access, analyze, communicate, and use information. Clarify and standardize the role of information and technology center staff and staffing patterns (certified and Paraprofessionals) with respect to promoting a stronger partnership with classroom teachers to integrate information literacy standards into the curriculum in support of authentic learning; access and deliver a myriad of resources including digital and online content to enhance and enrich teaching and learning, and foster problem-solving and critical thinking skills among students. Assess the current use of information and technology center physical space and print resources; identify emerging usage patterns as access to digital content continues to expand; and investigate strategies to maximize the use of physical space and information and technology center funds to expand services, and access.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

It should be noted that this project was on hold until a new Director was named in the fall of 2006. The first meeting to discuss moving ahead with the project is scheduled for 12/15/06. At this time, most schools still have both library/media staff and school-based technology support staff who have not yet fully coordinated their efforts nor clearly and formally defined the roles that each should fulfill within the Information and Technology Centers.

Communication and scheduling challenges regarding staff development and the transition associated with a change in leadership initially impeded the transition of library/media centers to information and technology centers. Despite these early setbacks good progress is being made in a number of related efforts.

Extensive staff development is offered through Learning Resources, DETA, and the Instructional Technology department that includes DETA 1, DETA 2, New Media Specialist training, cluster 4 reference and research, television production, and information literacy. Most library/media staff has completed the DETA training. The development of additional DETA training for library/media staff members is in process.

The two other technology initiatives that serve as significant driving forces in this progress are the placement of video conferencing resources in every school and the purchase of a district-wide site license to Discovery Learning's *Unitedstreaming™* video library. In most schools, the video conferencing equipment was housed in the library/media center. The library/media staff has been identified as the primary audience for the first tier of training on the video conferencing resources. Once this training is completed, the plan allows for the library/media staff members to serve as the experts with respect to the video conferencing resources for training and support within their respective schools.

The first phase of *Unitedstreaming™* implementation required Webinars training by library/media specialists using Webex. Many library/media staff members participated in this initial professional development activity. Phase 2 encompasses the media specialists serving as the school expert for training and support for the Unitedstreaming resources.

## Remedial Steps

**Remedial Step 3:** Continue to support the transition from Library/Media Centers to Information and Technology centers by providing on-going training in technology integration, information and technology literacy, on-line research skills, Unitedstreaming, and videoconference resources for all library/media staff.

**Remedial Step 4:** Continue to pursue and develop strategies with local institutes of higher education in the area to address the shortage of certified library/media specialists.

## *ETS06013 Access Video Content via* Unitedstreaming™

This project aligns key stakeholders in developing and implementing a district-wide plan to deliver the newly acquired Unitedstreaming video subscription for the 2006/2007 school year.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

**Remedial Step 5:** Offer additional *Unitedstreaming* Webinars specifically for library/media staff since they were requested during on-site visits. These training opportunities would benefit the library/media staff significantly.

**Remedial Step 6:** Continue to monitor usage rates of *Unitedsteaming* by teachers, and also monitor the impact the usage of this resource on network performance as its popularity and usage increases.

## *CUR05009 TLT-3: Student Technology Internship Program (STIP)*

Provide various job shadowing, internship, and paid on-the-job training opportunities for students in the various IT related career and technical programs. The collaboration between the ETS Department and the schools will enhance the instructional programs, give students the opportunity to apply academic and technical competencies in IT related jobs, and help to develop a cadre of trained IT workers for the district.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The Student Technology Internship Program (STIP) was piloted in two BCPS high schools using Carl Perkins' monies. A four-part program that includes orientation, mentorships, on-the-job training, and internships was developed and implemented in these schools with positive impact. BRACE advisors assisted with post-secondary and job training activities.

### Remedial Steps

**Remedial Step 7:** Increase awareness of STIP and the benefits it provides for students in existing high schools by increasing knowledge among guidance staff and disseminating information through the Career and Technology Adult Community Education (CTACE) program.

**Remedial Step 8:** Develop a phased plan and funding strategy/source for broad-scale implementation of STIP in all high schools.

## *COS05004 TLT-4: e-Mentoring (combined with Volume XIII-CAP3)*

Establish a district-wide e-mentoring program that leverages the power of the internet to electronically connect students with mentors in the school district and in the community. The e-mentor initiative will expand opportunities for individuals in the community to act as a resource for students.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

The e-Mentoring program is currently offered as an after-school program. The mentoring was initially conducted via email, which proved problematic due to security, filtering, and safety issues. The program has since moved to a video conferencing model with greater success and fewer problems. The current program consists of interaction between high school and middle school students (peer-to-peer) and high school and elementary school students. The high school mentors receive service hours for their participation. At the elementary level, this mentoring is used primarily as a recruitment strategy for the magnet high schools with unique programs, for example, thespian and marine sciences.

### Remedial Steps

**Remedial Step 9:** Continue to address the logistical issues that have been the primary challenges with the e-Mentoring program. These issues include scheduling challenges, alignment with after-school bus routes, and recruitment of mentors.

**Remedial Step 10:** Identify and pilot the use of a secure and monitored on-line environment/ePal solution that supports the integration of blogs, wikis, or other social interaction websites for use in the e-Mentoring program.

**Remedial Step 11:** Develop a prioritized plan of funding needs in the area of curriculum and technology integration. Charge the Curriculum division with the task of prioritizing these efforts with respect to greatest need and largest, most significant potential impact. Include this into the district wide Project Management Office (PMO) process that is being recommended.

## 3.4 New Action Plans/Recommendations

None

# 4.0 Review for School Facilities and Learning Environments

The *2004 SBBC Information Technology (IT) Blueprint* identified five major initiatives in the area of School Facilities and Learning Environments. They include the following:

- TLE-1: Digital Learning Environment Study (CUR05006, ETS05044)
- TLE-2: Distance Learning (STP05004, ETS06011, ETS06004)
- TLE-3: Virtual Advanced Community Learning Centers (STP05005)
- TLE-4: Systems Facilities (FAC05001)
- TLE-5: Technology Infrastructure Enhancement, Upgrade, & Refresh Plan (FAC05002, ETS05041, ETS0504)

One additional project was developed that links directly to this section of the IT Blueprint:

- Independent Device Enabling Access (IDEA) (ETS6007)

These initiatives present a mixture of long-, medium-, and short- term projects. Likewise, the priority levels vary from high to low. The third (distance learning) and fifth (technology infrastructure plan) initiatives were broken down in smaller sub-projects to more easily track progress. All of the short- and medium-term projects are 100% complete, with the exception of the newly initiated IDEA project. Three of the long-term projects are 100% complete, leaving only four projects still active. Two of these four open projects are more than 80% complete. SBBC has made excellent progress on the vast majority of the School Facilities and Learning Environments projects.

## 4.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 8 | 3 | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | 8 | 3 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **TLE-1a:** Digital Learning Environment Study | CUR05006 | closed - 100% | high | long |
| **TLE-1b**: Digital Learning – Support, Install, Training, & Implement | ETS05044 | closed - 100% | high | medium |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **TLE-2a:** Distance Learning | STP05004 | open - 97% | high | long |
| **TLE-2b:** Distance Learning – Blackboard | ETS06011 | open – 36% | medium | long |
| **TLE-2c:** Distance Learning – Video conferencing | ETS06004 | closed - 100% | low | medium |
| **TLE-3:** Virtual Advanced Community Learning Centers | STP05005 | closed - 100% | low | long |
| **TLE-4:** Systems Facilities | FAC05001 | closed - 100% | medium | short |
| **TLE-5a**: Technology Infrastructure Enhancement, Upgrade, & Refresh Plan | FAC05002 | closed - 100% | medium | short |
| **TLE-5b:** Technology Infrastructure Enhancement, Memory Upgrade, & Refresh Plan | ETS05041 | open - 82% | high | long |
| **TLE-5c:** Technology Infrastructure Enhancement, Upgrade, & Student Refresh Plan | ETS0504 | closed - 100% | high | long |
| **Related Projects not in the Blueprint** | **PMO #** | **Status** | **Priority** | **Time** |
| Independent Device Enabling Access (IDEA) | ETS6007 | open - 30% | medium | medium |

## 4.2 General Observations

The projects presented in this section of the IT Blueprint address the quality, quantity, and distribution of technology-based teaching, learning, and management resources. These efforts seek to attain and maintain a critical mass of resources to create technology-enriched environments for all audiences within the greater Broward educational community. The effective implementation and regular use of these resources depends upon the professional development initiatives and technical support structures identified in other IT Blueprint sections.

## 4.3 Detail Review of Each Action Plan/Recommendations

### *CUR05006 TLE-1a: Digital Learning Environment Study*

Define, implement, and evaluate learning environments at the elementary and secondary levels to support digital learning, virtual learning, and community outreach for all students, including students with disabilities and students who have limited proficiency in English. These learning environments will be based upon scientifically researched, best-practice teaching and learning strategies.

## Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

## Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

BCPS aspires to attain a one-to-one computer-to-student ratio, but realize that they need to investigate and pilot a variety of strategies to find the best model to meet the district's needs and culture. The Digital Environment Study project (CUR05006) conducted these pilots and the analysis to determine the current one-to-one initiative. District leadership determined that placing mobile, wireless laptop carts, consisting of 20 laptops each, throughout Broward schools was the strategy of choice. This distribution results in a 6-to-1 student-to-computer ratio per building of computers that are highly mobile and flexible with respect to configuration options. An outside evaluator completed a formal evaluation of the Digital Environment Study after the first year of implementation.

This report was released in March 2005 and highlighted the following:

- *Professional development strategy leads to the effective integration of the laptops into daily classroom practice*. The evaluation report indicated that the professional development strategy, which included every teacher going through DETA, was effective.
- *Technical and management systems were well organized and maintained.* The evaluation report indicated that technical support and technical issues were a major implementation issue. In addition, security issues came up that affected student home use at one school.
- *Teachers, students, and administrators were satisfied with the implementation and use of the laptops for instruction*. In general, the evaluation report found satisfaction with the availability of laptops and the impact on teaching and learning in the classroom. The program continues and an extension of the evaluation led to the Student Technology Refresh project for the 05-06 school-year that enables all schools in Broward to have wireless carts with laptops for on-demand student use.

## Remedial Steps

**Remedial Step 1:** Assess the impact of the laptop distribution strategy on small, special populations who may have lost daily access to these computing resources. Consider options to address the needs of these unique audiences.

## *ETS05044 TLE-1b: Digital Learning Environment Support*

Install a complete enterprise wireless network at each site that includes imaging, installation, and distribution of the wireless, laptop carts and site installation and on-going support for each site-based server.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The support for these laptop digital learning environments (ETS05044) included the complete installation of an enterprise wireless network at each site along with the imaging, installation, and distribution of the wireless, laptop carts. In addition, site installation and on-going support for each site-based server is being provided. With the exception of a few portable and remote classrooms across the district, this district-wide wireless network is fully operational and is monitored around the clock by the Network Operations Center (NOC).

### Remedial Steps

**Remedial Step 2:** Determine and remediate the number of portable classrooms and/or remote locations that are still in need of wireless connectivity.

## *ETS6007 Independent Device Enabling Access (IDEA)*

Create instructional videos in the areas of reading, mathematics, and science that can be accessed on-demand; allow access to Unitedstreaming and Compass Learning resources from both home and school; and distribute district training videos and podcasts to staff using highly portable, handheld devices. One IDEA pilot that was discussed (not committed) includes a collaborative effort between New River Middle School, the SBBC ESE department and ETS to explore delivering content by use of handheld devices. The project seeks to determine the educational benefits that can be achieved through this technology enhanced learning opportunity.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

Through its IT Blueprint projects, the school district continues to embed e-Learning opportunities into classrooms, schools, and departments creating ubiquitous teaching, learning, and work environments. Continuing in this direction, ETS will beta test a variety of handheld content storage devices to determine their ability to capture and deliver on demand audio and video content. These devices in include, but are not limited to iPods, Sony PSP, Dell Axim, Archos DVR, and Palm Life Drives. This endeavor is being conducted to determine the educational and district-wide benefits that can be achieved through these technologies to enhance content delivery and storage capacities. These pilots are in their initial stages and will be monitored and evaluated for instructional effectiveness and cost efficiency.

### Remedial Steps

**Remedial Step 3:** Continue to advance and evaluate the IDEA project pilots to determine the educational benefits of these handheld resources.

**Remedial Step 4:** Include the involvement and expertise of leadership within the division of curriculum to prioritize, implement, monitor, and evaluate these pilots.

## *TLE-2: Distance Learning (STP05004, ETS06011, ETS06004)*

Continue development of distance learning to enhance both work and learning environments. Conduct a total cost assessment that includes ancillary costs and benefits. Develop policies that help to move conferencing and distance learning more deeply into daily practice.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

The effort to bring distance learning resources to BCPS resulted in three separate projects (STP05004, ETS06011, and ETS06004). Two of these projects are closed or nearly complete. The pilot of the Blackboard Learning Management System is the only distance learning effort still in its initial stages. Now that the pilot has been conducted and the infrastructure and policies are in place, creating the environment required to manage the growth of these distance learning opportunities is the next logical step.

### STP05004 TLE-2a: Distance Learning ~ Pilot and TCO Analysis

The first phase of this effort (STP05004) consists of a distance learning pilot that includes conducting a total cost of ownership (TCO) analysis to determine ancillary costs and benefits and developing policies that support and encourage the use of video conferencing and distance learning in daily practice. This project is nearly complete and will be closed by the end of 2006. The results from the external evaluation and those from the middle and high school pilot programs are still pending.

### ETS06011 TLE-2b: Distance Learning ~ Blackboard

The second phase of this effort (ETS06011) involves the identification and implementation of an online learning management tool to assist with the delivery and monitoring of eLearning courses. A pilot of the Blackboard Learning Management System is currently in process to determine its ability to seamlessly coordinate with other IT projects including, but not limited to, Project Knexus Workplace for Education, IDEA, Unitedstreaming, Broward Virtual University, Broward Virtual Education for middle and high schools, CTACE's on-line programs, and eLearning Broward. Approximately 20 teachers have been trained to date on Blackboard course creation and an additional 50 teachers are on the waiting list for this training.

### ETS06004 TLE-2c: Distance Learning ~ Video Conferencing

The third phase of this effort (ETS06004) entailed the refresh and upgrade of district-wide video and audio conferencing, bridging, scheduling, and management systems along with the placement of video conferencing units in all schools and departments. Approximately 85% to 95% of the mobile video conferencing units placed in schools are housed in the library/media centers. With the completion of this project, it is believed that BCPS now operates the largest video conferencing network in the nation. These resources are used for providing direct instruction and conducting meetings among administrators across the district. Approximately 8,000 students per week attend classes and lessons that are delivered over this conferencing network. A group of more than 40 fourth grade classes were observed participating in a writing lesson conducted by a master teacher in preparation for the FCAT grade 4 writing assessment.

#### Remedial Steps

**Remedial Step 5:** Prioritize the value of expanding the current distance learning pilot programs in additional middle and high schools using teacher, student, and principal input. Seek funding and required staff as this effort becomes a district priority.

**Remedial Step 6:** Conduct an analysis of the benefits, value-add, and cost of Broward Virtual High School programming versus the Florida Virtual High School offered at no cost to BCPS students. Determine if the benefits and value-add justify the additional cost to the district.

**Remedial Step 7:** Identify strategies to reduce the cost of development and distribution of eLearning and distance learning opportunities.

**Remedial Step 8:** Continue the pilot and analysis of the Blackboard Learning Management System with respect to district compatibility and alignment requirements. Increase the number of staff available to provide Blackboard course creation. Address the data integration issues identified to date.

## *STP05005 TLE-3: Virtual Advanced Community Learning Centers*

Expand framework for the development and implementation of Virtual Advanced Community Learning Centers that will provide Broward County with online courses, training programs, independent/community study opportunities, and staff development program.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The Virtual Advanced Community Learning Centers (STP05005) were realized through the creation of eLearning Broward that is housed at the Sheridan Technical High School. This e-Learning strategy allowed the relatively small Sheridan facility to increase their capacity by one-fifth of its size by developing a four-day on-site, one-day off-site e-Learning program. *eLearning Broward* began with 25 online courses and has blossomed to more than 100 courses that are currently being offered. This program feeds into the entire district, and works with other technical high schools to expand their online offerings.

### Remedial Steps

**Remedial Step 9:** Continue to expand the development of eLearning Broward and support the creation of additional course offerings.

**Remedial Step 10:** Investigate opportunities of expanding course offerings beyond the traditional school day for nontraditional audiences.

## *FAC05001 TLE-4: Systems Facilities*

Research, identify, validate, and standardize all district facilities technology-based enhancement strategies for building wiring, electrical, security, and HVAC systems that will create more conducive learning environments while reducing costs, conserving energy and natural resources, reducing pollution, and simplifying maintenance.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The current generic education specifications, technical specifications, and design and material standards are in alignment with the current educational strategies. Although this project is officially closed, it is considered an on-going, dynamic process that requires refresh each time curriculum or energy management strategies change to ensure technological equity and energy efficiency throughout the district. Meetings are held regularly between ETS and Facilitates to ensure that all specifications are in alignment and up-to-date. With regard to new construction, all purchases in the past 18 months have been signed off to ensure that they follow the district specifications.

### Remedial Steps

**Remedial Step 11:** Continue to maintain district standards for educational, technical, design, and materials. Provide these standards to all internal and external architects and contractors who provide services to the district; such as designing, constructing, installing, and maintaining the district's technology and energy management infrastructure.

**Remedial Step 12:** Assess these standards and the need to refresh them as required over time to ensure technological equity and energy efficiency throughout the district. Determine ways to group key meetings to reduce an overload of meetings.

**Remedial Step 13:** Develop a combined ETS and Facilities strategy to stay aware of emerging technologies. Also, improve ways to regularly adjust and refine specifications in all categories to economize and maximize district dollars.

## TLE-5: Technology Infrastructure Enhancement, Upgrade, and Refresh Plan (FAC05002, ETS05041, ETS05049)

Develop and implement a long-range plan for enhancement/upgrade of all technology capital items and integrate the refresh cycle into the District Technology Plan.

The technology refresh program for BCPS schools resulted in three separate projects (FAC05002, ETS05041, and ETS05049). Two of the three projects are complete and the remaining project is over 80% complete.

## FAC05002 TLE-5a: Technology Infrastructure Enhancement, Upgrade, and Refresh Plan ~ Equipment Replacement

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

The first phase of this comprehensive technology refresh effort (FAC05002) consisted of funding and initiating replacement of equipment as indicated by existing technology standards. Equipment that has been identified as reaching the end of its useful life has been replaced and/or removed. Existing technology standards were used to govern the procurement of replacement equipment. Although this process is officially closed, it continues annually throughout the district.

### Remedial Steps

**Remedial Step 14:** Revisit existing technology standards periodically (aligns with section VII: Standards, Procurement, Maintenance, and Implementation) and continue to assess replacement of equipment as indicated by these technology standards.

## *ETS05041 TLE-5b: Technology Infrastructure Enhancement, Upgrade, and Refresh Plan ~ OS & Memory Upgrade*

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The second phase of this effort (ETS05041) involves the upgrade of operating systems (OS) MAC OS 10.3 and PC WIN XP, and the memory necessary to effectively run these operating systems in all eligible computers throughout the district. This operating systems and memory upgrade allows the district to negotiate district licenses for all applicable platforms based upon consistent operating systems.

### Remedial Steps

**Remedial Step 15:** Continue the Operating System and memory upgrade process to closure, currently at 82% complete.

## *ETS05049 TLE-5c: Technology Infrastructure Enhancement, Upgrade, and Refresh Plan ~ Student Technology Equipment*

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The third phase of this effort (ETS05049) implemented a student technology replacement plan that is transparent to the replacement cycle and ensures a more equitable district-wide process. Equipment that has reached the end of its useful life in elementary, middle, and high school facilities and centers has been identified and replaced according to the existing standard or bid. The mobile wireless laptop carts placed in all BCPS schools replaced many of these aging resources. Although the process is officially closed, it requires on-going monitoring for obsolete student computing resources.

### Remedial Steps

**Remedial Step 16:** Monitor student computing resources on a regular basis for obsolete equipment.

## 4.4 New Action Plans/Recommendations

None

# 5.0 Review for Organizational Development and Staffing

The *2004 SBBC IT Blueprint* identified several major initiatives in the area of Organizational Development and Staffing. They included the following:

- ODS-1: School-based and Department Level Technology Support
- ODS-2: User/Learner Support (BITS & Area Support)

These initiatives present two long-term projects both with high priority. Having the organization and staff in place to support optimal use of technology is essential to school-level successes. SBBC has made progress on the two Organizational Development and Staffing projects but has not yet completed both of them. The technology-based solutions used in this area have been helpful in attacking the issues identified in the Blueprint while being responsive to funding constraints on additional staffing.

## 5.1 Chapter Summary

**Status**

| Original | Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|---|
| 2 | 1 | 1 | 0 | 0 | 0 | 0 |

**Effectiveness**

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | 1 | 1 | |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **ODS-1:** School-based and Department Level Technology Support | ETS06012<br>ARS05001 | open - 16%<br>closed – 100% | high | Long |
| **ODS-2:** User/Learner Support (BITS & Area Support) | ETS05025 | closed – 100% | high | long |

## 5.2 General Observations

The projects presented in this section of the IT Blueprint address the quality, quantity, and distribution of technology-based support and resources. These efforts seek to attain and maintain a critical mass of support to minimize the downtime and maximize effective use in technology-enriched environments for all audiences within the greater Broward educational community.

In 2004, the IT Blueprint process elicited a great deal of interest from principals in acquiring additional technical support at the school level. However, funding for such staffing levels was deemed prohibitive. Therefore, some technological solutions to support issues were sought. Other areas of the IT Blueprint were deemed to assist in some of these issues. For example, "just-in-time" videos and tutorials were created through Atomic Learning so that individuals could receive help with specific applications, without needing to call on someone in the school or to call the help desk. This assistance was a way to positively support users without spending a great deal of money on staffing. Also, streamlining the models and features on technology ordered and having a strategic refresh plan would help to minimize the needs for technology support. Providing additional training to teachers and administrators through DETA (teacher training) and BEEP (the teacher portal) were also considered as ways to address the needs in technical support.

The Technology Support Staffing Plan has not been funded and is indicated as closed. Consequently, it remains a major problem to the district. Upgrades to the centralized technical support system or CRM have started to enable the ETS help desk to better support schools and departments, but is not completely effective yet.

The concept of Service Level Agreements (SLAs) was introduced during the IT Blueprint process. Automated "probes" and reporting have been installed to monitor about 25 services. While the monitoring has been effectively implemented, the formal process of contracts between the ETS customers and vendors supplying services has not yet been implemented. The use of these automated testing and reporting tools has permitted a proactive approach of avoiding problems; it has helped to decrease the amount of time needed to repair reported problems.

## 5.3 Detail Review of Each Action Plan/Recommendations

### *ETS06012 and ARS05001 ODS-1: School-based and Department Level Technology Support*

This initiative focuses on the IT Organizational Development needs of BCPS. It proposes to develop, implement, and institutionalize a Technology Support Staffing Plan that addresses the technical needs for all schools and departments with emphasis on site level support and technology integration.

**Status**

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

**Effectiveness**

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

Many activities have been implemented or planned regarding technical support for schools and departments. These activities include:

- Centralizing the technical support for the departments in the ETS help desk
- Planning to repurpose the area IT specialists next year. They are not under the control or budget of ETS, which believes that they provide essential support to schools
- Undertaking major updates at the central help desk system
- Increasing the training of the school-based technical specialists
- Installing central software distribution to help minimize the load on school-based support
- Promoting Atomic Learning web-based videos to assist users in looking for their own answers rather than asking for help and developing additional videos for new applications. A significant number of school-based support questions can be answered without taking time from the school-based support staff

Although some activities have been implemented, schools are losing technology positions. This issue is a school-based decision that may involve funding, or it may reflect inability to find someone with the requisite knowledge. The principals rate the effectiveness of technical support at the school and district level as very high in the survey. The survey ratings were as follows:

| Statement in Principal Survey | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | No response |
|---|---|---|---|---|---|---|
| School-based technical support is effective | **48**% | 38 | 6 | 6 | 2 | 0 |
| District-based technical support is effective | 27% | **52** | 11 | 9 | 1 | 0 |
| The district help desk is effective | 20% | **62** | 10 | 7 | 1 | 0 |
| Vendor support is effective | 16% | **65** | 13 | 3 | 1 | 1 |

N=157

The survey also asks, “From a technology viewpoint, what changes, or improvements would help you the most?” The most popular response from principals cites the need for more technical support. One-fourth (25%) of the principals responded that additional technical support is needed. Clearly, this area is one needing attention.

## Remedial Steps

**Remedial Step 1:** Create more on-site, local support, especially as more technology is installed at the schools. Consider revising the support allocations to make technical support a formula-driven item in the budgeting process rather than leaving this decision up to each principal.

**Remedial Step 2:** Complete upgrades to the centralized technical support system.

**Remedial Step 3:** Benchmark technical support activities with other school districts for best practices. These activities include organizing central IT, establishing hiring criteria based on proficiency, identifying certification needs, offering multiple job grades, training staff members, identifying a backfilling process for specific school needs, and evaluating assistance for the principals.

## *ETS05025 ODS-2: User/Learner Support (BITS & Area Support)*

This initiative proposes to develop, implement, and institutionalize standards of service/service level agreements, technical support models, and end-user customer support approaches to be provided by district-wide IT technical support staff for all levels in the BCPS (classroom, school, area, district, community). An SLA defines a level of service and responses to that service level are tracked. The goal is to increase the speed of service, to decrease the number of calls, and increase the satisfaction of the end users. At the end of a set time period or a school year, the SLAs are examined to see how they can be made more responsive to the users. In addition, after the first SLAs are established, additional ones for the most widely used applications will be created.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The major steps in a SLA process are:

1. Define a catalog of services for the organization.
2. Commit to a service level for the customer in written form with his/her agreement.
3. Monitor the SLA with specific measurements.
4. Publish and meet with the customer on regular status.
5. Provide continuous improvement on the SLA year over year.
6. Link the customer service levels to the vendor service levels needed to support the committed customer service levels.
7. Include a pay clause based on SLA performance with the vendor.

Although the current focus is on step 3, Monitor the SLA with specific measurements, ETS is now prepared to include the other steps. The number of services monitored has been significantly increased (four times) over the initial recommendations. Many monitors and probes have been put in place to collect the data for measurements. This change has allowed a proactive process to be established to avoid major outages. Because performance degradations can be seen before an outage occurs, corrective action can be taken. While the number of services monitored has been increased four-fold, the rest of the process has not yet been implemented. Among the items still needing to be implemented are formal customer commitments with regular reviews, a continuous improvement process to improve service levels, and vendor payment based on their performance levels. In addition, asking vendors for their service levels instead of stating the requirement and having them respond to it is not sufficient. Requesting vendors for response time to outages is necessary, but not sufficient to fully address this issue.

### Remedial Steps: For SLAs from ETS to the District

**Remedial Step 4:** Document the list of services in an ETS-provided catalog, and use this catalog as a basis for developing SLAs. Examples might include help desk response time, internet connection time, backup and recovery services for file servers every night, periodic intrusion detection, and NOC scorecards by application.

**Remedial Step 5:** Commit the service limits that are in place to ETS customers in a formal written document. Implement a plan to improve the service levels by a minimum (5-10%) per year. Seek to improve service levels for the same cost or reduce costs of each service each year.

**Remedial Step 6:** Determine a communication process with periodic face-to-face meetings so each customer knows where his or her data is stored and can be viewed as desired.

**Remedial Step 7:** Institute a summary-reporting scorecard for each service for ETS to review internally at the operations meeting.

**Remedial Step 8:** Expand the service level to other important services of ETS. This expansion would include tier 1 and tier 2 support for the help desk.

**Remedial Step 9:** Establish the SLA performance as criteria for individual performance evaluations of ETS managers and directors. Failure to meet SLAs needs to have consequences.

### Remedial Steps: For SLAs from Vendors to the District/ETS

**Remedial Step 10:** Redefine the SLA process for technology contracts and RFPs. Define what is required and inform the vendors what is needed instead of asking vendors to define this need for SBBC. The current process needs to be reversed.

**Remedial Step 11:** Link vendor payment to their SLA performance. Link their performance monitoring function with their time to repair for support issues. These two duties should be made part on their contract. Failure to meet SLAs needs to have consequences.

## 5.4 New Action Plans/Recommendations

### *ODS-3: Proficiency-Based Job Descriptions*

To increase accountability and foster a sense of life long learning, all employees in any organization need to know the specific requirements, skills and knowledge of the job. This project would define what proficiencies are needed for every job, and then measure the effectiveness of the employee's proficiencies.

**ODS-3: PROFICIENCY-BASED JOB DESCRIPTIONS**

| **Strategic Planning Objectives:** | **Priority:** High<br>**Total Cost:** $ 2,000,000 | **Leadership Responsibility:**<br>Human Resources Associate Supt., Lynn Strong |
|---|---|---|

| | **Action Step**<br>*Denotes that step has already started. | **Year 1 (06-07)** | | | | **Year 2 (07-08)** | | | | **Year 3 (08-09)** | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** |
| 1. | Establish mission, goals, objectives and organization to define | | | X | | | | | | | | | |
| 2. | Benchmark/research other districts and other best practices places | | | | X | | | | | | | | |
| 3. | Segment employees into like groups for implementation | | | | X | | | | | | | | |
| 4. | Define proficiencies for pilot group | | | | | X | | | | | | | |
| 5. | Obtain funding and management approval | | | | | | X | | | | | | |
| 6. | Implement pilot group and evaluate effectiveness | | | | | | → | → | → | | | | |
| 7. | Set schedule and implement all employees | | | | | | | | → | → | → | → | |

**Key Participants:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | School Board | | Curriculum & Instruction | | Purchasing & Contracts | | Food Services |
| | Superintendent | | Student Support Services | | Auditing/Risk Management | | Transportation Services |
| | District-level Administrators | x | Research, Evaluation, & Assessment | | Budget, Finance, & Payroll | | Legal Services |
| | Area Superintendents | x | Human Resources | | Security and Safety | | Community/Business Relations |
| x | School Principals | | Strategic Planning & Reporting | | Fixed Management | | Unions/Associations |
| x | Teachers | x | Staff Development | x | Information Technology/ETS | | State & Fed Gov't Relations |
| | Students | | Parents/Guardians | | Facilities & Maintenance Svs | | Foundations/Grants |

## ODS-4: ETS Governance

ETS governance ensures the correct projects are accomplished while considering district-wide priorities. ETS cannot set these priorities by itself; in fact, several committees are in place for ETS. Committees need to be made up of principals and other district senior managers who determine the priorities and approve all major expenditures. Currently, there is an effective Standards committee for technology hardware and software. Also, there is an Applications committee in place for software applications. The Technology Advisory Committee (TAC) reviews ETS plans and RFPs.

The recommendations for ETS governance are:

- Establish the IT steering committee to ensure district-wide priorities are met. In SBBC's case, this committee can be the Senior Management committee or its subset of the current Budget Review committee.
- Restructure TAC to have significantly fewer members to correspond with the original proposal that created this advisory group. Reduce the current number of members from more than 80 to between 10 and 15 individuals. Focus on strategic issues and best practices. Realign the current proposal being examined by TAC to the IT Blueprint chapters. In addition, use other CIOs from the business and educational community to participate to obtain the maximum benefit from their expertise. Staff members have made presentations to the School Board suggesting changes. The members are progressing in making this restructuring happen.
- Combine the Applications committee with the Standards software committee or the applications team after the TAC is realigned with the IT Blueprint chapters.
- Report all information from the various governance groups to the CIO.

## ODS-4: ETS GOVERNANCE

| Strategic Planning Objectives: | Priority: High<br>Total Cost: $25,000/year additional cost | Leadership Responsibility: CIO |
|---|---|---|

| Action Step<br>*Denotes that step has already started. | | Year 1 (06-07) | | | | Year 2 (07-08) | | | | Year 3 (08-09) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 1. | Restructure TAC and obtain approvals for the change | | | X | | | | | | | | | |
| 2. | Implement the new TAC committee | | | | → | → | → | → | → | → | → | → | → |
| 3. | Combine the Applications committee with the Standards Committee and TAC | | | X | | | | | | | | | |
| 4. | Obtain agreement on the IT steering committee and implement | | | X | → | → | → | → | → | → | → | → | → |

**Key Participants:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | School Board | | Curriculum & Instruction | | Purchasing & Contracts | | Food Services |
| x | Superintendent | | Student Support Services | | Auditing/Risk Management | | Transportation Services |
| x | District-level Administrators | x | Research, Evaluation, & Assessment | | Budget, Finance, & Payroll | | Legal Services |
| x | Area Superintendents | | Human Resources | | Security and Safety | x | Community/Business Relations |
| x | School Principals | | Strategic Planning & Reporting | | Fixed Management | | Unions/Associations |
| | Teachers | | Staff Development | x | Information Technology/ETS | | State & Fed Gov't Relations |
| | Students | | Parents/Guardians | | Facilities & Maintenance Svs | | Foundations/Grants |

## ODS- 5: ETS Customer Liaisons

One of the key factors in transforming an organization into a customer-focused one is to establish customer liaisons, business partners, or account managers for that customer's account. This change would entail having a person from ETS responsible for the account of the CFO, the purchasing manager, groups of schools or areas, and curriculum. There would be one senior, experienced ETS member responsible for each major customer organization in the district. This person would attend staff meetings of the customer's senior manager and be proactive in helping that customer attain his or her goals and become successful. The CIO would obtain agreement from the customer regarding the presence of this ETS staff member in their organization as well as attending their strategy and staff meetings. Some of these procedures are currently in place such as for Curriculum and Instruction and Facilities.

### Recommendation

Appoint ETS customer liaisons for each school area, including Human Resources, Finance, Purchasing, Research and Evaluation, Transportation, Maintenance, and Food Service.

| ODS-5: ETS CUSTOMER LIAISONS | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategic Planning Objectives:** | | **Priority:** HIGH<br>**Total Cost:** 8-10 staff members | | | | **Leadership Responsibility:** CIO | | | | | | | | | |
| **Action Step**<br>*Denotes that step has already started. | | **Year 1 (06-07)** | | | | **Year 2 (07-08)** | | | | **Year 3 (08-09)** | | | | | |
| | | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | | |
| 1. | Define the position duties/ obtain agreement from Senior Managers | | | X | | | | | | | | | | | |
| 2. | Appoint the customer liaisons | | | X | | | | | | | | | | | |
| 3. | Have regular updates with the CIO/customer liaisons | | | X | | | | | | | | | | | |

## ODS-5: ETS CUSTOMER LIAISONS

| Strategic Planning Objectives: | Priority: HIGH<br>Total Cost: 8-10 staff members | Leadership Responsibility: CIO |
|---|---|---|

| Action Step<br>*Denotes that step has already started. | Year 1 (06-07) | | | | Year 2 (07-08) | | | | Year 3 (08-09) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |

**Key Participants:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | School Board | x | Curriculum & Instruction | | Purchasing & Contracts | x | Food Services |
| x | Superintendent | | Student Support Services | | Auditing/Risk Management | x | Transportation Services |
| x | District-level Administrators | | Research, Evaluation, & Assessment | | Budget, Finance, & Payroll | | Legal Services |
| x | Area Superintendents | | Human Resources | | Security and Safety | | Community/Business Relations |
| x | School Principals | | Strategic Planning & Reporting | | Fixed Management | | Unions/Associations |
| | Teachers | x | Staff Development | x | Information Technology/ETS | | State & Fed Gov't Relations |
| | Students | | Parents/Guardians | x | Facilities & Maintenance Svs | | Foundations/Grants |

# 6.0 Review for Staff Development and Training

The *2004 SBBC IT Blueprint* identified major initiatives in the area of Staff Development and Training. They included the following:

- SDT-1: Staff Development Planning and Management System (HRS05002)
- SDT-2: Online and Computer-based Staff Development (HRS06001)

These two initiatives include a long-term project broken into three years, taking into account some changes in state requirements that were made after the Blueprint was completed. These areas are on track and demonstrate quality work, benefiting Broward staff and ultimately the students they work with.

## 6.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 1 | 3 | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | 3 | 1 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **SDT-1:** Staff Development Planning and Management System | HRS05002 | open – 45% | High | short |
| **SDT1b**: Highly Qualified Teacher Reporting Process | HRS06001 | open – 98% | High | mid |
| **SDT1c**: Highly Qualified Teacher Status Phase 2 | HRS07001 | open – 0% | high | long |
| **SDT-2:** Online and Computer-based Staff Development | CUR05005 | Closed | high | long |

## 6.2 General Observations

The projects presented in this section of the IT Blueprint address issues of planning and managing the staff development process, especially in light of the No Child Left Behind requirements for highly qualified teachers. In addition, the wish to increase

online and computer-based staff development was set as a way to increase the quality and quantity of technology-based teaching, learning, and management resources. These efforts seek to efficiently and effectively gather information on teacher qualifications by using existing information rather than asking for new paperwork. In addition, principals should be empowered to quickly see where their staffs have problems that must be addressed to bring each school into full compliance with state and federal staffing regulations. The effective implementation and regular use of these resources will depend on communicating their use to principals.

## 6.3 Detail Review of Each Action Plan/Recommendations

### *HRS05002 SDT-1: Staff Development Planning and Management System*

Develop specifications and procure a web-based staff development planning and management system to support a proficiency-based approach to staff development planning and management. This approach will align and manage staff proficiencies and staff development initiatives with student learning needs and organizational improvement goals.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

#### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

The new SAP software includes an e-learning solution and an e-commerce portion; therefore, money can be collected for registrations as necessary. ETS is currently building a Professional Development Services System (PDSS) with future possibilities to connect with SAP. They were scheduled to begin testing it on December 1, 2006, with a goal of going live by March 1, 2007. Different departments within ETS and SBBC are required to collaborate on this project.

This project is related to the new ERP system, which is a three-year project that is expected to be completely installed by January 2008. GoSignMeUp registration process is used now by the Program Development and Alignment Department as its online registration process because it can integrate registration data into the Blackboard Content Management System.

#### Remedial Steps

None

## HRS06001: Highly Qualified Teacher Reporting Process

Create an automated process that will collate data from TERMS, SAP, and Data Warehouse that can be sent back to Terms to report status of SBBC's teachers as it relates to the Highly Qualified Teacher (HQT) designation specified by the NCLB act.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

In phase 1 of this project, SBBC reports on highly qualified teachers (HQT) to the state, as is mandated. The Florida Department of Education changed requirements in fall 2006 for HQTs. Currently, SBBC teachers can only file the Highly Objective Uniform State Standard of Evaluation (HOUSSE) documents manually; in fact, not all of these documents have been processed yet. The awareness of teachers and principals of requirements is not as widespread as is needed; they are not aware that "highly qualified" is not based on what classes they are teaching. See http://www.broward.k12.fl.us/certification/HOUSSEeval.pdf for the current form being used.

### Remedial Steps

**Remedial Step 1:** Ensure the principals and teachers understand the requirements for HQTs.

**Remedial Step 2:** Communicate to principals the way in which they can currently look up staff members' "highly qualified" statuses. Ensure the principals are involved from the beginning of their tenure as administrators. Recognize that turnover of principals requires continuing communication and training.

## HRS0700 Highly Qualified Teacher Status Phase 2

This phase of the project will integrate all the necessary components including the HOUSSE documentation and in-field/out-of-field designation, enabling the school district to identify teachers.

Phase 2 was created because of the change in Florida requirements regarding highly qualified teachers. This project will automate the HOUSSE process by pulling existing information from TERMS and SAP. In addition, the state wants to have non-qualified

teachers to have one of five special codes explaining why they do not meet qualifications. There will be reports for principals to use in the data warehouse, once this project is completed.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

There are no remedial steps being recommended.

## *CUR05005 SDT-2: Online and Computer-based Staff Development*

Continue to deliver training in required proficiencies through a variety of training options including online and computer-based delivery, video-based tutorials, just-in-time training, classroom sessions, etc.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

Broward Virtual University is now operational and functioning. Technology tutorials delivered through Atomic Learning have been a key piece of this effort. Multiple technology tutorials have been created within this online environment, impacting not only staff members, but also students and parents. More people have been trained to create Atomic Learning video clips. Atomic Learning reports online the schools that have used it the most since the start of the school year, giving a sense of accountability to this project. Initially called CD/IM, BEEP is a teacher portal that is now finished. The next step is to make it available to students. Broward has published more than

7,000 lesson plans, aligned them to the curriculum, and are selling them to others. To advance professionalism, the district is collecting video best practices, which carry far more power in effecting teacher practice than many other methods. These practices will be available as another way of increasing the power and reach of staff development. The district is looking for more ways to leverage technology in staff development, including wikis, blogs, and podcasting. At this time, content is being posted for podcasts at iTunes University. A blogging service, which is the necessary next step, is being researched.

The district is still conducting face-to-face staff development activities. Although online resources continue to grow, workshops and structured professional development programs such as DETA must continue. DETA for administrators has been developed and delivered during 2006, adding to the DETA 1 and 2 strands. A section of DETA was reserved specifically for media specialists in 2006, but some adaptations may be needed to maximize its usefulness.

Notably, BEEP (Broward Enterprise Education Portal) was named the 2006 Digital Education Achievement Award winner. BEEP is a secure, single point of access to digital resources for teaching and learning. These "Digital Doorways" allow Broward County School teachers, students, administrators, and parents' access to current and relevant resources and information focused on student achievement, academic performance, and instructional best practice. In March 2006, Dr. Jeanine Gendron was honored by the state's Florida Association for Computers in Education (FACE) as the outstanding instructional technology leader in the state of Florida for her work in this area.

Overall, Broward County Public Schools is among the national leaders in this area.

### Remedial Steps

**Remedial Step 1:** Continue to make all staff members and principals aware of the online and technology-mediated materials available. Develop training materials for new applications as the district acquires or develops them.

**Remedial Step 2:** Consider other funding strategies to support this effort since the EETT federal funds for this project have decreased 45% since last year.

**Remedial Step 3:** Investigate whether some of the materials created by Broward staff members could be sold to other districts or states, with proceeds returned to fund further online staff development work.

**Remedial Step 4:** Determine whether subgroups, such as library media specialists, need additional specially tailored resources to meet their ongoing training needs. Work closely in planning and executing in-service activities.

**Remedial Step 5:** Explore next areas of need, such as digital content management and other uses of technology to support ongoing staff development. Convene a "think tank" of selected staff across areas such as instructional technology, ETS, library media, television, and curriculum to brainstorm ideas, issues, and staff development possibilities at least twice a year.

## 6.4 New Action Plans/Recommendations

None

# 7.0 Review for Standards, Procurement, Maintenance, and Implementation

The *2004 SBBC Information Technology (IT) Blueprint* identified three major initiatives in the area of Standards, Procurement, Maintenance, and Implementation. They include the following:

- SPMI-1: Re-establish the Standards Committee (ETS5032)
- SPMI-2: Total Cost of Ownership (ETS05033)
- SPMI-3: New Technologies (combined) (ETS5032)

## 7.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 2 | | | | | 1 |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| 1 | 1 | | 1 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **SPMI-1:** Re-establish the Standards Committee | ETS5032 | closed - 100% | high | short |
| **SPMI-2:** Total Cost of Ownership | ETS05033 | closed - 100% | high | short |
| **SPMI-3** New Technologies (combined) | ETS5032 | open | high | long |

## 7.2 General Observations

The re-establishment of the standards committee has been effective. There is a defined process, organization, and website for communicating with the district staff. There are regular meetings with published agendas and minutes. The areas of improvement involve increasing the use of Total Cost of Ownership (TCO) and focusing responsibilities on new and emerging technologies as outlined in the remedial steps listed below.

## 7.3 Detail Review of Each Action Plan/Recommendations

### *ETS5032 SPMI-1: Re-establish the Technology Standards Committee*

This initiative, which has already been started as BETS Project B6, addresses the need for technology standards within BCPS. It focuses on re-establishing the Technology Standards Committee, thereby controlling the proliferation of technology equipment and software throughout the BCPS. Action Steps 1, 2, and 3 have already been completed during the 03/04 school year. This initiative will revise the standards process to increase the scope, update the objectives, streamline the procedures, and create a new Technology Standards Committee to oversee the functioning of the standards process.

Establish guidelines, procedures, and policy modifications for information application systems interoperability. This applies to all curriculum and business applications.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

#### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

#### Remedial Steps

The committee has been reestablished, including eight principals (one of them being the chairman) and seven subcommittees. These subcommittees include computers, printers/copiers, servers, software/productivity and instructional, digital devices/peripherals, audio/video equipment, and communications equipment. There is an internal website that describes the standards for all SBBC staff.

**Remedial Step 1:** Implement an integration-testing lab where new standards are pre-tested in a lab environment prior to a pilot in the district.

### *ETS5033 SPMI-2: Total Cost of Ownership*

Develop a total cost of ownership (TCO) model for communication, computing, and network systems to understand clearly present and future cost of services to evaluate better-proposed enhancements and generate cost/benefit analysis for administrative decisions. A working committee, using analytic tools and external resources, will accomplish this work.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| X | | | |

### Remedial Steps

ETS conducted a research project on TCO in 2005. While the original research was effectively completed, and there was activity; there was only one real result. This was base-lining ETS with other districts. There were no other results. Even though it was stated in the original goal, this activity was not embedded into the ETS culture. The concepts of identifying savings to calculate payback and rate of return were part of the original blueprint action plan, but were not part of this TCO project. There were no changes to any district business processes such as using for technology project priority setting, collecting savings, or changing district forms.

**Remedial Step 2:** Develop and implement a template/spreadsheet to standardize the collection of line item costs by year and project total, commitments of savings, calculations of payback, and return on investment (ROI). Include this template for all ETS projects.

**Remedial Step 3:** Expand these ETS processes and forms and include this template in the following documents:

- ETS Project Management Office (PMO) charter, along with the business case rationale (which is currently included) for the project
- RFP process in order for this template to be included for all technology purchases for ETS and across the district. Work with the purchasing department to implement this procedure
- Board agenda request form to include a summary of these TCO items
- Budget review committee form so that the financial data of payback and ROI are included. Work with the budget review committee to implement this procedure

**Remedial Step 4:** Establish the major cost drivers for technology in the district and establish an on-going process for cost reduction.

## *ETS5032 SPMI-3: New Technologies*

ETS combined this with SPMI-1 (Re-establish the technology standards committee). Conduct a strategic analysis of emerging applications and services such as collaboration, streaming media, Web-based resources, 24 x 7 access, thin client, and

one-to-one computing to determine the impact on existing infrastructure and needs for future enhancements. Develop a vision and design for the ways the infrastructure will have to change in order to deploy emerging applications and services in support teaching, learning, and administration. Develop ways to stay on top of emerging issues and technologies that have an impact on teaching, learning, and school management. Research and build demonstration projects to evaluate emerging technology as an adjunct to the district's respected status in the application and implementation of technology. Consider and develop a strategy for incorporating thin-clients in to the existing computing infrastructure for school business labs and in departments that use Windows workstations and servers.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | | | | X |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

This action plan was combined with the standards committee's responsibilities. However, there is no formal group or person responsible to research new and emerging technologies. Generally, new and emerging trends are obtained in an informal manner from vendor presentations, conferences, professional trade journals, and membership in associations. In addition, there are no benchmarking activities with other districts as part of any project proposal.

**Remedial Step 5:** Implement a process to benchmark any technology proposal with other districts' systems and general best practices.

**Remedial Step 6:** Expand each subcommittee's responsibility to include an ongoing analysis of what the new and emerging trends are for that subcommittee's technology.

## 7.4 New Action Plans/Recommendations

None

# 8.0 Review for Policies and Procedures

The *2004 SBBC Information Technology (IT) Blueprint* identified two major initiatives in the area of Policies and Procedures. They include the following:

- P&P-1: Catalog Information Technology Services (ETS5026)
- P&P-2: Catalog Equity Objectives (COS5002)

One additional project was developed that links directly to this section of the IT Blueprint:

- Education Technology Plan (ETS5046)

## 8.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 1 | | 2 | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | 1 | |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **P&P-1:** Catalog Information Technology Services | ETS5026 | On hold | high | long |
| **P&P-2** Catalog Equity Objectives | COS5002 | On hold | high | medium |
| **Related Projects not in the Blueprint** | **PMO #** | **Status** | **Priority** | **Time** |
| Education Technology Plan | ETS5046 | closed – 100% | high | short |

## 8.2 General Observations

A published catalog of what services ETS provides does not exist since this project was put on hold due to resource constraints. Internally, in ETS, the Network Operations Center (NOC) provides the basis for the initial set of published services. In addition, the issue of equity needs to be defined as outlined in the review of this action plan. Access, use, and support could be the three components of a district wide equity policy. The district has focused on access, and is providing an effective plan, but there is insufficient attention to use and support. This deficiency is evidenced by the results of principals' survey that indicates technology support is the single biggest concern from the schools.

## 8.3 Detail Review of Each Action Plan/Recommendations

### *ETS5026 P&P-1: Catalog Technology and Information Processes/ Procedures*

Develop a comprehensive catalog of technology and information processes/procedures with hierarchies and categories for easy access and keyword search. Assess scope and need for processes/procedures and propose to remove those that are duplicates and outdated. Systems will be expandable to include all district processes/procedures. Align processes/procedures with user needs and business systems requirements. Create an interactive, Web-based user access point for management of processes/procedures.

A unified catalog of processes/procedures will make a stronger connection between the strategic objectives of BCPS and the teachers, administrators, and staff. Easy access motivates compliance and provides clear directions for identified situations and circumstances. Pruning the catalog of processes/procedures to assure relevance and instituting a review process will act to substantiate the processes/procedures and further increase compliance and utilization.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

#### Remedial Steps

No formal catalog or document of ETS services exists. Consider what products and services ETS would provide if it were a business. Create a catalog of these products and services. This catalog would then serve as the basis for ETS to define what services are provided, which ones have a Service Level Agreement (SLA), and which ones are no longer applicable.

**Remedial Step 1**: Develop, publish, and make visible an ETS catalog of services. Internally, the current Network Operations Center (NOC) could provide the basis for the initial set of published services in ETS.

### *COS5002 P&P-2: Catalog Equity Objectives*

Define the metrics of equity, how defined, how measured, and what are all the factors involved. Continue to pursue, investigate, and quantify equity achievement and identify inequitable conditions for remediation. Continue to act to accommodate or remediate inequitable conditions. Develop an audit process to evaluate progress. Assess implications of site-based decisions on district-level equity objectives. Develop strategies to balance site priorities with equity objectives.

A catalog of equity objectives formalizes the policies and procedures applied to remediate inequitable conditions and provide a secure platform to measure progress toward equity goals. It provides a single point for discussion, decisions, and action around equity issues increasing the speed of equity issue identification and response and the impact of equity remediation.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

### Remedial Steps

This project never actually began. A suggested definition for equity includes access, support, and use. Students and teachers should have equity in *access* to needed technology. Schools and departments should have equity in technical *support* for the technology they use. Moreover, teachers and staff members should have equity in knowing how to use the technology and integrating it into their activities. SBBC currently thinks of equity as student access only.

**Remedial Step 2:** Document a definition of what equity means for SBBC. Then, ETS and district staff members can set the targets for each of the phases of equity and measure progress regarding each.

## *ETS05046 Education Technology Plan*

Develop and submit compliance documentation of the Districts Educational Technology Plan to the Florida DOE. The previously approved compliance document will be updated to align with the National Education Technology Plan, SBBC's Strategic Plan, and the Information Technology Blueprint.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

**Remedial Step 3:** Conduct an annual update of the district's technology projects to ensure its alignment with the district's strategic plans and new initiatives. Consider completing a formal assessment.

## 8.4 New Action Plans/Recommendations

None

# 9.0 Review for District, School, and Program-level Planning

The *2004 SBBC Information Technology (IT) Blueprint* identified three major initiatives in the area of District, School, and Program-level Planning. They include the following:

- DSSP-1: District-level Planning (ETS5021)
- DSSP-2: School Improvement Planning (STP5002)
- DSSP-3: Program-level Planning (COS5001)

## 9.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | 1 | | | | 2 |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| 1 | 2 | | |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **DSSP-1:** District-level Planning | ETS5021 | closed - 100% | medium | medium |
| **DSSP-2:** School Improvement Planning | STP5002 | closed - 100% | high | medium |
| **DSSP-3:** Program-level Planning | COS5001 | closed – 100% | medium | long |

## 9.2 General Observations

There are activities in each of the levels for planning (district, school, and program). However, this system is not a web-based one that allows consistency across all three levels. There is no connection to the data warehouse to automatically populate the data that exists into each plan. There are opportunities to streamline the process and automation for the planning activities.

## 9.3 Detail Review of Each Action Plan/Recommendations

### *ETS5021 DSSP-1: District-level Planning*

Develop and implement a method for aligning and coordinating all major district plans (strategic plan, technology plan) including those recommended in this *Information Technology Blueprint*. Use the Sterling PDSA continuous improvement model as a backbone for all district-planning activities.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

SBBC has a process for aligning and coordinating all major district plans (strategic plan, technology plan) with the district goals. The Sterling process is used for the continuous improvement model. These activities are events – viewed as something to be done at a certain time; they are not ingrained in the culture of SBBC on a daily basis.

**Remedial Step 1:** To ingrain in the culture of SBBC, senior management must support this activity. One way to accomplish this task is to require staff evaluations to include a section on effective use of the Sterling process. The use of the Sterling process will be expected in daily activities, and staff members will be rated on it. Further implementing a balanced score card for each organization would provide the measurements for each major project in a timely manner.

## *STP5002 DSSP-2: School Improvement Planning*

Design, develop, and implement a Web-based system to facilitate and assess the existing school improvement planning (SIP) process. Utilize the district's data warehouse to provide ongoing reports to the school improvement planning team about attainment of their improvement goals.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | | | | X |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

The School Improvement Plans is generated, but there is not an automatic connection to the data warehouse to provide the initial or ongoing reporting for status against goals. Primarily, this effort is a manual one.

**Remedial Step 2:** Design, develop, and implement a Web-based system to facilitate and assess the existing SIP process. Since it has been difficult to get funding approval for this project, consider developing a model to show senior management the potential savings, payback, and ROI. In addition, ensure that the principals support this project.

## *COS5001 DSSP-3: Program-level Planning*

Develop a system-wide method to manage the interdependencies across program-level planning initiatives. Utilize a budgeting process that analyzes the TCO (total cost of ownership) of each program and aligns those programs with District strategic plans and budgets. Include district level measures of performance.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | | | | X |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| X | | | |

### Remedial Steps

ETS combined this recommendation with the ETS project management office. The original intention was to have ETS implement this capability and eventually to implement it district-wide. Currently, there is no process/mechanism that examines cross-project dependencies for technology, especially for installation dates and required resources. Often, principals' are surprised at the number of new projects being installed at beginning of the school year. If all of the projects were successful, there would be minimal concern, but the 2006-07 school year start-up had several installation issues. These issues became problems for the principal when he/she could not afford the time to deal with these problems. This past year, time management-Kronos, grade book- Pinnacle, Sub-central upgrades, the security identification system-STAR, the principal portal-Knexus and the instability of the email system-First Class all impacted the school startup.

**Remedial Step 3:** ETS should consider implementing a process to coordinate cross-project dependencies, especially regarding installation dates. Ensure the number of concurrent installations is viewed as manageable.

**Remedial Step 4:** ETS should implement resource scheduling in the Project Management System. Consequently, management can assess how much time is being demanded of each staff member.

## 9.4 New Action Plans/Recommendations

None

# 10.0 Review for Administrative Computing and Decision Support Systems

The *2004 SBBC Information Technology Blueprint* identified six major initiatives in the area of Administrative Computing and Decision Support Systems. They include the following:

- ADSS-1: Enterprise Resource Planning (ERP) (FIN6001)
- ADSS-2: Archive HRMS (ETS50314)
- ADSS-3: Document Management (ETS5003)
- ADSS-4: Student System Upgrade (RAE5002)
- ADSS-5: Food Service Upgrade (ETS5004)
- ADSS-6: Data Warehouse Access (ETS5005)

Additional projects were developed that links directly to this section of the IT Blueprint (refer to section 11.1).

## 10.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 26 | 5 | 3 | | | |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| 5 | 2 | 25 | 2 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **ADSS-1:** Enterprise resource Planning (ERP) | FIN6001 | open | high | long |
| **ADSS-2:** Archive HRMS | ETS50314 | closed - 100% | high | short |
| **ADSS-3:** Document Management | ETS5003 | open – 5% | medium | long |
| **ADSS-4:** Student System Upgrade | RAE5002 | On-hold | medium | long |
| **ADSS-5:** Food Service Upgrade | ETS5004 | closed - 100% | medium | short |
| **ADSS-6:** Data Warehouse Access | ETS5005 | closed - 100% | high | short |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **Related Projects not in the Blueprint** | **PMO #** | **Status** | **Priority** | **Time** |
| Customer Resource Management (CRM) | ETS5047 | Closed – 100% | medium | short |
| Customer Resource Management (CRM) phase 2 | ETS6008 | Open – 88% | medium | short |
| School Callout (Parentlink) | ETS5045 | Closed –100% | medium | long |
| Project Knexus –pilot, phase 1, communication plan | ETS6001 | Closed – 100% | high | short |
| Time Management (Kronos) | ETS5029 | Open – 85% | high | long |
| Security Tracking (STAR) | SIU6002 | Open – 76% | medium | short |
| Grade book (Pinnacle) | ETS6003 | Open – 34% | high | short |
| Compass Leaning Odyssey Upgrade | ETS5037 | Closed – 100% | high | medium |
| Bi-weekly payroll | HRS5001 | Closed – 100% | high | medium |
| Position Control | ARS5004 | Closed – 100% | high | short |
| Separations | ARS5005 | Closed – 100% | high | short |
| Check Sequencing/Direct Deposit | ARS5006 | Closed – 100% | high | short |
| Year End Load Reduction | ETS5031 | Closed – 100% | high | short |
| HRMS tracking | HRS5003 | Closed – 100% | high | short |
| Personnel Action Form (PAF) | HRS5006 | Closed – 100% | high | short |
| Leaves | HRS5007 | Closed – 100% | high | short |
| Retroactive changes | HRS5008 | Closed – 100% | high | short |
| ZA71 Changes | HRS5009 | Closed – 100% | high | short |
| Budget Conferences | ARS5002 | Closed – 100% | high | short |
| Qualified Instructors for new principals training on budgets | ARS5003 | Closed – 100% | high | short |
| Grants Training | COS5003 | Closed – 100% | high | short |
| Combine U6-U0 reports | FIN5001 | Closed – 100% | high | short |
| SA-IA Review | FIN5002 | Closed – 100% | high | short |
| Budget Communications | FIN5003 | Closed – 100% | high | short |
| Reduce Approval Signatures | FIN5004 | Closed – 100% | high | short |
| Change Budget Schedules | FIN5005 | Closed – 100% | high | short |
| Year End Closing | FIN5006 | Closed – 100% | high | short |
| Financial Reporting | FIN5007 | Closed – 100% | high | short |

## 10.2 General Observations

Over the past two years, the district/ETS has undertaken many significant application projects listed in the original Information Technology Blueprint and has added others. Arguably, this area could be the most significant in moving the business of the district forward. So, this is an extremely important area of the IT Blueprint. A summary follows.

It should be noted that the School Interoperability Framework (SIF) is not a formal stated strategy or RFP requirement on all software purchases or a requirement for all internally developed applications. SIF is needed to ensure software applications can work reliably together and minimize integration costs. It is happening because most large vendors have or are starting to embrace this standard, but it is no a formal explicit requirement from SBBC in their RFPs for software.

Most notable for positive progress/results are the following:

1. the Enterprise Resource Planning (ERP) system
2. the data warehouse expansion with analysis and reporting tools
3. the teacher portal Broward Education Enterprise Portal (BEEP)
4. the administrators' portal (Project Knexus)
5. the automated call out system (ParentLink)
6. the software distribution system (LanDesk)

Most notable for projects being implemented but with some problems were:

1. the gradebook (Pinnacle)
2. the help desk system –Customer Resource Management (CRM)
3. time management (Kronos)
4. the instability of the e-mail system (First Class)

Most notable for projects with little or no progress were:

1. a district-wide Document Management System
2. an online assessment system
3. an upgrade to a contemporary student system

## 10.3 Detail Review of Each Action Plan/Recommendations

### *FIN6001 ADSS-1: Enterprise Resource Planning (ERP) Applications*

Evaluate and implement a comprehensive Enterprise Resource Planning (ERP) solution for the district based on business process audit and interoperability with related applications. The solution would encompass financial management, budget, purchasing, human resource management, including automated collection of staff attendance and labor data, facilities management, asset management, materials management, construction management, transportation, and customer resource management applications. In addition, it requests a data warehouse to support the ERP data and to integrate it with the existing student data warehouse.

Business process auditing and process renovation will be an essential part of the ERP initiatives. The initiative includes the costs associated with application software, hardware, installation, and infrastructure support. Specifically it will address.

Specific components include:

- Research and develop optimum budget process for schools, divisions, departments and programs concerning special revenue funds and general fund budgeting and budget reconciliation based on migration from existing processes to best practice processes. Develop communication and presentation strategies to gain user confidence and achieve cultural change.
- Automate materials management to implement materials tracking via barcode or RFID and comprehensive asset management integrated with other financial applications. Develop asset management system to include life cycle information. Implement school report card system that includes summarize facility maintenance status.
- Request a human resource management system, complete with benefits, payroll, recruitment, etc. It will also include a contemporary time, project, calendar, and meeting management system that automate the collection of staff attendance and labor data. A decision will be made as to whether to continue with the existing human resource management system or implement a new one based on analysis of the RFP responses.
- A transportation management system will provide Web-based transportation planning and reporting services. Implement integrated fleet management system to improve scheduling, preventive maintenance, fleet utilization, and vehicle tracking.
- The existing facilities management committee will assess strategy and applications to automate space planning and integrate space data with other functional departments including help desk, security, planning, maintenance, and information systems among others.
- A construction management application and related systems will also be requested.
- Enhance and expand BCPS' award winning and largely student information oriented data warehouse to include the new ERP data and student data currently kept only at schools and data existing and new ERP applications. The new graphical extract, transform, and load tool will be used to import data from the student system and other systems into the data warehouse. This expanded data warehouse can provide access to data currently kept in older systems where the data is not widely available or where it is difficult to use in reports and to minimize impact on user reporting going to the new system. Hardware requirements for the expanded data warehouse and decision support tools will be made and upgraded as necessary.
- Develop a strategic plan for legacy systems migration in conjunction with the enterprise resource-systems deployment based on a total cost of ownership assessment.
- HR recruitment module: Implement Web-based recruitment module for teachers. Simplify business processes around recruitment, hiring and payment; develop plan to implement direct deposit and electronic stubs.

- Improve current purchasing procedures and fully document them. Investigate the acquisition and integration of a new or updated purchasing system. Develop workflows to ensure that up-to-date financial information is readily available to speed the entire procurement cycle from requisition through approval, processing of purchase orders, and payment to vendors.
- Evaluate and improve the process for maintaining inventories of technology components and establish a coordinated, fixed-asset management plan to proactively address typical maintenance and repair problems throughout the asset life cycle, including a template for tracking performance as well as maintenance history.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

### Remedial Steps

There are no remedial steps recommended for this action plan. SBBC has obtained adequate funding for SAP licenses, implementation services and has set up a dedicated organization with Senior Management co-sponsorship from the CFO-CIO and an executive steering committee. There is exceptional oversight on this project. The organization appeared to be very effective, with enough SBBC staff to effect and very good knowledge transfer and it has an integral change management function right from the beginning. The plan appears realistic and doable. The financial modules are the first ones to be implemented and the process mapping is underway. There is a schedule for the other modules for purchasing, materials, human resources, fixed assets, business data warehouse, and migration of legacy systems. The project initiation was very effective, the project is now starting to execute on their plan.

## *ETS5031 ADSS-2: Archive HRMS*

Implement archiving methods for SAP data.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

There are no remedial steps recommended for this action plan. The archiving of old data removed a significant amount of old data from being on line all the time. It is still available if needed based on specific requests.

## *ETS5003 ADSS-3: Document Management and Reporting*

Develop a comprehensive document management system and processes. Evaluate reporting requirements and methods for creating and distributing reports to streamline process and eliminate unnecessary reports. Assess role of imaging applications, printing applications and image management in document management strategy. Position the document production RFP in larger document management system. Develop seminars to build user awareness and promote cultural change.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

### Remedial Steps

There is no one in the district actively taking charge of defining a district document management strategy that would achieve major savings. There are a number of individual projects that are occurring including 1) scanning construction drawings, employee records, student records, and school board minutes, and 2) online reports for district staff. It should be noted there are two scanning/imaging systems in use. In addition, there are separate contracts with vendors for printers, copiers, and consumables. In addition, several district departments are seeking document management solutions by asking for proposals. Consider putting all these projects into one cohesive district-wide strategy.

**Remedial Step 1**: Appoint a person/group to develop a vision and strategy for a district-wide document management system. The strategy would cover creating, storing, distributing, retrieving, archiving, and viewing documents as the scope. Once the scope is defined, then create an inventory of what exists and what the current costs are. Create a district TCO for this district project. This TCO would include bundling the copiers, faxes, printers, imaging, scanners, portable devices,

and consumables for one bid instead of treating each one as a separate entity. In addition, having one system to store, retrieve, archive, and distribute would be simpler than having multiple ones.

## *RAE5002 ADSS-4: Student System Upgrade*

Focus on developing a strategy to re-engineer and/or replace the Student Information System.

- SIS steering committee: Establish SIS steering committee to guide and oversee the modernization strategy and implementation of a web-based student information system, including evaluation and selection of key system features, including direct entry of attendance and grades. Linked to Supplemental project TERMS.
- Information about the related Curriculum Development/Instructional Management initiative can be found in the *Information Technology Blueprint Section.*

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

### Remedial Steps

This project is currently on hold. The rationale is that there was no funding, business case, or compelling need for the project. The district did host a series of vendor presentations in 2004. While this project would be a major undertaking, the district will need a major transition to a web-based student system at some point in time.

**Remedial Step 2:** Implement the original recommendation to conduct a modernization strategy and implementation of a web-based student information system. This change would include integration of SBBC's current grade book, Pinnacle, and the autodialer, ParentLink, and other point solutions being implemented. Consider starting an effort with other school districts to investigate needs and to reduce costs expenses.

## *ETS5004 ADSS-5: Food Services Upgrade*

Evaluate responses to food services information system RFP to assure implementation of unified card and maximize capture of free and reduced lunch data for federal funding programs. Develop return on investment analysis to ascertain improvement in funding capture with increased information.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

The upgrade was implemented in 2005 from funding from the Food Service budget. Improvements included functions to identify siblings on free and reduced lunch by family membership, not individual student sign-up. There is interest now in a new point-of-sale system

**Remedial Step 3:** Replacement of the point of sale terminals should be reviewed for replacement based on age and functionality.

**Remedial Step 4:** Ensure the food service student identification card is consistent with other applications being considered for transportation and school access.

## *ETS5005 ADSS-6: Data Warehouse Access*

Upgrade data warehouse analysis and reports tools to improve access to data. Make data more accessible and data-driven decisions part of the culture. Replace or upgrade data warehouse query, reporting and analysis tool with a version that supports current Web browsers on Macintosh and Windows computers. Use the new data access tools and the expanded data warehouse data to provide access and reporting continuity as older applications are upgraded or replaced.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

The data warehouse access software upgrade was completed in 2005 with the tools from Hyperion. Most users found the tools/data structure too difficult to use so they did not build reports on their desktops. Instead, they relied on ETS to build their reports. There are approximately 100 pre-created queries built off the DB2 relational database.

## *ETS05047 Customer resource Management (CRM)*

This project focuses on the implementation of a system for the ETS service desk. Its objective is to provide the district staff with a self-service capability along with increased productivity tools for the service desk staff. See the status /effectives listed below.

## *ETS06008 Customer Resource Management (CRM) –Phase 2*

This CRM phase 2 seeks to increase the performance, functionality, and scope of the CRM system implemented during CRM phase 1.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| X | | | |

This system has not provided the value for the dollars spent to date. A major effort is required that includes an analysis of the direction of this effort. In addition, reducing the actual number of service desk staff and not providing needed system automation functions at the same time will result in an ineffective help desk. If staff is reduced, then automation must increase to enable the staff to become more productive.

**Remedial Step 5:** Conduct an analysis for the Customer Resource Management system that would review whether to: 1) keep investing in the current system; 2) replace this system with a more robust help desk system; or, 3) outsource the function. If the decision is made to keep the current CRM, then discontinue adding new functions until existing features perform reliably. The need capabilities include: 1) integration with the automated call director – (ACD); 2) building the required scripts and knowledge base to eliminate as much manual work as possible from the help desk staff; 3) using the data for reporting and measurements; and, 4) initiating a program of continuous improvement in problem resolution.

## ETS05045 Broward ParentLink

Provide a solution for schools and departments to communicate with student homes regarding truancy notification calls and phone/email messages for emergency and non-emergency reasons.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

### Remedial Steps

There are no remedial steps being recommended.

## ETS06001-0 Project Knexus, Workplace for Education - Pilot

This project will provide the basis for the district's portal strategy. This is the pilot phase for 30-targeted users, including principals and guidance counselors. The applications will include Virtual Counselor, Terms, Hyperion, and Class Size Projections.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

## ETS06001-1 Project Knexus, Workplace for Education - Phase 1

## ETS06001-1A Project Knexus Communications Plan

The objective of this phase of the project is to implement the results across all school administrators and guidance counselors.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

The next phase of this project is on hold due to the confusion in the district in understanding the positioning of the teacher portal Broward Education Enterprise Portal (BEEP) and the principal/guidance counselor portal, Project Knexus. BEEP has required custom code to implement. Project Knexus is a portal infrastructure, and allows connections to many content providers in a consistent manner and through a common set of services including single sign-on, security, and backup with minimal custom coding. Using a common software infrastructure connecting to a variety of content providers would be of most benefit for the district in the future.

**Remedial Step 6:** Continue with the capability of this project. Consider changing the names of the projects and show how the projects are complementary to eliminate the perceived competition/redundancy. Also, emphasize the importance of using common services and minimal custom coding for cost effectiveness.

## ETS05029 Time Management – Kronos

This project automates the collection of time worked in several areas and is aimed at improving payroll processing. The objective is to provide a common way to record time across the district.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

This product provides can provide an effective solution, but training and business processes improvements will be needed. Kronos will strictly implement the business processes of time management, and some current practices of the district may be in conflict with the rules. The installation at the start of this school year, for substitute teachers was very cumbersome. This was especially complex since a new version of the substitute central system was installed at the same time and it had its own set of problems. To the substitute teacher and principal, the combination of these two installations, both with own set of problems, was very time consuming and frustrating. The principals' survey showed a large (52%) positive view and a large negative (36%) view on Kronos effectiveness. Training effectiveness was also a large positive (58%) and also a large negative (29%). Time to correct problems was another issue with 44% positive and 34% negative.

**Remedial Step 7:** Document the current policies and rules surrounding time-recording in the district. Ensure these are published and understood throughout the district, especially by the administrators.

**Remedial Step 8:** Establish a training module for new Kronos users. Make this available through not only classes, but on line courses, or available on personal time. Use all these training options avoid errors in inputting data. Some programming changes can be made in Kronos to help avoid putting in incorrect data, such as not letting numbers longer than the employee number get entered.

**Remedial Step 9:** When installing another large set of users across the district, staff a temporary central helps desk number for timely resolution of problems. These could be vendor staff for purchased software or applications staff for in house application. In either case, these agreements would have to be worked out in RFP/contracts prior to installations.

## SIU06002 Security Tracking (STAR)

Implement a school-based security identification system to control visitors who enter their school. This will capture the visitor's photo on the driver's license, and perform an automated check against national sexual offender databases and the Broward County Clerk of Courts database. It will also have the capability to add other databases in the future. The system will issue a photo ID if the visitor is cleared.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

Although the project is a worthwhile one, ETS only found out about this project late in the process, after it had received a grant, been approved by senior management, and started to be implemented. The project came as a surprise to ETS, which meant staff members had to be reallocated at the last minute to support the installation.

**Remedial Step 10:** Ensure that all communications from senior management meeting get published/discussed at the ETS staff meetings. Information needs to be shared. In addition, ETS could be proactive in assigning one of their staff members to attend the staff meetings of the major departments as a customer liaison. Consequently, the ETS staff member would be part of the all department project discussions.

## ETS06003 District-wide Electronic Grade Book

Implement an electronic grade book in all schools.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| X | | | |

### Remedial Steps

This project started in 2004 with 32 sites buying the product, Pinnacle, from their own budget. In 2005, the district purchased it on a district-wide basis for $5.5M. The phase 1 installation was to be middle schools and high schools. There were multiple configurations needed to support the various hardware platforms in the district. These included PCs, Macs with OS/IX, and Macs with OS/X. Moreover, the district needed OS/X, which was not working satisfactorily. The development effort to port the application to OS/X was not been delivered on time from the vendor. This delay had a significant impact on the schools, as the attendance/grades could not be processed as required. Some schools had no back-up plans to address attendance and grade reporting needs. The vendor had made revisions to the OS/X application that allowed grades to be collected in time for first marking period report cards, but additional functional improvements to the application are still required. Since there are still product deficiencies in this application, continued executive management attention will be required. In addition, there are other technical problems, which are causing some systems to crash, so they become unreliable. The teachers are very frustrated and some of them did not have a backup system to record grades, causing them to scramble at the last minute.

The principals' survey indicated great dissatisfaction with this installation. They rated the implementation effectiveness 62% positive and 24% negative. They rated the training only 9% pos*i*tive and 14% negative and the problem resolution only 6% positive and 18% negative.

**Remedial Step 11:** Increase the executive management focus on the Pinnacle grade book implementation. More emphasis is needed to set the tone and give this project the priority and attention it deserves. Conduct regular status meetings with the vendor and hold them to checkpoints on product deficiencies. Manage this project in crisis mode until mission critical issues are addressed. In addition, assign ETS staff to each school to ensure a successful installation, training, and problem resolution. It should be noted the CIO has withheld payment to the vendor for lack of performance.

## *ETS05037 Compass Learning Odyssey Upgrade*

This project migrated from a workstation-based application to a web-based server based version. It allowed the integration of Odyssey with the student system TERMS and the data warehouse.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

There are no remedial steps being recommended. The district did negotiate vendor support at the schools for this product at the level of four days/year per school. It is viewed as a successful project.

The following status applies to the ten (10) Human Resource projects described below. They all involved business process and/or technology changes.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | 10 | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

## *HRS05001 Conversion to district wide Bi-Weekly Payroll*

The district will re-engineer the payroll processes to convert them into a bi-weekly payroll cycle for all employees. This will reduce the number of payrolls from 7 to 2.

### Remedial Step

There are no remedial steps being recommended. This project was viewed as successful, completed on time, and stayed within budget. Additionally, the training was completed effectively.

## *ARS05004 HRMS Position Control*

This project reduced the time it takes to authorize a new position, eliminate forms, and work with position control within the HRMS system. Current processes for the most part were outside of the SAP software.

### Remedial Step

There are no remedial steps being recommended. One additional person was authorized in each area business analyst's office. This allowed changes and authorization for positions to be decided in one day.

## *ARS05005 HRMS Separations*

This project would provide an automated capability to 'lock' the employee's record immediately upon termination. This process is manual and is not effective since it takes up to 2 weeks to effect any change.

### Remedial Step

There are no remedial steps being recommended. Schools no longer managed this function. The Leaves department handles separations; therefore, locking occurs in one place and not at every school.

## *ARS05006 Check Sequencing-direct Deposit*

This project would allow paychecks and pay advices to be delivered to locations in alphabetical order and in one group. This change would eliminate the manual sorting of checks at each location that has been the district-wide practice for 4 years.

### Remedial Step

There are no remedial steps being recommended. The project was completed. The paychecks and advices are delivered in alphabetical order but still in two separate groups. The decision to keep two separate groups was made due to the district conversion of all employees to direct deposit in July 2007. This will eliminate the paper paychecks and advices altogether.

## *ETS05031 Year End Load Reduction*

The COST report ran an excessive amount of time (up to 50 hours) at year-end causing delays in processing and response time on the mainframe. The project was to eliminate/minimize this run time by reprogramming the application that created the COST report.

### Remedial Step

There are no remedial steps being recommended. While the alternative solution was provided to reduce the run time, it has not been run. It has not been needed and being held in reserve in case the mainframe resources are ever being taxed again.

## HRS05003 Turn on Tracking

This project was to turn on the existing capability within SAP, which maintains an audit trail of activity on selected transactions. It allows for all changes to an employee record to be logged. These changes included the nature of the change, when it was made, and who made the change. This capability would eliminate many manual logs.

### Remedial Step

There are no remedial steps being recommended. This project was implemented and tracking turned on in 2004.

## HRS05006 HRMS PAF

This project would automate the Personnel Action Form (PAF) and the surrounding business process.

### Remedial Step

There are no remedial steps being recommended. Some improvements were made (ability to group select, group approve, and routing of information) in an initial automation of this project. Staff now use this system and are not seeking workarounds.

## HRS05007 HRMS Leaves

This project was to assist the Human Resources organization in establishing a Leaves department. In accomplishing this task, a central group would process/approve all leaves and terminations instead of requiring it of each school principal.

### Remedial Step

There are no remedial steps being recommended. This Leaves department was installed in 2004. There is now a consistent view and the process is much more effective than the prior process.

## HRS05008 HRMS Retroactive Changes

This project was to determine how long ago payroll changes could occur. The practice at that time had the ability to go since SAP was installed in 2001.

### Remedial Step

There are no remedial steps being recommended. The current practice is to allow retroactive changes back to a rolling last 2 years (current plus 1).

## HRS05009 HRMS ZA 71 changes

This project would allow site payroll contacts to view time entered for one of their employees at a different location. This change was needed if a substitute teacher worked at multiple schools.

### Remedial Step

There are no remedial steps being recommended. This project was successfully implemented so there is accountability across schools. The school payroll contact now can see what schools their substitute teachers worked in, what hours they worked and what overtime is due them.

The following status applies to the ten (10) finance projects described below. They all involved business process and/or technology changes.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | 10 | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

## ARS05002 Meaningful Budget Conferences

Have the area business analysts allocate more time for these conferences and include relevant people in the meeting with the principals, such as area directors and instructional staffing representatives.

### Remedial Step

There are no remedial steps being recommended. Currently, the area business analysts hold a meeting as described in action plan.

## ARS05003 Qualified Instructors for School Budgeting

Make the budget training for new principals more effective by having qualified instructors who can explain the philosophies as well and the procedures of budgeting, not just the "how to."

**Remedial Step**

There are no remedial steps being recommended. Presently, there is a person from budgeting and a Human Resource Development (HRD) person attending/conducting these budget-training sessions.

## *COS05003 Grants Training*

The Grants department would provide information/training to allow schools to obtain more competitive grants. This would include how to find and monitor available grants, identify the purpose of the grant opportunities, and how to respond to grant applications.

**Remedial Step**

There are no remedial steps being recommended. The Grants department and HRD provide information/training on competitive grants.

## *FIN05001 HRMS –combine Use 6 and 0 budget reports*

In order to assist principals in identifying their bottom line budgets, combine the Use 6 and Use 0 reports into one report.

**Remedial Step**

There are no remedial steps being recommended. The reports have been combined so there is one total summary of a school's entire budget, which are available online now with 'Optispool'.

## *FIN05002 SA-IA Review*

Bring current support and instructional allocation models up to modern times. Train principals that the new models are not mandatory, but rather only a guide.

**Remedial Step**

There are no remedial steps being recommended. Finance and several principals reviewed the allocations and eliminated 10 of the 94 allocations. Others require state or Board approval.

## *FIN05003 Budget Communications*

Revise the current process that requires an approval process prior to budget letters being sent to affected users. This process will preclude the situation of seeing a budget report with changes and not knowing what the changes were for, causing more follow-up phone calls for the budget department to research.

**Remedial Step**

There are no remedial steps being recommended. At this time, the budget change letters are sent out ahead of or with the budgets so principals know the reasons for the budget changes.

## *FIN05004 Reduce the Number of Required Signatures on Approvals*

Review the district's authorization forms and applicable School Board Policies with the intention of reducing the number of signatures required.

**Remedial Step**

There are no remedial steps being recommended. Two forms (request for leave and certificate of absence) were combined, mileage reimbursement approval signatures were reduced to two, and the daily substitute teacher form was eliminated.

## *FIN05005 Change Budget Preparation Schedules*

Change the school's budget preparation meetings to occur in the month of February to coincide with the class scheduling process and boundary data.

**Remedial Step**

There are no remedial steps being recommended. The budget preparation schedule has been changed to February.

## *FIN05006 Year End Closing*

Shorten the time it takes to close the fiscal year by condensing year-end closing process and providing year-end reports earlier.

**Remedial Step**

There are no remedial steps being recommended. At present, the year-end closing process provides preliminary reports to district staff by the second week in July and the final reports by the end of July. This process used to take until September or October to get a final budget report.

## *FIN05007 Financial Reports*

Reviews financial reporting for schools and make modifications where necessary to expedite and clarify reports.

### Remedial Step

There are no remedial steps being recommended. Adjustments to budget reports that used to cause delays of up to a month are now eliminated, and the reports are now available online. This change makes the reports available the week after the month-end closing date.

## 10.4 New Action Plans/Recommendations

None

# 11.0 Review for Communications and Network Infrastructure

The *2004 SBBC Information Technology Blueprint* identified six major initiatives in the area of Communications and Network Infrastructure. They include the following:

- CNI-1: E-rate Development (ETS5008)
- CNI-2: Network Service Quality (ETS5013)
- CNI-3: Wan Strategy (ETS5014)
- CNI-4: System Convergence (ETS5015)
- CNI-5: Portable Connectivity (ETS5016)
- CNI-6: Single Sign-0n (ETS5017)
- CNI-7: ITFS Wireless Connectivity (ETS5018)
- CNI-8: Communications Continuity (ETS5020)
- CNI-9: AS/400 Consolidation (ETS5009)
- CNI-10: Data Center Printers (ETS5010)
- CNI-11: School/Department Continuity Plans (ETS5007)
- CNI-12: Central Software Distribution (ETS5012)

Additional projects were developed that links directly to this section of the IT Blueprint (refer to section 12.1).

## 11.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 13 | 11 | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| 2 | 4 | 14 | 4 |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **CNI-1:** E-rate Development | ETS5008 | Closed – 100% | high | long |
| **CNI-2:** Network Service Quality | ETS5013 | closed - 100% | high | short |
| **CNI-3:** Wan Strategy | ETS5014 | open – 13% | medium | long |
| **CNI-4:** System Convergence | ETS5015 | open – 1% | medium | long |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **CNI-5:** Portable Connectivity | ETS5016 | closed - 100% | medium | short |
| **CNI-6:** Single Sign-0n | ETS5017 | open – 36% | high | short |
| **CNI-7:** ITFS Wireless Connectivity | ETS5018 | on - hold | medium | long |
| **CNI-8:** Communications Continuity | ETS5020 | open – 0% | medium | long |
| **CNI-9:** AS/400 consolidation | ETS5009 | closed – 100% | medium | long |
| **CNI-10:** Data Center Printers | ETS5010 | closed – 100% | medium | medium |
| **CNI-11:** School/Department Continuity Plans | ETS5007 | open – 1% | low | long |
| **CNI-12:** Central Software Distribution | ETS5012 | closed – 100% | high | medium |
| ***Related Projects added to the Blueprint*** | | | | |
| TSSC Building Access Layer upgrade | ETS6009 | closed – 100% | high | short |
| District Wireless Network implementation | ETS 5048 | closed –100% | medium | medium |
| District Wireless network – Phase 2 | ETS6002 | open – 90% | medium | medium |
| Network Group- Active Directory | ETS6010 | closed – 100% | medium | short |
| Support for Digital Learning Environment | ETS5044 | closed – 100% | high | medium |
| Meeting Collaboration Tools | ETS6006 | open – 55% | medium | short |
| Budget Forecast Tools | ETS7001 | open – 100% | medium | short |
| ETS Change Management | ETS5042 | closed – 100% | high | short |
| One Broward Pilot | ETS6005 | open – 98% | high | short |
| District Continuity Project Manager | ETS5027 | closed – 100% | medium | long |
| School/Department Continuity Checklist | ETS5028 | closed – 100% | high | medium |
| Mainframe Upgrade | ETS5030 | closed – 100% | medium | long |

## 11.2 General Observations

The School Board of Broward County (SBBC) has as tremendous communications and network resources for students, staff, and administrators. The videoconferencing capacity coupled with the distance learning provided by BECON is world-class and something that is a model for other learning organizations. In addition, the capacity and the proactive monitoring of the network have made tremendous strides over the past three years. The centralized desktop management offered via LANdesk has revolutionized how SBBC supports and understands its network infrastructure. The centralized delivery of administrative computing has resulted not only in improved services, but reduced total cost of ownership (TCO).

It is clear that SBBC and ETS have made great strides over the past several years. However, there are areas that could use improvement. In addition, it is important to measure success annually by re-evaluating the measures used to track the delivery of services supporting a model of continuous improvement.

A general observation worth noting is the support and maintenance of two networks (ETS and BECON) without a strategic plan and full cooperation in how each of these could support the other, particularly in a business continuity or failover role. Additionally, the resources used to train students, could be further exploited to deliver training to staff and administrators as new technology initiatives are rolled out. These resources include the distance learning network of BECON and the video streaming capabilities of video furnace.

The most critical issue is the apparent lack of a long-term strategic planning, particularly in the area of the wide area network (WAN). This deficiency is becoming extremely critical as the convergence of voice, video, and data services are emerging. Therefore, more dependence on the network will require a reliable and fault-tolerant design. In addition, a strategic plan for how quality of service will be managed through the network to support convergence is critical. With the increasing dependence on the network, the integrating of the ETS and BECON resources will address WAN continuity and with strategic planning, the advantages offered by networks will be maximized.

## 11.3 Detail Review of Each Action Plan/Recommendations

### *ETS5008 CNI-1: E-rate Technical Assistance and RFP Development project*

Develop a strategy to continue effectively utilizing E-Rate funding as build out of network and communication systems reach completion. Research additional district facilities that could use E-Rate, such as detention sites, etc. Lobby for expansion of the program to cover systems and services that are not presently eligible. This initiative should align with the annual E-Rate funding cycle.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

#### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

#### Remedial Steps

**Remedial Step 1:** Research additional district facilities that could use E-Rate, such as detention sites.

## ETS5013 CNI-2: Network Service Quality

Configure networking, communication, and computing processes toward a customer-oriented perspective to improve the quality of service delivery by establishing service-level agreements that focus on the customer's expectations of service objectives. A working committee within ETS is planned to accomplish this work in Year 1.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

**Remedial Step 2:** The service level agreement (SLA) assessment is covered in a separate report titled "Assess How Effectively the District/ETS Staff Use 'Service Level Agreement' Contracts for Payment of Major Information Technology Vendors Based on Performance Levels."

## ETS5014 CNI-3: WAN Strategic Plan

Establish a steering committee to develop a strategic plan to guide WAN development for the next five years. This plan should assess the opportunity for partnership with the county to develop a county-wide fiber backbone, the current deployment plan using BellSouth for fiber to the schools, and how an ITFS wireless capability might supplement capacity and provide redundancy. Consideration should be given to the potential E-Rate discounts for each of the approaches. Define capabilities, limitations, and benefits for deployment of both wired and wireless WANs.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

All but 30 schools will be converted to Bell South Metro Ethernet by the end of the 2006 year. The current implementation provides for 10Mb in elementary and 100Mb for the other sites.

**Remedial Step 3:** Incorporate the BECON ITFS/EBS network into the district's strategic WAN strategy. ETS should reconsider defining capabilities, limitations, and benefits for deployment of both wired and wireless in the WANs. ETS should convene the WAN steering committee (created through the original implementation of this action plan), and address the strategic planning, taking into account the assets of BECON. Also, it must consider the potential benefits offered through participation in the One-Broward initiative. This WAN steering committee was recommended in the original action plan. Members could include ETS, BECON, energy management, security, and any other department that would be interested in setting up a network.

## *ETS5015 CNI-4: Systems Convergence*

Assess the implications of convergence of communication systems and television distribution onto the data network. Study communication needs and the means for aligning communication using technology capabilities with user requirements. Consider ways to consolidate technologies while improving capabilities and reducing costs. Create a strategic plan for migration of security, surveillance, and safety systems into the digital environment for facilities management and student transportation in Year 2.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

**Remedial Step 4:** Convergence of services to the district's communication network is occurring without any formal direction or plan. Also, the WAN steering committee convened in action plan "CNI-3 WAN Strategic Plan" should be charged with including the strategic plan for convergence. The WAN steering committee should include a liaison member who sits on the change management committee.

## *ETS5016 CNI-5: Portable Building Network Connectivity*

Complete expansion of networking to all portables to ensure equity of network access to all students.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

**Remedial Step 5:** This project is complete; however, since the portables continue to be relocated, it is constantly affecting the status of the telecommunications and network service. Currently, a liaison is assigned to ETS from facilities. Approximately 200 portable moves occur each summer. ETS should review on a regular basis potential process improvements and technology upgrades (i.e. outdoor wireless network with converged services) that would support portable connectivity. These upgrades should have minimal impact on ETS resources while allowing for continuous or rapid provisioning of services to the portables. This task should also be assigned to the WAN steering committee in the development of the strategic planning.

## *ETS5017 CNI-6: Network Authentication/Single Sign-On*

Continue to develop a comprehensive solution for network authentication, single sign-on and user management. Develop options that address service to Macintosh and Windows users, legacy applications, critical desktop applications, existing Macintosh and Windows servers and the existing AS/400 NT server cards. Develop a pilot

implementation to test options and develop a final solution. Define exceptions to the single sign-on model including legacy applications and incompatible operating systems. Additionally, develop migration plans for each. Implement the solution in all sites.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

ETS has made some progress in this area. ETS has incorporated a light version of IBM's Tivoli Identity Manager (TIM) to provide sign-on authentication to the KNEXUS web portal. However, even with this framework in place, a formal strategy is not clearly defined. Much of the process that is in place is integrated as a part of IBM Websphere, which is the foundation of the BEEP and KNEXUS portals. The strategic portal (BEEP or KNEXUS) must include and present the strategic direction for single sign-on (SSO) for SBBC.

**Remedial Step 6:** Clearly position the applications of BEEP and Project KNEXUS to allow support and funding approval. The rollout of district-wide active directory and common schema is moving slowly. An RFP has been developed, and some validation of the original design has occurred. Mac OS X is more active directory-friendly and this capability helps to enable this project. The lack of a budget is holding back implementation. ETS should prioritize this project and consider how this links with the SSO TIM/TAM.

## *ETS5018 CNI-7: ITFS Wireless Connectivity*

Assess wireless connectivity to the schools and possibly to the community. Make recommendations that a reliable and high-bandwidth set of services should be delivered to schools. Explore microwave frequency ITFS as a WAN back-up as an enhancement or supplemental capability.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

The founders of the One-Broward project established a mission, vision, and flagship projects for each participating organization. They completed an asset assessment for not only SBBC, but for all participating organizations. Partnerships were created, distributed, and were nearing completion for the nine governmental entities involved. The One-Broward website is located at http://www.onebrowardnetwork.org

BECON is in the process of changing the head-end video equipment at each of the SBBC schools to allow for digital reception of education broadband service (EBS) signals. In addition, all new equipment purchased by schools is required to be digital-ready. A three-year conversion plan for BECON has been developed, but has not been reviewed by CELT. BECON is working to meet a deadline to increase broadcast power up to 5 Megawatts. The current plan is for this increased power to go live in December 2006.

**Remedial Step 7:** There are no plans to integrate with or provide any ancillary or failover network services between the ETS and the SBBC networks.

As one of its recommendations, the CELT "Video Servers" report dated July 22, 2005 lists the following:

> *BECON and ETS should jointly develop a comprehensive and integrated technical and operational plan for distributing digital video programming to schools both through ITFS and the wide area network since there are beneficial aspects to both approaches. The integrated plan should encourage programming flexibility, the elimination of duplicate functions, minimizing capital outlays and support costs, maximizing video quality and reliability, and paying close attention to total cost of ownership.*

The independent assets of both ETS and BECON continue to offer excellent but isolated services to the users. However, because of the unique nature of the underlying transmission technology and the fact that the digital transmission of data is a fundamental aspect of both, how one network can support the other as a combined asset is a strategic advantage of which SBBC is currently not capitalizing. If the strategic direction for digital transmission of data includes both underlying technologies, SBBC can maximize its investments, improve reliability, and reduce the TCO and maximize the return on investment (ROI) of its network and communications services.

## ETS5020 CNI-8: Communication Continuity Planning

Develop a service continuity plan to provide communication services during crisis and disaster situations, and investigate linkages to homeland security issues.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| X | | | |

### Remedial Steps

A communications continuity planning taskforce has not been established, and a plan has not been developed or implemented. Some initial discussions with Bell South have taken place to relocate routers to the Bell South Central Office as a possible strategy to address this issue and reduce risk.

**Remedial Step 8:** Implement the original action plan.

## ETS5009 CNI-9: AS/400 Consolidation

Develop a plan to replace existing AS/400s in the schools. Detail AS/400 functionality and develop options with a return-on-investment (ROI) analysis to address functionality, capacity, upgradeability, and maintenance. Determine the approach for replacing the services currently provided by the AS/400's integrated NT servers and develop a migration plan in conjunction with initiatives addressing Network Authentication and School and Department Servers.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

### Remedial Steps

There are no remedial steps being recommended. The project has been completed on time and within budget. It was expanded to include a data warehouse, which will accommodate reporting that previously existed at the schools.

## *ETS5010 CNI-10: Data Center Printers*

Consolidate old printers in the data center into a few printers, reducing maintenance and operational costs.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

### Remedial Steps

There are no remedial steps being recommended. This project was completed on time and within budget.

## *ETS5007 CNI-11: School and Department Continuity Plans*

Implement continuity plans for information systems at the school and department levels. Integrate application owners, stakeholders, and constituents into the central data disaster recovery processes.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

There is no integration of application owners, stakeholders, and other constituents into the central disaster recovery processes. While initial progress was in training the school-based TLCs and implementing a checklist, there was no formal plan or strategy. However, some steps were taken to lower risk such as utilizing the LAN desk to remove malware and other vulnerabilities. Such a plan or strategy included intrusion detection on a regular basis and ensuring methods were continually improved to detect and prevent unauthorized systems/data changes in all district systems. Some preliminary evaluation and testing of an Intrusion Prevention System (IPS) has started.

### Remedial Steps

**Remedial Step 9:** Develop a plan presenting capabilities for information security and continuity that could ultimately exist. This plan would show the regular testing that is completed to ensure compliance. Implement regular reports to management that show breaches of security and misuse. Use these reports to minimize vulnerabilities and measure improvements over time.

## *ETS5012 CNI-12: Central Software Distribution*

Implement a centralized software distribution system to deliver applications and desktop images, manage licensing, and distribute updates. Integrate with on the SSO initiative.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

### Remedial Steps

There are no remedial steps being recommended. LANdesk was implemented and is working very effectively. The project was completed on time and within budget.

These are projects that ETS added after the IT Blueprint was completed.

## ETS06009 TSSC Building Access Layer Upgrade

Replace existing access layer network hardware that is out of warranty with new proposed hardware. At the same time, change the network environment from statically assigned IT addressing to geographically dynamic DHCP, reducing network management time. Re-patch existing patch cabling to reduce future support issues.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

This project replaced all switches with contemporary versions and all switches are under control and management of the Network Operations Center (NOC) This project was completed on time and within budget.

### Remedial Steps

There are no remedial steps being recommended.

## ETS05048 District Wireless Network Implementation

Enable BCPS mobile users with Enterprise District Standard Wireless Network Equipment at all sites.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | | X |

This project was completed by installing the wireless capability in all media centers throughout the schools in the district.

### Remedial Steps

There are no remedial steps being recommended.

## *ETS06002 District Wireless Network Implementation Phase 2*

This project is to obtain E-rate funding for the project that was implemented.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

### Remedial Steps

There are no remedial steps being recommended.

## *ETS06010 Network Integration Group – Active Directory (AD) Migration*

The purpose of this project is to migrate users within the Network Integration Group of ETS to the BROWARDSCHOOLS.LOCAL Active Directory (AD).

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This pilot project required a group of approximately 25 staff members to use the AD. The design was completed and validated, directory structure built, naming conventions established, user management automated, and Macintosh successfully bound to AD.

### Remedial Steps

There are no remedial steps being recommended.

## ETS05044 Support of Digital Learning Environment

The support of the digital learning environment includes a complete installation of an enterprise wireless network at each site. The one-to-one initiate includes the imaging, installation, and distribution of laptop computers for all students and teachers. Moreover, there is on-site installation and support of each of each site-based server to support this ongoing project.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This project supported the initial 5000 student laptops with setup and documentation. This project was completed on time and within budget.

### Remedial Steps

There are no remedial steps being recommended

## ETS060006 Upgrade MeetingPlace Collaboration Tools

This project entails a refresh and upgrade of district-wide video and audio conferencing, bridging, scheduling, and management systems along with the video conferencing units in schools and departments.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This project was a facet of the district equity policy. Every school has or will have at least one installation. It was a collaborative effort with BECON, who supplied content that gets scheduled/delivered over the conferencing network. Approximately 8000

students a week took advantage of these lessons/classes. A central bridge has helped stabilize the installation. Demand for additional administrative uses was growing with applications such as interim principal training and budget forecast meetings. The interviewed principals indicated these results:

| | Positive % | Negative % |
|---|---|---|
| Effectiveness of video conferencing for administrators | 46 | 16 |
| Teacher staff development | 53 | 13 |
| Curriculum use | 54 | 8 |
| ETS training | 45 | 13 |

### Remedial Steps

There are no remedial steps being recommended.

## *ETS07001 Budget Forecast Committee Video Collaboration Upgrades*

Install and configure desktop personal video conferencing systems and train the Budget Forecast Committee members on its use

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This project was installed and the training of the budget committee members was completed. This installation allowed the members to conduct the meetings on district priorities from their offices. It permitted desktop video systems to be used for the first time in the district.

### Remedial Steps

There are no remedial steps being recommended.

## ETS05042Change Management

This project defines and implements a technology change management process for the ETS department. This process includes planning, coordinating, and monitoring changes affecting an organization's computing resources (network, workstations, servers/mainframes and applications) in order to ensure availability, responsiveness, and customer satisfaction.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

The change management process was installed as the first step of the Information Technology Infrastructure Library (ITIL) process of how to run an effective IT organization. Currently, ETS has no plan to install these other processes. Also, the current change management process processes about one change per week. For an organization of ETS' size, this amount implies most changes are not going through the change management process. In fact, no changes for the student system (TERMS), Human Resource Management System (HRMS), or changes on projects taking less than one month go through the change management process. Furthermore, there are multiple change management processes since HRMS has its own change management process. Additionally, HRMS has servers installed at ETS, which are connected to the district network.

### Remedial Steps

**Remedial Step 10:** Require that all changes go through the change management process. These changes are regardless of size and should be delineated as defined in the project definition above

**Remedial Step 11:** Consolidate the various technology change management processes and systems into one process for the district.

**Remedial Step 12:** Initiate a project to implement the next Information Technology Infrastructure Library (ITIL) process. The district should consider problem management. Data from the change management process should be linked to a problem management process to identify and understand what influenced the unsuccessful changes and effectively prepare for these in the future.

## *ETS0600-0 One Broward Network Assessment -Pilot*

This phase of the OneBroward project includes the assessment of the participant organization's infrastructure and network assets that are currently in place. Determine and create a set of design assumption for the OneBroward network infrastructure and services requirements that can be based on utilizing existing OneBroward participants' assets. A set of case studies will be developed to demonstrate the services and applications that ca be offered by the integration participants network assets and other network technologies.

The scope of this study includes the following participants: school board of Broward County (BECON and ETS), Broward County (Date Communications, Library, Public Works/Traffic), universities (BCC, FAU, FIU, NSU), healthcare (Memorial Hospital System, North Broward Hospital District), and utilities (FPL-Utilities and Fiber Scan Only, Comcast, Bellsouth, MCI and SBC).

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This project has progressed well using BECON and ETS as facilitators for all county entities. There is a Website describing the activity. Phase 0 is the asset inventory. Phase 1 is the vision. Phase 2 is a plan for an RFI/RFP for a non-profit entity to direct the initiative with an executive board and by-laws. In addition, there is interest in creating a tri-county network with Palm Beach and Dade counties.

### Remedial Steps

There are no remedial steps being recommended.

## *ETS05027 Appoint a district continuity project manager*

This project would establish a new position within ETS to manage information security and continuity planning with the district departments and schools.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This position was established in ETS in 2005. While initial progress was in training the school-based TLCs and implementing a checklist, there was no formal plan or strategy. Such a plan or strategy would include regular intrusion detection, ensuring methods are continually improved to prevent and for sure to detection of unauthorized systems/data changes in all district systems.

### Remedial Steps

**Remedial Step 13:** Increase the focus in this area and expand the responsibilities of this position. See remedial steps listed under ETS05011 Establish a school and department continuity plan.

## *ETS05028 School and Department Checklist for a Continuity Plan*

Schools and departments create site-based databases for local data. There is no consistent strategy for portending this data in the event of data loss or disaster. This project establishes a checklist to assist schools in identifying vulnerabilities that should be considered when developing disaster recovery procedures.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This project was completed and the checklist used in the school-based training for TLCs.

### Remedial Steps

There are no remedial steps being recommended.

### *ETS05030 Mainframe Upgrade Project*

The mainframe upgrade project evaluates and provides a framework for decisions relevant to the mainframe and central computing resources. The object is to mitigate the mainframe demand problem, which occurs during the last quarter of each fiscal year. In order to simplify and clarify a strategy to upgrade, use and maintain the mainframe for the next several years.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

#### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

This decision framework was provided. It outlined in a logical sequence how and when to arrive at a decision to upgrade the mainframe.

#### Remedial Steps

There are no remedial steps being recommended.

## 11.4 New Action Plans/Recommendations

None

# 12.0 Review for Community Access and Participation

The *2004 SBBC Information Technology Blueprint* identified major initiatives in the area of Community Access and Participation. They include the following:

- CAP-1: Community Access and Engagement Plan (STP05001)
- CAP-2: School/Community Technology Access Centers (S/CTAC) (CUR05004 & COS05004E)
- CAP-3: County-wide Summit on Technology, Learning, and Economic Development (ETS05006)
- CAP-4: School and Work-day Continuity Plan (CUR05004)

These initiatives present generally long-term projects that are designed to increase the quantity and quality of interaction with parents, taxpayers, and the business community. The priority levels range from medium to high. Lack of funding has hampered several of the projects, put them on hold, or cancelled them. One of the projects has been combined with a project from another area, using e-mentoring through videoconferencing. Two related projects not in the original Blueprint have had some activity as well. In spite of the challenges, SBBC has made some outstanding progress on some of the Community Access and Participation projects and has potential to follow through in the future.

## 12.1 Chapter Summary

### Status

| Original | Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|---|
| 4 | 0 | 1 | 3 | 1 | 0 | 0 |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| 3 | 1 | 1 | |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **CAP-1:** Community Access and Engagement Plan | STP05001 | on hold | high | long |
| **CAP-2:** School/Community Technology Access Centers (S/CTAC) *(combined with* **TLT-4:** E-Mentoring*)* | CUR05004<br>COS05004E | on hold<br>open – 31% | high | long |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **CAP-3:** County-wide Summit on Technology, Learning, and Economic Development | ETS05006 | canceled | medium | long |
| **CAP-4:** School and Work-day Continuity Plan | CUR05004 | on hold | medium | long |
| **Related Projects not in the Blueprint** | **PMO #** | **Status** | **Priority** | **Time** |
| Digital Divide: computers for low-income families | ETS05039 | closed | medium | long |
| One Broward | ETS06005-0 | open – 80% | medium | long |

## 12.2 General Observations

The projects presented in this section of the IT Blueprint address the quality and type of communication with parents and the general public about Broward County Public Schools (BCPS), through Community Access and Participation. Technology can be the means to increase both the quantity and quality of information parents receive. These efforts seek to enhance and improve the quality of communication between parents and schools in particular. The effective implementation and regular use of these resources will depend in part on funding and in part on the professional development initiatives and technical support structures identified in other IT Blueprint sections.

## 12.3 Detail Review of Each Action Plan/Recommendations

### *STP5001 CAP-1: Community Access and Engagement Plan*

Develop and implement a comprehensive community access and engagement dissemination plan to link the islands of information that serve the community and provide a conduit for two-way communication.

#### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

There is no comprehensive community access plan regarding technology use. The activities are continuing as separate islands of engaging the community and are occurring in various forms. While each has a value and is benefiting the community, they are not part of a structured plan, so their impact is less than it could be.

Some examples include:

- ParentLink is a very effective project that allows e-mails and phone communications to the parent on a variety of subjects.
- Some schools have websites, but there is no consistency of content or format even for those schools that do have them. Currency of information varies widely. It is difficult for principals to update information quickly or directly from their computers, yet the community is becoming used to just-in-time information from other sources.
- There is continuing interest in kiosks in public locations.
- Initial efforts have been piloted with e-mentoring. The use of videoconferencing in two pilots shows both potential and problems to be addressed.
- Podcasts have been created by district communication staff and by individual schools and teachers.
- Pinnacle gradebook has been implemented in some schools, providing a new avenue for communication between parents and school.

The implementation of ParentLink has brought a new level to community access and engagement of information. The feature that allows schools to pinpoint messages directly to affected parents or students has increased the flow and quality of information in tangible ways. Parents are able to support their children's education more effectively when the messages target them directly and in a timely manner. One notable feature is the automated function within the system that allows for notification of student absences. During spring 2006, the biggest asset was calling parents to remind them when their children would be taking the FCAT, thus increasing student attendance on test days. The opening of school in fall 2006 was among the most successful ever, as parents were called to remind them about a week before the year began. In addition, after the fall hurricane, nine schools were without air conditioning, and parents from those schools were able to learn about that directly because of ParentLink. Finally, outgoing calls from ParentLink were used to notify parents about PTA meetings, though this use is in its infancy.

An additional outcome of using ParentLink was that the phone system database was cleaned out and updated, as old or incorrect telephone numbers were identified.

Another use of targeted messages was provided by Pinnacle, for those schools that were using the electronic gradebook program. As more schools implement Pinnacle, some in-depth messages about how to use it will need to be communicated to parents.

During the past year, the district has started producing podcasts of information about Broward schools. *Broward Schools: News 2 Go!* Video Podcasts, and a new *Video Podcast BCPS Update* provide information for Broward parents and families. These can be searched through iTunes. In addition, anyone interested can subscribe to email updates with information about the school district student. Both of these are at the cutting edge of how school districts are communicating what they are doing with students.

Further development in this area has been hampered because of lack of funding. Stories of how technology is impacting student learning, efficiency of business procedures, and in other areas will assist in a small way with the overall public information efforts of SBBC. The many and significant successes of this district as a national leader needs to be told to the public to continue to maintain support for public education and to increase chances for continued funding. Communicating what is happening within ETS and how it affects employees is also essential for the internal audience of SBBC employees.

### Remedial Steps

**Remedial Step 1:** Develop a comprehensive community access plan that addresses all facets of an effective two-way communication system with businesses, parents, and students that integrates significant use of technology. Examine relationships such as that of WLRN and the Miami Herald in Miami-Dade County to see whether there would be a way to leverage business dollars to help tell the stories of schools in Broward County.

## *CUR5004 CAP-2: School/Community Technology Access Centers (S/CTAC) – combined with TLT-4: e-Mentoring*

Focus efforts of the Career, Technical, and Adult/Community Education district and school leadership to provide community access to educational services/programs and technology required to effectively utilize the various web-based resources that are a part of the *Information Technology Blueprint.*

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

The district has considered placing kiosks in non-school sites that contain many visitors such as malls, as a way to connect parents and the community with the technology resources available in the district. This consideration has been put on hold because of lack of funding. The goal is to provide community-wide access to information, even to those who do not have technology access at home or at work.

E-mentoring was originally planned to be conducted through email, but issues related to filtering content arose. Thus, staff turned to videoconferencing as a way for middle and high school students to have peer-to-peer mentors. The videoconferences could take place on scheduled dates, and the high school students would receive community service hours. The mentoring was designed to work through magnet schools. The first pairing of Dillard High School and Parkway Middle School and between Parkway Middle School and feeder elementary schools had a magnet orientation and focuses on vertical alignment. It was also a marketing tool for the magnet programs. Another

pairing was South Plantation High School and New River Middle School for the marine project. Because this was an after-school program, logistics issues were challenging. School dismissal times differed, and as a result the overlapping time for students to connect was limited.

Further development of this project is on hold until the Student Technology Internship Program (STIP) is fully developed, and until additional funds are allocated.

### Remedial Steps

**Remedial Step 2:** This project is on hold because of lack of funds. After the Student Technology Internship Program is fully developed and after additional funds have been allocated, continue development of this project.

## *ETS5006 CAP-3: County-wide Summit on Technology, Learning, and Economic Development*

Plan and conduct a community-wide Summit on Technology, Learning, and Economic Development that will bring together school, community, and business constituents through collaborative planning activities. The Summit event will heighten awareness among the school community and public as to the need for increased availability and access to information technology resources for improved teaching, learning, and decision-making. A focus of the event will be the importance of creating a community of learners and, through a well-prepared, technologically competence workforce, sustaining and enhancing economic development in the county.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | | X | | |

### Remedial Steps

**Remedial Step 3:** Commit to holding this technology summit. There is potential interest in both Palm Beach and Miami-Dade school districts. Also, because vendors and the community are interested, the summit could be held at no cost to the school districts involved.

### *CUR5004 CAP-4: School and Work-day Continuity Plan*

Study the implications of community connectivity to quantify issues of cost, user support, service quality expectations, security, equity, and protection. Continuation of the school day from home and off-site locations, access to ILS systems located in schools, and the Web, including delivery of training and support.

**Status**

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | X | | | |

**Remedial Steps**

**Remedial Step 4:** Further work on this project is partially dependent on the widespread availability of internet access in the community and preferably in student homes. Funding and staff time or consultants are necessary to complete the study that would guide this next initiative. In the meantime, Virtual Counselor and BEEP have been able to help in extending the school day. Access to licensed Web resources such as Atomic Learning and some ILS materials, including FCAT Explorer, have also helped to extend the learning day for students.

## 12.4 Related Projects

### *ETS05039 Digital Divide and ETS06005-0 One Broward Network*

The goal of the Digital Divide Program is to eliminate the gap between people and communities who can make effective use of information technology and those who cannot. The vision is to develop a comprehensive program that aligns district resources with community/business partners to provide home computing capabilities to low-income families. The initial thrust is to refurbish surplus SBBC computers and distribute them to Title 1 families, after they complete literacy training. The computers will have educational programs installed for the students. Second level training for parents will introduce internet access.

**Status**

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | X | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | | X | |

## *Digital Divide: Computers for Low-Income Families*

Old computers that were being discontinued in BCPS were refurbished by ETS staff and placed in the homes of low-income students in several targeted schools. Instead of selling discarded computers for a small amount, the district placed the computers in homes that would otherwise not have computers available. The pilot project refurbished 200 computers and 400 more are in the process of being refurbished. The district's capacity is 600 PCs and Macs per year. The recipient must provide internet access if desired. This project was successful in helping increase technology access, but it required time and energy of ETS staff to complete the repairing and refurbishing. The next step is to get the community involved and preferably a non-profit agency to assume the refurbishing and distribution of the computers.

## *OneBrowardNetwork*

The OneBrowardNetwork project is at the stage where it needs a governance plan to take it to the next level toward implementation. Documents related to a similar plan in Cleveland have been acquired so that BCPS can use the information. Miami-Dade County is at an earlier phase of planning and has also exchanged information from their perspective. Also, case studies of the use of ITFS in smaller areas are being examined. A sample flagship project will partner the Sheriff's Office with the school district to enhance safety and security in the schools by implementing real-time video surveillance technology. A February 2006 conference allowed SBBC perspective on possible visions to be shared while results from other communities were also presented. The ultimate goal is that the OneBrowardNetwork initiative will offer wireless broadband access to the community at large.

More information can be read at: http://www.onebrowardnetwork.org

### Remedial Steps

**Remedial Step 5:** Search for a nonprofit partner who could be in charge of the refurbishing and distribution of computers. This reallocation of work will free up district staff so they can return to other work. Two possible nonprofit agencies are **Computers for Youth** http://www.cfy.org in New York and Philadelphia and **National Cristina Foundation** (NCF), http://www.cristina.org. Consider working with the Broward Chamber of Commerce to receive other donations of equipment from area businesses to expand reach of program. Continued emphasis and implementation of the current plans for both Digital Divide and OneBrowardNetwork would be beneficial.

## 12.5 New Action Plans/Recommendations

### *CAP-5 Computer Dispersion*

Refurbishing of used equipment for placement into low-income families has been a successful project in many communities around the country. In many cases, the leadership comes from a group concerned about the environment and recycling of computer components to minimize the effect on the environment, often termed *e-cyclers*. The Environmental Protection Agency (EPA) has suggestions on how to reuse computers to benefit the poor, and how to recycle unusable components so that there is no harm to future generations from lead and other chemicals. In addition, issues of data cleansing and use of Microsoft licenses for donated computers can be considered. See: http://www.epa.gov/epaoswer/hazwaste/recycle/ecycling/donate.htm

Dell Computer is among the leaders in working in this area. Dell is the primary provider of hardware recycling services to the EPA as it plans to keep dangerous elements found in PCs and other devices out of the country's landfills. Dell advises the EPA on ways to reuse or recycle equipment, as well as on preferred methods for clearing files from retired machines and disposing of unwanted computers. Other companies also have programs, including IBM, Apple, and others.

Within Broward, the county has established collection sites for used electronics, which can then be refurbished and sold. The goal is to minimize impact on landfills and to provide job training through Achievement and Rehabilitation Centers (ARC Broward), a non-profit organization serving people with disabilities. However, there is no guaranteed placement of equipment into student homes. See: http://www.broward.org/waste/iwi04112.htm

Computers for Youth's mission is to close the learning gap between low-income children and their more affluent peers by improving the home learning environment, targeting sixth graders in low-income urban areas. It is a nonprofit organization with branches in New York and Philadelphia and a stated interest in expanding to other communities. See http://www.cfy.org

Another group, National Cristina Foundation (NCF), provides computers to schools and groups, but not to individuals. See http://www.cristina.org The NCF Learning Network was launched with a grant from the U.S. Department of Commerce, National Telecommunications, and Information Administration. Strategies, solutions, and best practices are exchanged among a learning community comprised of not-for-profit organizations and public agencies that manage computer re-utilization programs to benefit people with disabilities, economically disadvantaged persons, and students at risk. Only approved members can be part of this exchange.

Because the current refurbishing of SBBC computers is pulling ETS staff from other needed tasks, it is recommended that this refurbishing and placement into low-income homes be moved to a nonprofit organization. SBBC area superintendents might be asked to target feeder patterns or schools for the donations. Any needed training activities can then be focused on a school, whose staff can determine what might be most appropriate. Title 1 funds for parental involvement possibly could assist in this activity. An established non-profit may have funding and relationships already built, minimizing the time and expense of a BCPS program.

The recommendations for computer dispersion are:

- Research nonprofit organizations that disperse computers into homes of low-income families in other communities. Determine their organization, funding structure, and involvement of school district, including whether they have been able to use Title 1 parental involvement or similar funding to support their projects. Policies for determining placement, especially as to school district wishes, should be noted, to maximize benefits desired by SBBC. Research on ideal grade placements, challenges, and positive effects should be included.
- Create a branch of one of the non-profit organizations in Broward County, possibly working with the Broward Chamber of Commerce and local Dell, IBM, and Apple customers. Consider involvement of environmental groups as well. Businesses might be able to take advantage of tax incentives for computer equipment donations. The 21st Century Classrooms Act encourages large companies to donate computer equipment to public and private schools. However, the goal here is NOT to place refurbished computers in schools, but in homes.
- Turn over the refurbishing and placement of discarded computers to the non-profit organization and allow ETS staff members to return to other tasks.
- Work with the non-profit organization to target schools and families for locations for placement. Tie equipment placement to current curriculum initiatives to maximize the positive effects on student learning.

## CAP-5: COMPUTER DISPERSION

| Strategic Planning Objectives: | Priority: High<br>Total Cost: Will relieve district of current workload in refurbishing computers | Leadership Responsibility: CIO |
|---|---|---|

| Action Step (*Denotes that step has already started.) | | Year 1 (06-07) | | | | Year 2 (07-08) | | | | Year 3 (08-09) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| 1. | Research nonprofit organizations that disperse computers into homes of low-income families in other communities. | | | x | → | | | | | | | | |
| 2. | Create a branch of one of the nonprofit organizations in Broward County. | | | | | X | | | | | | | |
| 3. | Turn over the refurbishing and placement of discarded computers to the nonprofit organization. | | | | | | x | | | | | | |
| 4. | Work with nonprofit to target schools and families for stages of placement. | | | | | | | → | → | → | → | → | → |
| 5. | Work with Broward Chamber of Commerce and government groups for additional sources of discarded computers that could go into student homes and support for the activities in schools. | | | | → | → | → | → | → | → | → | → | → |

**Key Participants:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | School Board | x | Curriculum & Instruction | | Purchasing & Contracts | | Food Services |
| x | Superintendent | x | Student Support Services | | Auditing/Risk Management | | Transportation Services |
| x | District-level Administrators | x | Research, Evaluation, & Assessment | | Budget, Finance, & Payroll | | Legal Services |
| x | Area Superintendents | | Human Resources | | Security and Safety | x | Community/Business Relations |
| x | School Principals | | Strategic Planning & Reporting | | Fixed Management | | Unions/Associations |
| | Teachers | | Staff Development | x | Information Technology/ETS | x | State & Fed Gov't Relations |
| | Students | x | Parents/Guardians | | Facilities & Maintenance Svs | | Foundations/Grants |

# 13.0 Review for Monitoring and Evaluation Design

The *2004 SBBC Information Technology Blueprint* identified major initiatives in the area of Monitoring and Evaluation Design. They include the following:

- M&E-1: Strategic Management System (combined) (STP5002)
- M&E-3: Project Management Office (ETS05023)

## 13.1 Chapter Summary

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| 2 | | | | | 1 |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| 1 | 2 | | |

| Project | PMO # | Status | Priority | Time |
|---|---|---|---|---|
| **M&E-1:** Strategic Management System (combined) | STP5002 | closed - 100% | Medium | Medium |
| **M&E-3:** Project Management Office | ETS05023 | closed - 100% | high | Short |
| **Related project not in the Blueprint** | **PMO #** | **Status** | **Priority** | **Time** |
| Transition project management | ETS5040 | Closed –100% | high | Short |

## 13.2 General Observations

The strategic management system started with the implementation of the ETS Project Management Office (PMO). This system provided the monitoring capability for ETS technology projects. However, the PMO needs strengthened as listed below in the remedial steps for this project. In addition, there needs to be follow-on efforts to include all district technology projects and create the linkage to evaluate the impact on learning outcomes.

## STP5002 M&E-1: Strategic Management System

Design, develop, and implement a strategic management system (SMS) that includes processes, structures, and tools for monitoring implementation of the *Information Technology Blueprint* and evaluating the impact on learning outcomes. This system will track schedules, resource allocations, and fidelity to required program components.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| | | | | | X |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| X | | | |

### Remedial Steps

This project was combined with District Level Planning in Volume IX.

## ETS5023 M&E-3: Establish a Project Management Office

This initiative will establish a project management office to align all implementation initiatives to the Sterling model of Plan, Do, Study, and Act. The project management office will oversee the implementation projects to assure that project plans use performance measures that include customer satisfaction, and most importantly, student achievement. Implement a centralized office for the coordination, monitoring, and control of all district initiatives to contribute to the successful completion of BCPS projects and provide a holistic understanding of project issues and dependencies.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

## Remedial Steps

The current implementation of the ETS Project Management Office (PMO) is a recording of status obtained from the various project managers only. There is no interpretation of results, no independent validation, and no data integrity validation. This PMO has recording and reporting responsibility. Its value has been to insist on formal project plans from project managers and record status as reported by the project managers. For the major issues of the time management project-Kronos, the principal portal-Knexus, and the grade book-Pinnacle, the project status showed it was progressing as planned, when in fact these were major issues for the district. Generally, there were no entries for technology projects outside of ETS. Such projects were discovered late in the process and were added occasionally, such as the security tracking system (STAR). There are projects, such as the sub-central system upgrade, which were not included in the PMO system, even though there is an ETS component.

**Remedial Step 1:** Establish a process through the Project Management Office (PMO) that looks at and raises the risks of installing multiple projects at the same time. At that point, management can take action. Currently, each project is managed as a separate entity and its installation timing is not taken into account with other projects planned for installation at the same time. This is the case for the beginning of this school year.

**Remedial Step 2:** Establish a process for considering resources required in all projects. Through effective project planning, Resources can be managed and conflicts can be identified and avoided. Consider for an example, a policy from the superintendents about how much time a principal can be away from the school. This policy can be put into an effective project management system, and be managed across all projects. This policy change would be in addition to the resource loading of the ETS development staff, which also needs to be included within the project management system.

**Remedial Step 3:** The PMO responsibility should significantly increase. The PMO needs to manage additional activities that include:

- Holding a separate and dedicated 'operations review meeting chaired by the CIO and facilitated by the PMO.
- Providing the tracking on each project. At the highest level, the PMO would provide trend tracking with scorecards and/or red light-green light charts showing the condition of all projects on a weekly basis. All yellow and red light status projects need weekly in-depth status reporting. The CIO would ensure any barriers are eliminated.
- Insuring the data presented possesses integrity. Ownership of the data presented is a responsibility of the project manager and the PMO.

- Expanding the ETS PMO so it helps to manage the projects and can suggest remedial actions when a project needs help. Furthermore, each PMO staff member should be PMI certified and able to help with the project he/she is assigned to.
- Requiring a larger staff for the ETS PMO. The size will be determined based on the designated responsibilities.

## *ETS05040 Transition Project Management*

This project provided implementation support for all projects listed in the Information Technology Blueprint. The charters were defined, schedules agreed upon, organization of executive sponsor and co-project managers and meetings established. This project would start the transfer of knowledge.

### Status

| Completed | Active | On Hold | Cancelled | Added | Combined |
|---|---|---|---|---|---|
| X | | | | | |

### Effectiveness

| Not Effective | Minimally Effective | Effective | Very Effective |
|---|---|---|---|
| | X | | |

### Remedial Steps

While the initial project (3-6 months) was judged to be effective, the ongoing efforts were minimally effective. This project, set in place the organization, established the process to sustain the projects and the monitoring capability through the Project Management Office (PMO). It has the ability to track progress and let management make any needed corrections through time. While the basic mechanisms were in place to proceed, the follow through was lacking. There was not the sustaining commitment in some cases to follow through on the projects. The initial formality of meetings with the development teams was well attended but then faded. In addition meeting minutes, action plans, and regular schedules were not consistently used.

**Remedial Step 4**: Train all ETS project managers on the process of scheduling meetings in advance, having agendas, publishing minutes, following up on action items from meeting to meeting, and having a way to resolve issues on a timely basis.

## 13.3 New Action Plans/Recommendations

### *M&E: District-wide Project Management Office (PMO)*

Implement a district-wide project management office (PMO) for all projects. The processes, tools, and training would be consistent for all projects across the district. This would also encompass implementing a balanced scorecard for all departments across the district.

| **M&E-4 : DISTRICT WIDE PROJECT MANAGEMENT OFFICE (PMO)** | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategic Planning Objectives:** | | **Priority:** HIGH<br>**Total Cost:** $.3-.5M$ | | | | **Leadership Responsibility:**<br>**Superintendent** | | | | | | | | | |
| **Action Step**<br>*Denotes that step has already started. | | **Year 1 (06-07)** | | | | **Year 2 (07-08)** | | | | **Year 3 (08-09)** | | | | | |
| | | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | **Q1** | **Q2** | **Q3** | **Q4** | | |
| 1. | Define the scope, processes, and schedule for a district PMO | | | X | | | | | | | | | | | |
| 2. | Define scorecards for each department | | | X | | | | | | | | | | | |
| 3. | Obtain approvals | | | X | X | | | | | | | | | | |
| 4. | Conduct monthly scorecard reviews | | | | X | → | → | → | → | → | → | → | → | | |
| 5. | Implement the PMO | | | | | X | → | → | → | → | → | → | → | | |

# 14.0 Review for Budget, Funding, and Cost Savings

## 14.1 General Observations

### *Vendor Contracts*

Thirteen (13) RFP/contracts totaling $81.1M were reviewed. The contracts were processed from October 2004 to October 2006. These 13 RFP/contracts represent approximately 80% of the total number and 95% of the dollar value for this time frame. These RFP/contracts are listed in Attachment D.

### *ETS Budgets*

Based on actual payments during this time period, the top forty-six (46) technology vendor contracts amounted to $106.5M from ETS and another $63.0M from other district departments outside ETS. Thus, 62% of the total technology vendor contracts were from ETS, and 38% were from other district departments and schools. This total includes spending from all contracts, some of which have been in place for several years prior to the time period being examined in this report. See Attachment E.

In our judgment, the ETS budgets, RFP/contracts are well managed and have integrity. There is no evidence of vendor bias.

The technology spending outside ETS does not receive the same level of scrutiny, review, and oversight as the ETS spending does.

There were no Total Cost of Ownership (TCO) or Return on Investment (ROI) analyses on any of these RFPs/contracts.

## 14.2 Remedial Steps

**Remedial Step 1:** Assign some group the responsibility of overseeing all technology purchases in the district. Since 38% ($63.0M) of the dollars were spent outside of ETS, this issue needs to be managed in a more centralized manner. All the technology dollars should not be in one budget, but rather the approvals for spending should be centralized.

**Remedial Step 2:** Include a financial analysis/template for TCO, payback, and ROI so that district management can clearly see the benefits on each project. This outline would be especially helpful to the Budget Forecast Committee in helping to determine priority of projects. Include this template in the purchasing RFPs, the ETS project management office charters, and the forms for board agenda items.

**Remedial Step 3:** As a follow-up activity, establish the major cost drivers for technology in the district and establish an on-going process for cost reduction.

## 14.3 New Action Plans/Recommendations

None

# Attachments

# Attachment A:
# Summary of SBBC Principals Survey on Technology

A total of 157 principals (63% of those in Broward County Public Schools) responded to an online survey. The chart below displays the statement as it appeared in the survey, which asked principals to rate their feelings, from strongly agree to strongly disagree. The percentage of non-responses is reported in the table.

A satisfaction scaled score is also provided by a formula that takes into account the weighting of the responses. Non-responses are not included in the satisfaction scale. The satisfaction scale provides a way to look at overall positive attitudes toward the area in question.

Principals could also write in their comments on the top technology items that would help principals in their jobs. The top two that were written in were:

1. Technology support improvements
2. Much more ETS visibility and involvement

Areas most needing improvement are highlighted below.

# Results of Principal Survey Ranked by Satisfaction Score

Reported in percentages and ranked by satisfaction index

(Bold indicates greatest agreement on that item)

| Statement (question number) | Strongly Agree% | Agree | Neutral | Disagree | Strongly Disagree | No Answer | Total answers on item | Scaled Satisfaction Score | Satisfaction Rank |
|---|---|---|---|---|---|---|---|---|---|
| Internal (intranet) websites are accessed quickly. (21) | 39 | **52** | 1 | 2 | 0 | 7 | 150 | 27.40 | 1 |
| CAB Conferences are an effective communication tool. (17) | **48** | 40 | 4 | 3 | 2 | 3 | 154 | 27.21 | 2 |
| The refresh program assisted you in replacing old equipment. (3) | **45** | 44 | 5 | 4 | 1 | 1 | 156 | 27.18 | 3 |
| School-based technical support is effective. (1) | **48** | 38 | 6 | 6 | 2 | 0 | 157 | 27.01 | 4 |
| External (internet) websites are accessed quickly. (21) | 32 | **57** | 3 | 2 | 0 | 7 | 150 | 26.67 | 5 |
| CAB Training is effective. (17) | 40 | **45** | 6 | 4 | 1 | 4 | 153 | 26.47 | 6 |
| Data Warehouse reporting and analyzing tools support my responsibilities. (16) | 33 | **53** | 4 | 4 | 1 | 6 | 151 | 26.36 | 7 |
| CAB (email) is reliably accessible anytime/anyplace. (17) | 37 | **38** | 4 | 17 | 1 | 4 | 153 | 25.95 | 8 |
| BEEP training was effective. (15) | 17 | **63** | 17 | 9 | 1 | 3 | 154 | 25.91 | 9 |
| Data Warehouse is easy to use. (16) | 31 | **52** | 6 | 3 | 2 | 5 | 152 | 25.39 | 10 |
| The district network is reliable. (21) | 24 | **58** | 6 | 4 | 1 | 7 | 150 | 25.13 | 11 |
| District-based technical support is effective. (1) | 27 | **52** | 11 | 9 | 1 | 0 | 157 | 25.03 | 12 |
| The district help desk is effective. (1) | 20 | **62** | 10 | 7 | 1 | 0 | 157 | 24.84 | 13 |
| Vendor support is effective. (1) | 16 | **65** | 13 | 3 | 1 | 1 | 156 | 24.10 | 14 |

| Statement (question number) | Strongly Agree% | Agree | Neutral | Disagree | Strongly Disagree | No Answer | Total answers on item | Scaled Satisfaction Score | Satisfaction Rank |
|---|---|---|---|---|---|---|---|---|---|
| BEEP (teacher portal) implementation is effective. (15) | 19 | **55** | 13 | 8 | 1 | 3 | 154 | 23.77 | 15 |
| Data Warehouse training is effective. (16) | 23 | **43** | 17 | 10 | 1 | 6 | 151 | 23.31 | 16 |
| Budget reports are received in a timely manner. (20) | 16 | **55** | 7 | 10 | 5 | 6 | 151 | 23.11 | 17 |
| Video Conference Equipment is Effectively Used: To provide student curriculum content. (22) | 15 | **49** | 20 | 7 | 1 | 8 | 149 | 22.35 | 18 |
| ETS effectively communicates their project plans. (24) | 11 | **49** | 11 | 17 | 4 | 8 | 149 | 22.01 | 20 |
| The district has assisted you in creating a site plan. (23) | 17 | **38** | 19 | 16 | 3 | 8 | 149 | 21.88 | 19 |
| Budget reports are accurate. (20) | 13 | **44** | 13 | 17 | 7 | 6 | 151 | 21.52 | 20 |
| ETS effectively communicates project status. (24) | 11 | **41** | 15 | 21 | 4 | 8 | 149 | 21.21 | 24 |
| Video Conference Equipment is Effectively Used: For teacher staff development. (22) | 8 | **45** | 25 | 12 | 1 | 8 | 149 | 20.60 | 22 |
| Kronos training was effective.(14) | 8 | **41** | 17 | 21 | 8 | 4 | 153 | 20.20 | 23 |
| Video Conference Equipment is Effectively Used: To communicate with administrators (22) | 8 | **38** | 29 | 15 | 1 | 9 | 148 | 20.00 | 26 |
| Kronos implementation is effective. (14) | 8 | **39** | 13 | 24 | 12 | 4 | 153 | 20.00 | 27 |
| ETS effectively involves its customers in project planning. (24) | 10 | **31** | 23 | 20 | 10 | 8 | 149 | 19.46 | 28 |
| Video Conference Equipment is Effectively Used: To provide ETS training initiatives. (22) | 6 | **39** | 33 | 11 | 2 | 8 | 149 | 19.26 | 25 |
| Knexus training was effective. (19) | 4 | 20 | **46** | 17 | 7 | 6 | 151 | 16.56 | 29 |
| Knexus (principal portal) implementation was effective. (19) | 3 | 21 | **44** | 19 | 6 | 6 | 151 | 16.56 | 30 |
| Pinnacle* training was effective (13) | 1 | 9 | **72** | 7 | 7 | 4 | 153 | 13.92 | 31 |

| Statement (question number) | Strongly Agree% | Agree | Neutral | Disagree | Strongly Disagree | No Answer | Total answers on item | Scaled Satisfaction Score | Satisfaction Rank |
|---|---|---|---|---|---|---|---|---|---|
| Pinnacle* implementation is effective. (Gradebook) (13) | 1 | 6 | **66** | 14 | 10 | 3 | 154 | 13.83 | 32 |

* **NOTE:** Not all schools had received Pinnacle software or training.

Mean satisfaction score: 22.63

Weighting scale: SA=5, A=4, N=3, D=2, SD=1.

No answer was not included and was removed from total number of answers.

After computing the weightings, the total was then divided by total number of answers on that question and multiplied times 10 to get a number from 13 to 28.

# Attachment B:
# SBBC Vendor Survey on Technology

Six (24%) of top 25 vendors responded.

| | Positive (%) | Negative (%) |
|---|---|---|
| Effectiveness of SBBC's communications with you on plans | 67 | 33 |
| How do you get these communications: | | |
| #1 Personal meetings | Y | |
| #2 Email | Y | |
| Effectiveness of doing business with SBBC in bid notification | 100 | 0 |
| Time to respond | 100 | 0 |
| Award Notification | 100 | 0 |
| Payments | 100 | 0 |

What improvements would you want? Quality of service metrics (SLAs)

# Attachment C:
# Broward Tech Audit Project Assessment Rubric

| Categories | Not effective: | Minimally effective: | Effective: | Very effective: |
|---|---|---|---|---|
| Status | • project was cancelled or placed on hold<br>• funding unavailable | • project is approximately 50%/60% complete<br>• project is in process, not progressing according to desired timeline<br>• funding is limited | • project is more than 50%/60% complete<br>• project is in process, progressing according to timeline, but still significant work to be completed<br>• funding is adequate | • project is more than 80%/90% complete<br>• all indicators suggest project will come to a successful conclusion<br>• funding strategy is in place to complete |
| Process/monitoring | • project was partially implemented<br>• project was not monitored<br>• no assessment/analysis data is available | • project was implemented to some degree<br>• project was not well monitored<br>• little assessment/ analysis data is available | • project was implemented<br>• project was monitored<br>• some assessment/ analysis data is available | • project was systemically implemented<br>• project was monitored<br>• formal assessment/ analysis data is available |
| Audience | • target audience was not clearly identified<br>• target audience was not positively impacted (or not impacted at all) according to project goals | • target audience was identified to some degree<br>• target audience was somewhat positively impacted according to project goals | • target audience was identified<br>• target audience was positively impacted according to project goals | • target audience was very clearly identified<br>• target audience was very positively impacted according to project goals |
| Outcomes | • few if any measurable outcomes were realized<br>• desired outcomes were not realized | • some measurable outcomes were realized<br>• desired outcomes were realized to a limited degree | • positive measurable outcomes were realized<br>• desired outcomes were realized | • significant measurable outcomes were realized<br>• most all desired outcomes were realized to a high degree |
| Long term potential | • limited, if any, long term potential identified | • modest long term potential and/or scalability noted | • significant long term potential and/or scalability noted | • very significant long term potential and/or scalability noted |

# Attachment D:
# SBBC Technology RFPs/Contracts from October 2004-October 2006

| SBBC Technology RFPs and Contracts from October 2004 to October 2006 | | | | | | |
|---|---|---|---|---|---|---|
| **RFP/Contract Name** | **Contract Value M$** | **Vendor Name** | **TCO** | **SLA** | **ROI** | **Lease** |
| Centralized Systems Mgmt. Facility | 2.4 | JDL/Landesk | N | N | N | N |
| Gradebook and Classroom Data Mgmt. (Pinnacle) | 2.8 | Excelsior | N | N | N | N |
| Customer Resource Mgmt. CRMI (Help Desk) | 1.6 | UST | N | N | N | N |
| Security Identification (STAR) | 2.7 | Johnson Controls | N | N | N | N |
| E-Agenda | 0.038 | Apple | N | N | N | N |
| Time Management (Kronos) | 1.5 | Kronos | N | N | N | N |
| Maintenance of Software and Services | 10.5 | 62 Vendors | N | N | N | N |
| Refresh for laptops/wireless carts | 15.7 | Dell | N | N | N | Y |
| Refresh for laser printers | 5.9 | Lexmark | N | N | N | Y |
| Automated Attendance call out (ParentLink) | 1.2 | Sprint/Parlant | N | N | N | N |
| ERP - Software Licenses/upgrade | 6.3 | SAP | N | N | N | N |
| ERP implementation services | 30.5 | IBM | N | N | N | N |
| Portal Knexus | 4.3 | IBM | N | N | N | N |
| **Total** | **81.138** | | | | | |

| SBBC technology RFP/Contracts prior to Oct. 2004-Oct 2006 but significant | | | | | | |
|---|---|---|---|---|---|---|
| **RFP/Contract Name** | **Contract Value M$** | **Vendor Name** | **TCO** | **SLA** | **ROI** | **Lease** |
| Portal Beep | 6.5 | Riverdeep | N | N | N | N |
| Telecommunications services -9 groups | 117 | 5 Vendors | N | N | N | N |

# Attachment E:

## Top forty-six (46) SBBC Technology Vendor Listing Based on Actual Payments from January 2005 – October 2006

## Cumulative Payments Over $250,000

| NO. | Vendor Name | District Payment Amount | Total ETS Capital Amount | ETS General Fund FY-04/05&05/06 | ETS General Fund FY-06/07 | Total ETS General Fund | Total ETS Payments | Total Non-ETS Payments |
|---|---|---|---|---|---|---|---|---|
| 1 | Apple Computers, Inc. (including leases) | 29,376,776 | 22,579,488 | 1,782,820 | 542,719 | 2,325,539 | 24,905,027 | 4,471,749 |
| 2 | Bellsouth Communications, Systems/ Bellsouth Telecommunications | 17,443,760 | 3,509,324 | 9,895,362 | 2,382,157 | 12,277,519 | 15,786,843 | 1,656,917 |
| 3 | Dell Marketing, L P (including leases) | 15,661,423 | 8,080,706 | 48,734 | 1,458 | 50,192 | 8,130,898 | 7,530,525 |
| 4 | JDL Technologies | 13,778,514 | 7,957,494 | 2,311,718 | 854,083 | 3,165,801 | 11,123,295 | 2,655,219 |
| 5 | Xerox Corporation | 11,760,160 | 0 | 77,954 | 7,651 | 85,605 | 85,605 | 11,674,555 |
| 6 | Quality Holding Group | 9,932,765 | 4,226,627 | 472,736 | 81,606 | 554,342 | 4,780,969 | 5,151,796 |
| 7 | Mainline Information System | 7,959,901 | 7,643,863 | 245,858 | 58,010 | 303,868 | 7,947,731 | 12,170 |
| 8 | SAP Public Sector & Education | 7,836,312 | 0 | 7,836,312 | 0 | 7,836,312 | 7,836,312 | 0 |
| 9 | IBM Corporation | 5,672,415 | 255,908 | 3,540,713 | 748,296 | 4,289,009 | 4,544,917 | 1,127,498 |
| 10 | Lexmark Int./Prosys Information Systems (including leases) | 5,131,222 | 3,297,476 | 1,065,068 | 0 | 1,065,068 | 4,362,544 | 768,678 |
| 11 | Johnson Controls, Inc. | 4,746,675 | 0 | 0 | 0 | 0 | 0 | 4,746,675 |
| 12 | Audio Visual Innovations | 4,332,257 | 53,143 | 5,522 | 0 | 5,522 | 58,665 | 4,273,592 |
| 13 | Pearson Education, Inc. | 3,412,279 | 0 | 155,180 | 0 | 155,180 | 155,180 | 3,257,099 |

| NO. | Vendor Name | District Payment Amount | Total ETS Capital Amount | ETS General Fund FY-04/05&05/06 | ETS General Fund FY-06/07 | Total ETS General Fund | Total ETS Payments | Total Non-ETS Payments |
|---|---|---|---|---|---|---|---|---|
| 14 | Compass Learning | 2,922,724 | 0 | 790,933 | 714,839 | 1,505,772 | 1,505,772 | 1,416,952 |
| 15 | Software House International | 2,775,168 | 107,116 | 1,141,404 | 1,847 | 1,143,251 | 1,250,367 | 1,524,801 |
| 16 | Audio Visual Solutions Corporation | 2,759,847 | 2,027,899 | 2,607 | 571 | 3,178 | 2,031,077 | 728,770 |
| 17 | Roth Brothers, Inc. | 2,566,568 | 649,304 | 70,852 | 0 | 70,852 | 720,156 | 1,846,412 |
| 18 | Universal Systems Technologies | 2,467,608 | 79,000 | 2,388,608 | 0 | 2,388,608 | 2,467,608 | 0 |
| 19 | Siemens Bldg. Technologies, Inc. | 2,163,787 | 0 | 0 | 0 | 0 | 0 | 2,163,787 |
| 20 | NCS Pearson Incorporated | 1,798,958 | 150,411 | 56,142 | 438,333 | 494,475 | 644,886 | 1,154,072 |
| 21 | Riverdeep/The Learning Company | 1,351,115 | 0 | 455,000 | 0 | 455,000 | 455,000 | 896,115 |
| 22 | Motorola, Inc. | 1,184,537 | 172,453 | 0 | 0 | 0 | 172,453 | 1,012,084 |
| 23 | Excelsior Software Inc. (PINNACLE) | 1,111,959 | 0 | 750,000 | 323,750 | 1,073,750 | 1,073,750 | 38,209 |
| 24 | Florida Atlantic University (DETA Program) | 1,021,339 | 0 | 0 | 0 | 0 | 0 | 1,021,339 |
| 25 | CDW-Government | 945,943 | 12,259 | 12,480 | 1,196 | 13,676 | 25,935 | 920,008 |
| 26 | Kronos Incorporated | 832,181 | 141,445 | 594,659 | 96,077 | 690,736 | 832,181 | 0 |
| 27 | IVCI | 662,714 | 662,714 | 0 | 0 | 0 | 662,714 | 0 |
| 28 | Technical Training Aids, Inc. | 614,960 | 0 | 1,295 | 0 | 1,295 | 1,295 | 613,665 |
| 29 | Blackboard, Inc. | 613,284 | 0 | 331,396 | 281,888 | 613,284 | 613,284 | 0 |
| 30 | Bear Communications | 603,168 | 100,915 | 0 | 0 | 0 | 100,915 | 502,253 |
| 31 | Cost Recovery Group | 602,791 | 0 | 602,791 | 0 | 602,791 | 602,791 | 0 |
| 32 | Hyperion Solutions Corp | 585,119 | 0 | 585,119 | 0 | 585,119 | 585,119 | 0 |

| NO. | Vendor Name | District Payment Amount | | Total ETS Capital Amount | ETS General Fund FY-04/05&05/06 | ETS General Fund FY-06/07 | Total ETS General Fund | Total ETS Payments | Total Non-ETS Payments |
|---|---|---|---|---|---|---|---|---|---|
| 33 | Library Corporation | 562,347 | | 0 | 280,302 | 273,185 | 553,487 | 553,487 | 8,860 |
| 34 | The Millennium Group (MGT) | 505,874 | | 260,458 | 245,416 | 0 | 245,416 | 505,874 | 0 |
| 35 | High Tech (Import/Export) | 452,957 | | 0 | 77,279 | 0 | 77,279 | 77,279 | 375,678 |
| 36 | CELT Corporation | 428,000 | | 0 | 388,000 | 0 | 388,000 | 388,000 | 40,000 |
| 37 | Acello Solutions | 414,258 | | 0 | 0 | 60,793 | 60,793 | 60,793 | 353,465 |
| 38 | Hewlett Packard | 351,143 | | 3,045 | 8,375 | 0 | 8,375 | 11,420 | 339,723 |
| 39 | One-Net Inc. | 343,156 | | 0 | 171,578 | 171,578 | 343,156 | 343,156 | 0 |
| 40 | Extensity, Inc. | 306,929 | | 0 | 147,562 | 159,367 | 306,929 | 306,929 | 0 |
| 41 | Comp USA | 305,391 | | 16,058 | 1,791 | 0 | 1,791 | 17,849 | 287,542 |
| 42 | Scholastic, Inc. | 293,392 | | 0 | 0 | 0 | 0 | 0 | 293,392 |
| 43 | 911 Computers | 292,108 | | 0 | 262,298 | 0 | 262,298 | 262,298 | 29,810 |
| 44 | Diskovery Education | 288,610 | | 0 | 0 | 222,805 | 222,805 | 222,805 | 65,805 |
| 45 | Computer Associates | 278,028 | | 0 | 141,236 | 136,792 | 278,028 | 278,028 | 0 |
| 46 | Renaissance Learning, Inc. | 267,730 | | 0 | 0 | 0 | 0 | 0 | 0 |
| | **TOTALS** | **169,718,152** | | **61,987,106** | **36,945,100** | **7,559,001** | **44,504,101** | **106,491,207** | **62,959,215** |

# Attachment F:

# School Department-based Technical Support Report

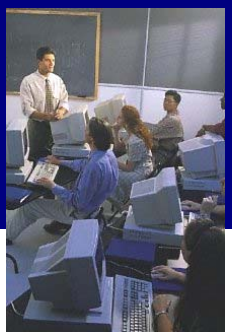
Broward County Public Schools

# School and Department-based Technical Support

**In conjunction and collaboration with:**

- **CIO and Area Superintendents**
- **School and District Administrators**
- **CELT Corporation**

***February 15, 2005***





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# 1.0 Introduction

Effective technology support staff is the key to the full utilization and management of technology in any school or district. As technology has become embedded in the school setting, schools and districts have had to develop support systems, create support roles and acquire people to fill them. Lack of ongoing maintenance and support will result in lack of use and integration.

The Florida DOE STaR Chart, based upon the CEO Forums' STaR Chart, places a school at the exemplary level when it has the following indicators:

- a full-time school-based technical support person
- additional staff (including faculty) to support network and web production
- technical support response time less than 4 hours
- full time school-based instructional technology specialist
- additional staff (including faculty) with expertise in specialized areas of integration.

The International Society of Technology in Education (ISTE), in conjunction with the Bill and Melinda Gates Foundation, cites technical and instructional staffing in their Technical Support Project. In 2001, they engaged in a Technology Support Project to identify effective technology support strategies for school districts and a Technology Support Index was a tool developed as a strategic guide. Four domains were identified and assumed required at a minimum threshold. Those domains were: equipment standards, staffing and processes, professional development and intelligent systems. Like the STaR chart, they identified four stages of capability: Emergent, Islands, Integrated and Exemplary and also included fiscal impact.

Not only is the technical support crucial, but support for the integration of technology into the curriculum must also become our focus so that our students are prepared now and for the future with the skills to function in a rapidly changing information and technology society. The impact of technology must result in an increase in student learning, relevance to real-life situations, preparation for college and\or the job market, and motivation to succeed. Providing staff development opportunities for this to occur, includes the building of skills among school staff, moving them from an entry stage of tech basics, through adoption and adapting technology, to appropriating technology for project-based learning and inventing technology uses in the classroom.

The goal of BCPS must be to reach for the highest level of technical and instructional staffing support for integrating technology. Fiscal impact may not be eliminated, but could be minimized by a coordination of resources and services. As Susan Brooks-Young states in Making Technology Standards Work for You, "Education leaders foster and nurture a culture of responsible risk-taking and advocate policies promoting continuous innovation with technology."

# 2.0 Objectives of this Report

As the number of technology devices and the utilization of software has increased geometrically within schools and departments of the BCPS, so too has the need to provide higher quality Technical Support. While the BCPS employ many extremely competent individuals who provide Technical Support, both in schools/departments and working in specific units of the ETS Department, there has not been a planned, comprehensive set of recommendations designed to provide Principals and Department Heads with the tools to create an internal organization structure which provides high quality technical support to students, faculty, and staff.

During the needs assessment phase of the BCPS IT Blueprint in 2003, school-based administrators identified Technical Support as one of their highest priorities. With limited funds available to increase positions for support personnel, this Project was initiated to specifically find ways to enhance and improve Technical Support at the school and department levels without the addition of new operating fund dollars.

# 3.0 School and Department-based Technical Support Leadership Team Process

Prior to the first meeting of the Tech Support Leadership Team, demographic and budget data was collected to provide a foundation from which the Team could begin to form a clear picture of the current status of Technical Support across the entire BCPS. The data collected included the numbers of positions (micro-computer technical specialist and media specialist) stratified by level of school (elementary, middle, high, centers) and the 2004-05 budget funds for these positions. In addition, data concerning the capital and operating budgets of the Help Desk and Metrology Lab were collected. Finally, a review of the current Support Allocation formulas for all schools was undertaken.

The Superintendent of Schools, Dr. Frank Till, set the tone for the Project at the Leadership Team meeting on October 25, 2004. His expectation was that recommendations would come forth to enhance and improve school and department-based technical support without the need for additional operating fund dollars.

Area Instructional Technology Specialist provided the CELT Team with recommended schools to visit in order to see first-hand how Technical Support was currently being provided. The recommended schools were carefully selected to provide a wide array of different support models. In addition, a visit to City Furniture corporate headquarters was conducted in order to show how the private sector Help Desk function was conducted.

In January 2005 a web-based survey was developed to provide the opportunity to 70 District Departments to describe their current status of in-house Technical Support. The results of this on-line survey were incorporated into the final recommendations of this report.

# 4.0 Micro-Computer Technical Specialist Recommendations

**4.1** The Support Allocation formulas for elementary, middle and high schools should be revised to include the position, Micro-Computer Technical Specialist. This position exists at over 66% of the current schools, yet it is not listed at all in the Support Allocation formulas, which include other positions such as bookkeeper, budgetkeeper, secretary, clerical, etc. The recommendation is to add the position, Micro-Computer Technical Specialist, on each of the three formulas (elementary, middle, high) at an appropriate range by substituting the Tech position for one or more currently listed positions. The recommendation is designed to inculcate into the culture, the position, Micro-Computer Technical Specialist, without increasing the cost to the District.

**4.2** The Budget Guidelines should clearly delineate the fact that schools can spend their Support Allocation funds on positions other than those specifically identified in the SA formulas, by range. Some conflicting information came forth in the data gathering phase of this Project which indicated that principals, university professors, and Area staff were not universal in the opinion that schools were permitted to spend their SA funds on positions other than those identified on the formula for their range.

**4.3** Schools and Departments should not be permitted to employ an individual as a Micro-Computer Technical Specialist unless that individual meets both the regular and special qualifications of the Board approved job description (MM-085, FL:315). Some individuals have been upgraded to the position, Micro-Computer Technical Specialist, who need additional training in technical areas in order to properly perform the performance responsibilities of the position.

**4.4** Expand the outstanding “Technology Support Certification Program (TSCP),” presently offered as a partnership between Customer Staff Development Services and Sheridan Technical Center, to additional Centers so that currently employed, but under trained Technicians and potentially new Techs can easily enroll in this program. This recommendation provides the opportunity for individuals who were employed as Micro-Computer Technical Specialists, but need additional technical training, to gain needed skills through an excellent program, with no additional cost to the District (CWE funds to pay for additional enrollments). In addition, individuals who aspire to become Micro-Computer Technical Specialists, will also have the opportunity to enroll in these programs.

**Summary:**

The BCPS created and approved a non-instructional technical support position in 1994, and has subsequently revised the job description of the position in 1996, 2003 and 2004. At this time the position title is Micro-Computer Technical Specialist. Currently, 149 schools and centers employ one or more of these individuals. Even some of the smallest schools, in terms of general operating budget SA/IA ranges, have hired a Micro-Computer Technical Specialist to provide technical support within the school.

This type of position, to provide technical support directly at the school and department level, became of such importance that the Customer Staff Development Services Department developed and offered a Technology Support Certification Program in 2000-2001. Thirty-five participants successfully completed that first program. In the fall of 2002, the CSDSD formed a partnership with Sheridan Technical Center for the purpose of evaluating and updating the curriculum, and for program delivery. In November 2002, a select group of technologists was brought together to complete a DACUM chart for this program. This was done to ensure the appropriate skills would be taught and the content would be relevant. To date, 132 individuals have completed this excellent TSCP program.

# Micro-Computer Technical Specialists
# 2004-05 General Fund

| School Type | Salaries | Fringe |
|---|---|---|
| Elementary | 2,371,761. | 825,352. |
| Middle | 1,074,989. | 364,721. |
| High | 1,038,734. | 352,514. |
| Centers | 151,548. | 52,994. |
| Adult/Technical | 252,800. | 84,980. |
| Community | 98,432. | 32,862. |
| | **4,988,264.** | **1,713,423.** |
| | **Grand Total** | **$6,701,687** |

# 5.0 Teacher - Technology Specialist Recommendations

**5.1** Recommend the development of a comprehensive job description for the existing position, Teacher-Technology Specialist (980235, ID#10001928). This job description should provide the Principal with the greatest degree of flexibility in selecting candidates for the position.

**5.2** Recommend a short training program aligned with the developed job description.

**Summary:**

During the data-gathering phase of this Project, it was discovered that a position, Teacher-Technology Specialist already was in place in the BCPS. A total of 10 individuals were coded to this position. Further, it was discovered that no Board approved job description exists for the position. Since it is known that some Teacher-based individuals in the schools and centers currently perform "technology" functions on a full or part-time basis, it would be prudent to develop a job description for this already existing position and ask schools to code appropriate individuals to it.

# 6.0 Area Instructional Technology Specialist Recommendations

**6.1** Recommend the Area Instruction Technology Specialist continue to report directly to the Area Superintendents.

**6.2** Recommend this position continue to serve as the conduit to channel information, facilitate, and implement the BCPS information technology plan linking the area office, BCPS departments and schools.

**Summary:**

The direct line of communication for schools experiencing difficulties in virtually any subject area is to their Area Office. During the site visits phase of this project, time and again it was noted that technical support and technology integration personnel counted on their Area Specialist as a major positive resource. Further, in conversations with the Area Superintendents, they also indicated that by having these individuals report directly to them, they could respond more quickly and timely to technology concerns in the schools.

# 7.0 Customer Support Service Recommendations

**7.1** Continually increase the abilities, and delivery of instructions and support offered to customers by continuous improvement of skills and proficiencies of the ETS Service Desk staff. Offer expanded in-house training programs for the ETS service desk staff.

- Technology vendors as teacher/trainers
- ETS senior staff members as teacher/trainers
- Online and computer-based staff development
- Technical Support Certification Program

**7.2** Procure a new customer relationship management (CRM) solution with centralized management to help handle customer support tickets from submission to resolution. A new CRM system will:

- Provide web-based access to generate trouble and add/move/change tickets.
- Provide customers and the ETS staff with the ability to answers frequently asked questions through a comprehensive knowledge base.
- Provide for infrastructure asset management.
- Provide the ability to view procedural instructions for performing changes (i.e., testing, back out/recovery, communications procedures).
- Provide a release management solution or interfaces for integrated build management, secured version control and related software library management functions to support release management activities.
- Provide the ability to define and schedule Service Level Agreements (SLA) and automatically generate an external alert mechanism to notify appropriate personnel at specified intervals.
- Provide the ability to include attachments on e-mail and/or external alert notifications regarding repair tickets.
- Include a comprehensive, on-demand, customizable report generation tool for all quantifiable aspects of asset management, response time, travel time and standard call center metrics.
- Provide the ability to automate customer surveys and track responses.
- Provide desktop discovery tools.
- Provide automated, customizable call escalation.
- Provide the ETS Service Desk staff with up to date built-in tutorials.

**Summary:**

The Customer Support Service (CSS) Unit provides technology hardware and software support to the district through the ETS Service Desk, FAST Team and Metrology Unit.

The Service Desk provides problem solutions and works to develop customer communications to ensure the proper handling and routing of all incoming technical support calls. The ETS Help Desk supports over 2,300 customers and receives an average of 6,900 requests each month. They assist customers with many technology related issues including the support of over 100,000+ computers, radio systems, printers, phone systems, Library Resource Management Systems, AS/400/NT Servers, HRMS- Technical, Password Support & GUI Installs, TERMS student software system, Office Software, E-Agenda, and Charter Schools.

The Service Desk provides Micro-Computer Technical TLC and DPC support including TERMS data input, E-mail abuse complaints, virus identification and warning notifications, Technology Advisory Council (TAC) coordination, and monthly meetings with vendors to assure warranty accountability. Currently 9 Customer Support Specialists handle the initial call for support and 2 floor supervisors staff the core of the Help Desk. The 3 Customer Service Analysts provide vendor coordination, problem solving, training development, ticket escalation, document development and meeting support.

## 2004-05 Help Desk/Switchboard Operating Budget

| | |
|---|---|
| Salaries | 845,600 |
| Fringe at 19% | 160,700 |
| Total Salaries and Fringe | 1,006,300 |
| Other operating expenses | 50,300 |
| Total Operating Expenses | 1,056,600 |
| CRM module (capital expense) | 1,000,000 |
| **Grand Total- Help Desk/Switchboard** | **2,056,600** |

# 8.0 METRO Services Recommendations

**8.1** Continue when purchasing computers, laptops, and printers to secure a contract with 5-year warranty repair protection.

- repair/replacement protection
- quick turn-around time
- parts and service at fixed cost

This recommendation is not applicable if the BCPS moves to a lease format for these hardware items. The rationale for recommending the continuation of the 5-year warranty, rather than 2 or 3 years which would result in a lower purchase price, lies in the fact that shorter warranty periods would require much greater Metro Services as many more items move out of the warranty period. This would require additional staff and substantial new operating fund dollars.

**8.2** Expand repair support by creating three Repair Depots at the three Technical Centers, (Sheridan, Atlantic, McFatter) providing Tier one support, involving SBBC students as technicians-in-training.

- enhances student education
- provides hands-on, real world experience
- Workforce Development funds available
- utilizes senior METRO CR technicians as teacher/trainers

**8.3** Expand METRO FASTeam, on-site support. The District should look into expanding the FASTeam. Having an on-site support group from the District to provide services that include minor “quick-fix” hardware repair (Tier 2) for all the schools, not just Superintendent Schools. Funds to support this recommendation can come from the 3 technician salaries saved by shifting them to teachers at the Technical Centers (see recommendation 8.2.)

- enhances medium to large scale on-site support, enabling school based tech support personnel to schedule maintenance & upgrade projects with assistance from FASTeam
- allows for periodic LAN maintenance procedures to be carried out at sites with minimal impact to school based tech support personnel
- brings “quick-fix” support directly to the sites, reducing turn-around time
- allows for Tier one, Repair Deport support program to focus resources on more complex repair procedures

- combining METRO CR and METRO FASTeam personnel into field service teams allows for existing METRO technicians to assume a more flexible role in the District's overall support scheme

**8.4** Create a parts / service center to provide for ordering, shipping, billing and distribution of repair parts for the three Deport Repair facilities and the FASTeam.

- allows for continuity using existing COMPASS / BRIO interface to track work orders, parts acquisition, financial accountability, measurement standards and billing
- allows for continued use of surplused inventory items for re-cycled, Tier two repair parts, as needed
- provides for a central distribution center for parts / service information (one-stop shopping, ordering, shipping, billing)
- allows for existing METRO CR personnel already engaged in this activity to engage in the new support model with minimum ramp up
- METRO FASTeam and CR would stage operations from this location

**8.5** Add a chargeback system for out-of-warranty / non-warranty repairs to ensure that repair requests will be assessed from a cost-to-replace vs. cost-to-repair perspective, at the school level

- allows for school-based decisions on fix / replace based upon actual costs, age and usefulness in the technology scheme at the site
- creates a financial accountability at the school level
- provides incentives for maintenance and upkeep of equipment

**Summary**:

Presently, tech support for computer equipment is provided through three principal means:

Vendor warranty repairs under contract, for 5 years from purchase date for desktop computers, laptops, servers and printers.

In house (METRO Computer Repair, ETS) repair for non-warranty and out-of-warranty desktop computers, laptops, servers and printers.

In house (METRO FASTeam) support for on-site workstation software configurations (ILS, applications & Operation System software.) The FASTeam also identifies hardware problems and assists in engaging METRO CR to facilitate repairs. This support is aimed at the Superintendent Schools, exclusively. The FASTeam has proven to be a very effective tool.

Non-warranty and out-of-warranty repairs are classified by Tier according to the level of support they require and the age/usefulness of the equipment. The support Tiers are as follows:

**Tier one:** comprehensive hardware repair support, including drives, monitors, O/S restores, circuit boards, power supplies, network components, fusers, photoconductors and enclosure hardware, where economically feasible. This level of support is extended to machines with a foreseeable useful life cycle, taking into account processor speed, operating system, networkability, drive space and on-board memory complement.

**Tier two:** partial hardware repair support, including low-cost drive replacement, O/S restores, low-cost circuit board replacement (using tested, recycled spares) and low-cost generic monitor replacements. This level of support is extended to machines that do not meet the minimum specs for processor speed, drive space, etc, but are networkable and have useful role in technology scheme at the site level.

**Tier three:** non-warranty repairs resulting from mishandling and/or abuse are not covered by the manufacturer's 5-year warranty. These non-warranty repairs are performed in-house (METRO CR), or they are performed by the manufacturer and facilitated (shipping, billing etc) by METRO CR.

## 2004-05 Metrology Operating Budget

| | |
|---|---|
| Salaries | 867,400 |
| Fringe at 19% | 164,800 |
| Total Salaries and Fringe | 1,032,200 |
| Other Operating Expenses | 1,006,300 |
| **Grand Total- Metrology** | **2,038,500** |

# 9.0 "Organizational Menu Options" for School-based Technical Support

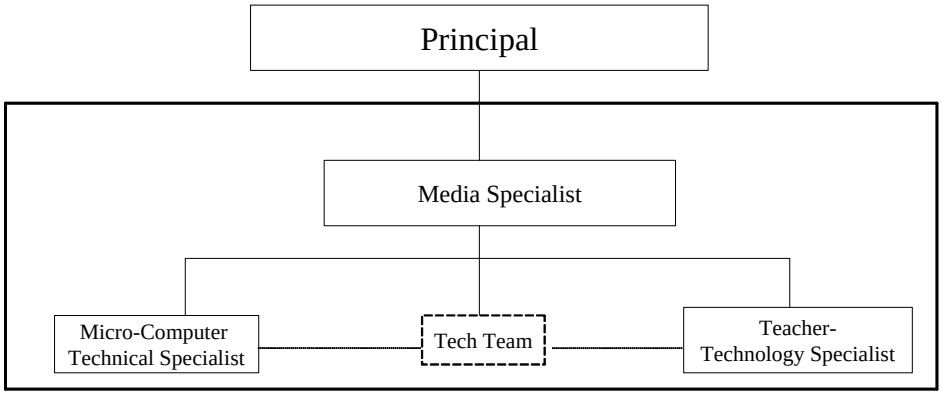
Schools in Broward County have put in place a wide range of models for providing Technical Support. Again, the vision and leadership of the school Principal is the most significant factor in determining the level of service within the school. Using models currently in place at various locations, coupled with the other recommendations in this Report, schools should have the opportunity to choose from a series of "Menu Options" and/or develop new models based on existing personnel to enhance technical support within the individual school. The following models include two recommended organizational structures based on existing models, as well as specific models from a sample of Broward schools.

The recommended Elementary/Middle School model combines the outstanding examples of Nob Hill Elementary and Pioneer Middle. In these two schools, the Principals set the vision and provide the leadership for excellent technical support and technology integration. At Pioneer, the media specialist is the overall technology coordinator for the school. She oversees the work of a highly skilled micro-computer tech specialist, the Tech Team, and (in their case full-time) teacher-technology specialist. At Nob Hill, the Principal has built a total faculty of individuals who have completed DETA I, and uses her Tech Team as the backbone for support and integration. Thus, the recommended model for elementary and middle schools combines these two outstanding organizational structures into one.

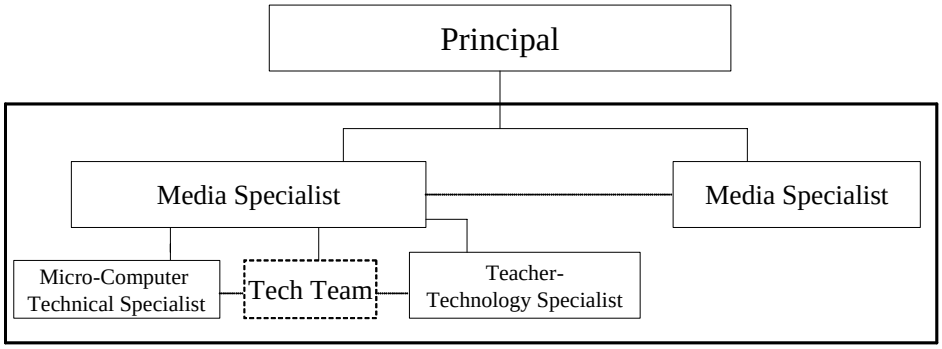
The recommended High School model is slightly different inasmuch as there is a second Media Specialist and the Teacher-Technology Specialist is full, rather than part-time.

Like any good "menu," however, Principal's can rearrange, add, or delete, based on the needs and human/financial resources available.

**Recommended**
**Elementary/Middle**




**Recommended**
**High School**

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**Principal** - visionary
**Media Specialist** - overall technology coordinator
**Micro-Computer Technical Specialist** - repairs & service in-house
**Tech Team** - DETA trained
**Teacher Technology Specialist** - technology integration coordinator
**TLC** - appointed from group

# 10.0 Principal Training Recommendations

**10.1** Recommend that principals and other leadership support teams and personnel be provided at least 3 hours of foundations in technology integration and support. This will assist the principal and other leadership support staff in the development of a vision for technology integration into the curriculum and technology support. Topics would include building site capacity through the creative application of budget funds, implementation of DETA and other integration strategies, exploration of technology support models, creation of technology teams and designation of TLC, site-based service level agreements (SLA's), use of various district department support personnel and area instructional technology specialist, and developing a technology plan in conjunction with the SIP that is aligned with the district, state, and national technology plans.

**Summary:**

The most important aspect of successful and highly effective Technical Support at the school level is the vision and leadership of the school Principal. This became very clear during the site visits phase of the Project, and through interviews with the Area Instructional Technology Liaisons. Principals themselves need not be highly skilled technology users, but when they understand the value of technology to enhancing the teaching and learning process and set in place a comprehensive plan to use technology to improve academic skills, Technical Support flourishes.

# 11.0 Media Specialist Training Recommendations

**11.1** Recommend a major training program to provide the opportunity for existing Media Specialists to gain the needed skills to meet the criteria of the new job description.

**Summary**:

Systematically, libraries have changed to media centers as new technology is added to the core collections of books, periodicals, etc. The BCPS enjoy many state-of-the-art media centers, actively using the latest technology and databases to assist students in research techniques, etc. In addition, the School Board approved a new job description for Media Specialists which dramatically increases their role in technology support, integration, and staff development.

## Media Specialists
## 2004-05 General Fund

| School Type | Salaries | Fringe |
|---|---|---|
| Elementary | 7,094,563 | 1,975,510 |
| Middle | 2,182,066 | 603,392 |
| High | 2,566,392 | 709,402 |
| Centers | 240,125 | 66,864 |
| Adult/Technical | 160,083 | 44,576 |
| | **12,243,228** | **3,399,744** |
| **Grand Total** | **$15,642,971** | |

# 12.0 School Tech Team

**12.1** Recommend individuals on School Tech Team complete DETA I (teacher-based) or PRE-DETA (non-instructional).

**Summary:**

During the data gathering and site visit phases of the Project, individuals overwhelmingly praised the DETA program, developed by the Customer Staff Development Services Department. In fact, as mentioned earlier, the Principal of Nob Hill Elementary School creatively instituted a plan whereby her entire faculty completed the five day, forty hour program. School Tech Team members who complete the program are able to assist in technology integration at a very high level.

**Note: Large District Departments may wish to implement this recommendation also.**

# 13.0 Service Level Agreement (SLA) Recommendations

**13.1** Recommend that each school and department develop and communicate a formal process for providing Technical Support to employees, faculty and staff, including:

- How staff members communicate their Technical problems to the appropriate Support personnel within the school/department.
- Setting standards for how much time should elapse before repairs are made or responses given.
- Monitoring system to review number of problems and repairs through the use of the new CRM system (see attachment I. Technology Support Request Process).

**Note: The use of the CRM is dependent on the actual installation schedule of the District.**

**Summary**:

During the site visits, it became apparent that formal procedures, whereby faculty and staff contacted technical support personnel within the school, were non-existent. Informal procedures, consisting of e-mails, telephone calls, meeting tech support personnel in hallways, etc. were the norm. Only in the case of one school visited was a template used to request services (Conference in CAB). Further, in no case was the "request for service" included in the Employee Handbook, nor was there any "feedback" system in place to notify the requestor when services would be provided.

# 14.0 Technology Integration Recommendations

**14.1** Development of a 3-5 year school-based technology road map. These plans would be aligned with the new National Technology Plan, the District's technology plan, FL DOE STaR, and NETS. This should be an integral part of the SIP that is revisited, monitored, evaluated and modified yearly.

- Identify models of effective use of instructional technology integration and support in schools. Identify staff development implementations as models of technology integration. Examine consortium work across the U.S. – Seir-Tec, Hpr-Tec, WestEd, NCREL.
- As an extension of the SIP, include technology in the teacher PGP and administrative goals.
- Provide baseline DETA to every school.

**14.2** Recommend the ETS department assign an individual with school-based experience to be given the responsibility to implement the recommendations contained in this school & department based technical support project.

**Summary:**

Though it is not addressed within the scope of this Project, it is difficult to separate technical support and technology integration. The use of technology in schools focus on enhancing teaching and learning at all times. These recommendations would move integration to the next level and provide a foundation from which all schools in the District could move forward.

# Appendices

# *Appendix A*

## Scope of Work

**Project Name:** School-based Technology Support

**Project Code:** TRP-185-20-04

**Scope of Work:** The purpose of this initiative is to address in a Comprehensive fashion, the issue of providing Technical support for and at the individual school level.

## Activity

Included in this major activity will be the gathering of current practices from stakeholders, review of “best practices” and recommendations for significantly enhancing technology support at the school level.

Identify and meet with representative stakeholders from schools and departments to clarify current practices.

Review current funding for school-based technology support, including SA/IA, task assignments, Metrology functions, etc.

Develop multiple models for the delivery of technology support for schools, including point of contact processes.

Recommend appropriate funding sources to implement different models.

# *Appendix B*

## School and Department-Based Technical Support Leadership Team

| Name | Title | School/Department |
|---|---|---|
| Teresa Bing | Budget Support Specialist | South Area OfficeShari |
| Brown | Title I Coordinator | Liberty Elementary School |
| Colleen Casey | Budget Analyst | Budget Department |
| Barbara Correll | Director | Learning Resources |
| Scott Fiske | Principal | Western High School |
| Jennifer Freeland | Principal | Liberty Elementary School |
| Jeanine Gendron | Director | Customer Staff Development |
| Bonnie Goldstein | Media Specialist | Cypress Elementary School |
| Sam Gregg **(Business Leader)** | Area Superintendent | South Area Office |
| Andy Luciani | Principal | Attucks Middle School |
| Peggy McDowell | Technology Coordinator | McFatter Technical Center |
| Diane Soloven | Area Instructional Technology Liaison | North Central Area Office |
| Bette Zippin | Coordinator- Professional Development Support | Human Resource Dev. Dept. |
| Linda Gieseking **(ETS Leader)** | Manager- Customer Support Services | ETS Department |
| Mary Baker | Systems Analyst | ETS Department |
| | | |
| Bob Boegli | | CELT Corporation |
| Connie DeLetis | | CELT Corporation |
| Bob James | | CELT Corporation |

# School-based and Department Technology Support

## Monday, October 25, 2004 Minutes

Time: 3:00-4:30pm.
Location: Supt's Conference Rm.- KCW

| Participants: | | |
|---|---|---|
| | Teresa Bing | Bonnie Goldstein |
| | Bob Boegli | Sam Gregg |
| | Shari Brown | Andy Luciani |
| | Colleen Casey | Peggy McDowell |
| | Barbara Correll | Omar Shim |
| | Connie DeLetis | Diane Soloven |
| | Scott Fiske | Jane Turner |
| | Jennifer Freeland | Bette Zippin |
| | Jeanine Gendron | |

Purpose: Offer School-based and Department Technology Support

---

3:00-3:15pm Introduction Bob Boegli

Bob Boegli, CELT Corporation, called the meeting to order at 3:15pm. After self-introductions Bob Boegli explained each of the meeting handouts, including:

1) Action Plan for IT Blueprint project, ODS-3 School-based technology Support,
2) CELT Project Scope of Work,
3) List of positions/departments involved in the project,
4) document of the Customer Support Services Unit,
5) document of Overview, Field Action Support Team (FAST),
6) document, District Repair Depots,
7) job description, BCPS Media Specialist,
8) job description, BCPS Micro-Computer Technical Specialist,
9) list of all Micro-Computer Technical Specialists employed by BCPS,
10) TLC Advisory Meeting Minutes,
11) Document, Technology Support Certification Program (TSCP).

3:15-3:45pm Kickoff Dr. Frank Till

Dr. Frank Till, Superintendent of Schools, addressed the group and indicated that he was unable to consider adding over 12 million dollars to school/department budgets to fund new positions for technology support. He urged the group to search creative solutions to enhance support by rearranging duties of existing positions, to think "outside the box," etc.

3:45-4:25pm Open Discussion All

Group discussion included some of the following concepts, concerns, and ideas:

- align the Metrology around the 3 Tech Centers and include training students as workers
- examine District level functions (loading software)
- review job descriptions
- analyze strengths and weaknesses of the 1 to 1 project
- this is no refresh plan
- focus on "learning techniques," not gadgets
- try to make old computers useful again (Citrix license free)
- need truly "open" dialogue
- "training" very important, use students to train teachers
- technology implementation has lots of "add-ons" (inventory, etc.)
- Media Specialist to teach technology
- is there a better way to use planning time for teachers
- investigate programs like Gem-Y, Gem-Tech, etc.
- moving more to web-based

Dr. Till set the tone by asking the group to look for today's, tomorrow's, and futuristic solutions. He wanted the group to put in place today's solutions and gather data for the big issues. He recommended "benchmarking" as a major tool.

4:25-4:30pm Next Steps Bob Boegli

Bob Boegli asked the group to e-mail Sam Gregg, group leader, and CELT (Bob Boegli) with recommendations for benchmarking and a list of 5-6 issues to be addressed by Monday, November 1. After consolidation for this data, the next meeting will be scheduled.

Meeting adjourned at 4:30pm.

# School & Department-based Technical Support

## January 13, 2005 Minutes

I. Meeting called to order at 1:10pm by Bob Boegli, CELT Corporation.

II. Meeting Purpose- Bob indicated the purpose of the meeting was to reach consensus on the proposed recommendations for Micro-computer Technical Specialist, Media Specialist, Help Desk, Metrology, Teacher-Technology Specialist, SLA's, Training, and Area Liaisons. In addition, a secondary purpose was to approve the plan for securing input from Departments, address the issue of Technology Integration, and schedule the final Leadership Team meeting.

III. Site Visits- Bob provided an overview of the 12 school site visits conducted in December, 2004 (See attachment "Summary of Site Visits"). He indicated the overwhelming factor of success for Technical Support at the school level is the Vision and Leadership of the School Principal. Next, the site visit to City Furniture corporate offices was described. The main issue, which came forth from this visit, was the clearly defined focus on "customer service" as the most important factor and priority for technical support. "Repairing a computer in one of their stores and/or warehouse is a much higher priority than repairing the computer of a corporate official." The Leadership Team discussed possible ways the school system could learn from the business culture.

IV. Micro-Computer Technical Specialist- The Leadership Team carefully discussed each of the 5 recommendations related to Micro-Computer Technical Specialist (See attachment "Micro-Computer Technical Specialist Recommendations"). The Team approved the first 4 recommendations as written, but asked that the fifth recommendation be revised to incorporate Micro-Tech input into the agenda development of the existing TLC meeting structure.

V. Media Specialist- The Leadership Team agreed with the recommendation to change the title, Media Specialist, to a title which better reflected the new responsibilities included in the School Board-approved job description (See attachment "Media Specialist Recommendations"). Barbara Correll agreed to convene her committee to develop the recommended title and bring it to our next meeting. In addition, the Team approved the recommendation to develop a training program for transitioning current Media Specialists to the new role and responsibilities.

VI. Help Desk- The Leadership Team approved the 2 recommendations (See attachment "Help Desk Recommendations") designed to improve the Help Desk (Customer Support Service) and agreed to attend the CRM (Customer Relationship Management) module demonstration on February 7, 2005.

VII. Metrology- The Leadership Team approved the 5 recommendations associated with improving the services of Metrology (See attachment "Metro Services Recommendations").

VIII. Teacher-Technology Specialist- Discussion took place about the Board-approved position Teacher-Technology Specialist and approved the 2 recommendations associated with the position including:

> Recommend the development of a comprehensive job description for the existing position, Teacher-Technology Specialist (980235, ID# 10001928). This job description should provide the Principal with the greatest degree of flexibility in selecting candidates for the position.
>
> Recommend a short training program aligned with the developed job description.

IX. SLA's- The Leadership Team discussed the issue of SLA's (Service Level Agreements) at the school level, but postponed the approval of any recommendations until the Team attended the CRM demo and determined what assistance the new Customer Support Services system might be able to provide.

X. Training- The Leadership Team discussed the issue of training for Principals, Media Specialists, Teacher-Technology Specialist, and Micro-Computer Technical Specialist. The Team agreed in principle with the recommendations for Principal, but wanted time to discuss them at the next Principal meetings and did not want the training to be during the summer, 05. The Team approved the other training recommendations included in the previously listed attachments:

> Recommend a training session for principals to review aspects of Technology Integration, DETA, etc.
>
> Recommend a training session for principals to include:
>
> - Vision of Tech Support, Creative use of Budget funds,
> - Tech Support Models, SLA's, Use of Area Instructional
> - Technology Liaison, Designation of TLC, et.
>
> Recommend individuals assigned to Micro-Computer Technical Specialist position to complete the TSCP program or possess certification, such as A+, etc.

XI. Area Instructional Technology Liaisons- The Leadership Team approved the recommendation that Area Instructional Technology Liaisons continue to report directly to the Area Superintendents.

XII. Next Meeting- Before the next meeting, scheduled for Monday, Feb. 7 (time and location TBD), a draft of the final report and recommendations will be sent to the Leadership Team. In addition to seeing the CRM module demo, the Team will address the following:

- Data from Departments on-line survey
- SLA's
- Menu options
- Technology Integration
- School Tech Teams

The meeting was adjourned at 3:00pm.

# School & Department-based Technical Support

# February 7, 2005 Minutes

Meeting called to order at 1:05pm, by Bob Boegli, CELT Corporation.

Sara Jones, SAP Corporation provided a "customized for Broward" demonstration of the CRM (Customer Relationship Management) module which the Board purchased, along with other modules in December 2004. She provided insight into how numerous "current" questions to the ETS Help Desk could be handled by the powerful CRM module.

Barbara Correll reported that the Media Specialists were not in favor of changing the title for the position. They were, however, in favor of the training being made available for those individuals wishing to upgrade their skills to the level identified in the new Board approved job description.

The Leadership Team reviewed, discussed, and approved the recommendations for:

- Teacher-Technology Specialist
- Area Instructional Technology Liaison
- Principal Training (changed from 2 sessions to 1)
- Organizational Menu Options
- Service Level Agreements
- School Tech Team (add composition and function)
- Technology Integration (add current training available)

The Leadership Team asked that the number sequence of recommendations be changed to better reflect people and processes. These recommended changes will be made to the Final Report and issued to the Leadership Team for final review. The Final Report should be completed by February 15.

The meeting was adjourned at 3:15pm.

# Appendix C: Summary of Survey Findings

In order to analyze the current situation of technology support in SBBC Administrative Departments, an on-line survey was posted for one week. 47% of SBBC Administrative Departments responded. The resulting data reflects the types of technology support currently utilized by the departments, their evaluation of these levels of support, and their summary of current technology needs. The data received, summarized below, is depicted in the Data Analysis section of this report.

From this data, we can confirm that SBBC does not have a single centralized technology support center, or a consistent process to utilize the ETS services currently in operation. An overwhelming 68.8% of Administrative Departments have designated department staff to manage technology support specifically for the department. These department-based support personnel generally act as the point person to whom all technology needs are directed. Departments that do not have technology support personnel vary significantly in their processes for addressing technology needs. In the event that ETS must be contacted, SBBC departments are split as to whether they contact the ETS Help Desk directly or are able to identify whether the Help Desk or the Metrology Lab is best suited to meet their needs. Therefore, this data reflects that at this time there is no consistent process established within SBBC Administrative Departments for obtaining Technology Support.

SBBC Administrative Departments were asked to rate the Quality/Effectiveness and the Promptness/Timeliness of the services they were receiving. This data reflects that peer support ranked highest in Quality/Effectiveness (90% Excellent/Good rating), and second in Promptness/Timeliness (64% Excellent/Good rating). The Metrology Lab received the highest rating in Promptness/Timeliness (93% Excellent/Good rating) and the second highest in Quality/Effectiveness (67% Excellent/Good rating). The Help Desk received 60% Excellent/Good rating for Quality/Effectiveness of support, and 54% for Promptness/Timeliness.

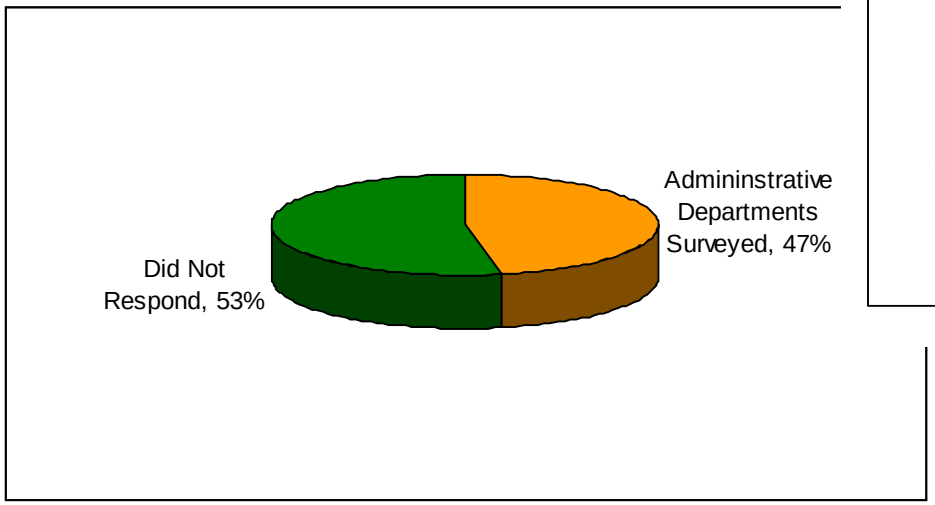
Finally, SBBC Administrative Departments were asked to reflect those factors that currently enhance their use of technology, and their current technology needs. The departments cited that “Up-to-date Software” (86.7%) and “Effective Technology Support” (80%) most enhance their use of technology, followed by “Network speed and accessibility” (76.7%) and “Up-to-date Hardware” (73.3%). And, according to SBBC departments, the most critical current needs is for “Software Application Training” (46.7%), followed by “Network speed and accessibility” and “Up-to-date Hardware” (40% each). Administrative Departments appreciate the software they have, but need training to effectively use it.

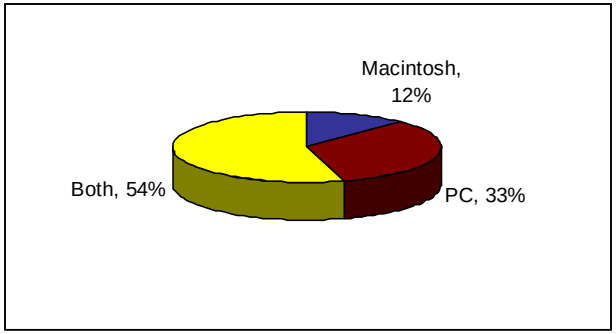
# Survey Design

## Population

This analysis is comprised of survey data collected from SBBC Administrative Departments. Of 70 departments, 47% responded. The survey population consists of 33 persons, each responding on behalf of their department. Three of these respondents dropped out of the survey at various intervals. Missing data is noted accordingly subsequent to each item reported in Data Analysis.

Most departments surveyed (54%) use a combination of Macintosh and PC computers. 12% use strictly Macintosh systems, and 33% used strictly PC computers.



# Methodology

**Distribution:**

This web-based survey was distributed to the heads of each department via email message on Wednesday, January 19, 2005. Respondents who 'clicked' the hypertext link within the message opened an internet web page where they could log on and respond to the survey form. The survey website remained open for one week and was closed the subsequent Wednesday, January 26, when reports of the data were made for data analysis.

**Structure**: In order to most effectively portray the situation of Technology Support within Administrative Departments, the survey collected data in three parts. Each part of the survey was comprised of multiple answer or matrix questions relating to the process, the quality, and the current situation of technology support.

**A. Requesting Technology Support** – It has become apparent that the various Administrative Departments have varied processes in place to support their business functions. Some departments rely entirely on ETS, while most departments have created and filled Department Technology Support positions, and rely on ETS only tangentially. This section addressed this disparity of process in order to portray the current process for requesting technology support for SBBC Administrative Departments.

**B. Technology Support Evaluation** – In order to obtain a brief snapshot of the current perception of technology support, two aspects of this support were rated by SBBC Administrative Departments. This quick analysis summarizes the 'quality/effectiveness' and 'promptness/timeliness' of three levels of Technology Support.

**C. Technology Support Needs** – Finally, information was collected regarding the current situation of SBBC Administrative Department Technology Support. Two multiple choice questions summarize factors that 'currently enhance' technology use and the 'current technology needs' of the department.

# Data Analysis

## Requesting Technology Support

1. Is there a member of your department staff whose primary responsibility is to manage technology support for your department?

| | Response Percent | Response Total |
|---|---|---|
| **Yes** | **68.80%** | **22** |
| No | 31.20% | 10 |
| **Total Respondents** | | **32** |
| **(skipped this question)** | | **1** |

## 2. If yes, are staff directed to:

| | | Response Percent | Response Total |
|---|---|---|---|
| Contact ETS directly. | | 13% | 3 |
| Contact a single point person who submits ETS requests. | | 8.70% | 2 |
| **Contact a single point person who fields needs and then contacts ETS when necessary.** | | **73.90%** | **17** |
| Other (please specify) | *"My department is self supporting. We will use ETS support on extremely technical issues."* | 4.30% | 1 |
| | **Total Respondents** | | **23** |
| | **(skipped this question)** | | **10** |

## 3. If no, do staff in need of support generally:

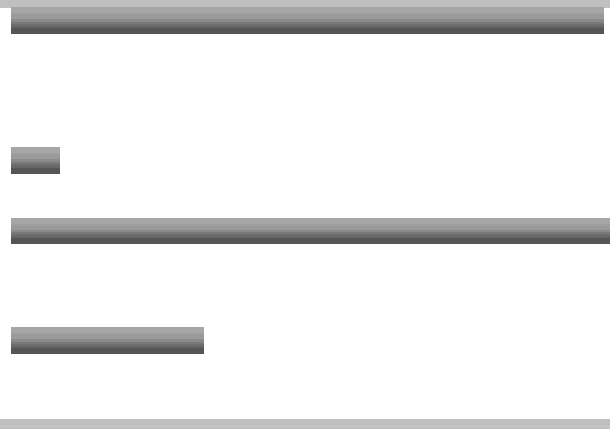
| | Response Percent | Response Total |
|---|---|---|
| **Seek out informal peer assistance and then contact ETS only when necessary.** | **36.40%** | **4** |
| Contact ETS directly. | 18.20% | 2 |
| Have someone else contact ETS on their behalf. | 18.20% | 2 |
| Other (please specify) | 27.30% | 3 |
| **Total Respondents** | | **11** |
| **(skipped this question)** | | **22** |

*"We have a TLC (Technology Liaison Contact) who assists, but that is not the primary responsibility of the person."*

*"There are dedicated staff in the CTACE Dept that manage tech support for STC."*

*"We scream a lot and then we try all of the above options: We call ETS, we call the application vendor, we call peers."*

## 4. When ETS is contacted, does your department contact:



| | Response Percent | Response Total |
|---|---|---|
| The Help Desk first for all requests. | 37.50% | 12 |
| The Metrology Lab first for all requests. | 0% | 0 |
| Both the Help Desk and the Metrology Lab. | 3.10% | 1 |
| **Either the Help Desk or the Metrology Lab, depending upon the need.** | **46.90%** | **15** |
| Neither (please specify) | 12.50% | 4 |
| **Total Respondents** | | **32** |
| **(skipped this question)** | | **1** |

*"Many times, needs are directed to specific staff based on previous working experience."*

*"We normally contact the systems analysts."*

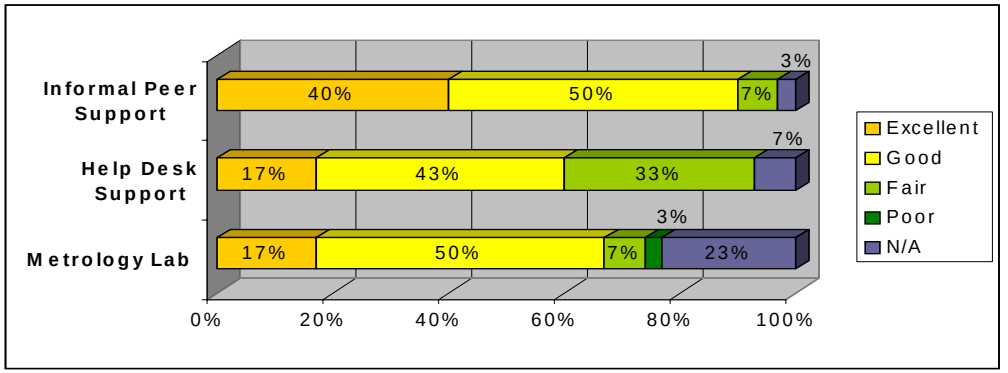
*"Contact those individuals who oversee the Magnet Link"*

*"Ed Hineline"*

## Technology Support Evaluation

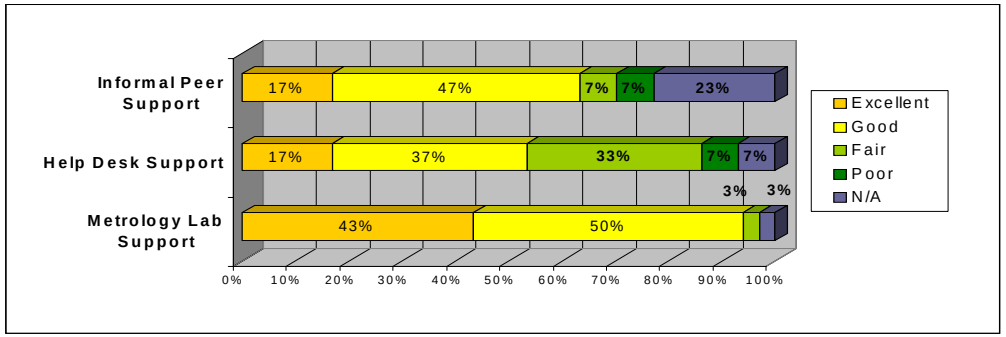
1. Please evaluate the Quality/Effectiveness of support your department receives from each of the following:

| | |
|---|---|
| **Total Respondents** | **30** |
| (skipped this question) | 3 |



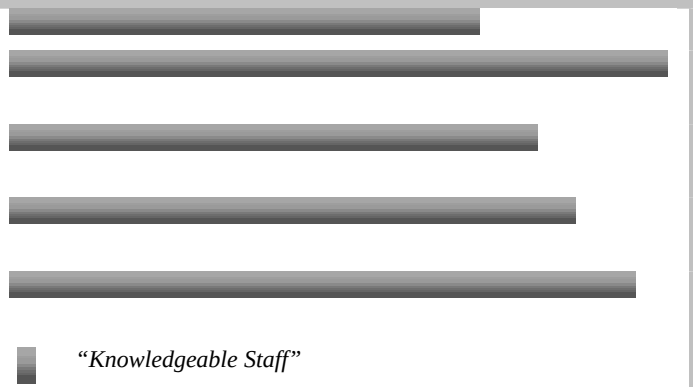

2. Please evaluate the Promptness/Timeliness of support your department receives from each of the following:

| | |
|---|---|
| **Total Respondents** | **30** |
| (skipped this question) | 3 |



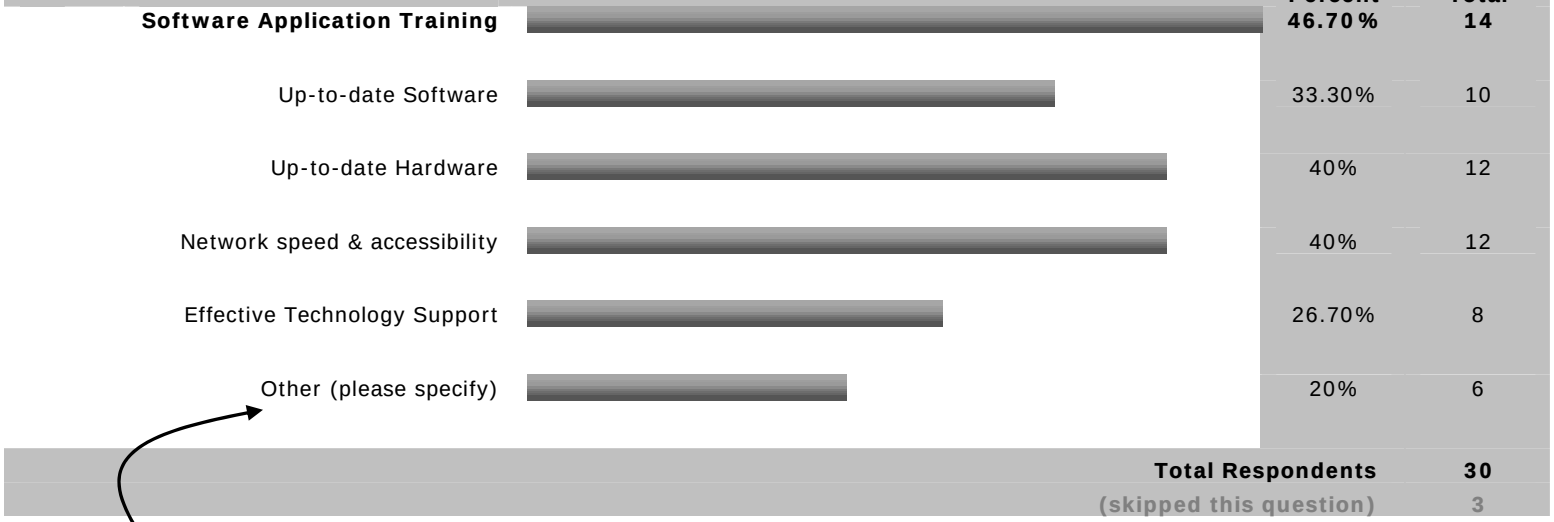
# Technology Support Needs

1. What factors currently enhance the use of technology in your department? (Check all that apply)




| | Response Percent | Response Total |
|---|---|---|
| Software Application Training | 66.70% | 20 |
| **Up-to-date Software** | **86.70%** | **26** |
| Up-to-date Hardware | 73.30% | 22 |
| Network speed & accessibility | 76.70% | 23 |
| Effective Technology Support | 80% | 24 |
| Other (please specify) | 3.30% | 1 |
| | **Total Respondents** | **30** |
| | **(skipped this question)** | **3** |

## 2. What are your department's current technology needs? (Check all that apply)



| | Response Percent | Response Total |
|---|---|---|
| **Software Application Training** | **46.70%** | **14** |
| Up-to-date Software | 33.30% | 10 |
| Up-to-date Hardware | 40% | 12 |
| Network speed & accessibility | 40% | 12 |
| Effective Technology Support | 26.70% | 8 |
| Other (please specify) | 20% | 6 |
| **Total Respondents** | | **30** |
| **(skipped this question)** | | **3** |

*"How strongly can I emphasize the need for a hands-on person to help us design data collection programs and pull reports? This is not our field, yet the district makes it increasingly important that we have data driven outcomes."*

*"We need access to higher level support that exceeds our on-site technician."*

*"Need new licenses to update some district-wide software"*

*"None at this time"*

*"Technical support for reporting and data analysis"*

*"Technology needs go beyond computers-- we need to provide an LCD or some kind of projection device to be used in all training rooms and all classrooms!"*

# *Appendix D*

## Composition and Function of School Tech Team

The technology team/committee will represent the constituents at the site and should include, but not be limited to administration, teachers, support staff, technology support staff (microtech, instructional tech, teacher tech), media specialist, clerical staff, students and parents.

This team will assist in the development of a technology vision and mission, develop short and long range plans to support their vision for integration and support, coordinate and/or facilitate ongoing staff-development, model the effective use of technology in teaching and learning, coordinate end user support and assist end users to solve problems associated with technology, and guide purchasing decisions.

*Appendix E*

# Technology Support Certification Program

## Education Technology Services & Sheridan Technical Center

## PROGRAM OUTLINE

- **A+ CERTIFICATION PREPARATION**
  - Overview of Duty/Tasks
  - Technology Terms
  - Topics Covered
    - A+ Certification Approved Coursework
  - Hands-on Activities

- - - - - - - - - - - - - - - - - - -

- **SITE MANAGEMENT**
  - Overview of Duty/Tasks
  - Technology Terms
  - Topics Covered
    - Getting Organized
    - Maintain Hardware Inventory
    - Maintain Software Inventory
    - Maintain Additional Databases
    - Establish Technical Resource Library
    - Maintain Check out System
    - Determine Hardware, Software, Training Needs
    - Follow District Procedures
    - Order Hardware, Software, Consumables
    - Establish Procedures for Requesting Technical Services
  - Q & A
  - Share “Best Practices”

- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

❖ **DEMONSTRATE COMPUTER SKILLS**
- Overview of Duty/Tasks
- Technology Terms
- Topics Covered
    - Hardware Components
    - Computers and Displays
    - Printers
    - Cables
    - Misc. Hardware
    - Input Devices
    - Digital Cameras
    - Scanners
    - Misc. Input Devices
    - Software and Licensing
    - Mac OS X
    - UPS
    - Storage Devices
    - Printing
    - VPDN
    - Troubleshooting
- Hands On Exercises
- Q & A
- Share "Best Practices"
- Additional Resources
- Follow up Activities
- Assessment of Tasks
- Feedback for Trainers

❖ **SET UP AND MAINTAIN TECHNOLOGY EQUIPMENT**
- Overview of Duty/Tasks
- Technology Terms
- Topics Covered
    - Session 1 – Windows
        - District Installation Procedures
        - Installing Windows 2000/XP
        - Configuring TCP/IP 2000
        - Configure Lexmark Printer Drivers Win 2000
        - Install and Configure Virex
        - Installing Windows 95/98
        - Configuring TCP/IP 95

- Configure Lexmark Printer Drivers Win 95
- Dell Recovery 95/2000

- Session 2 – Windows
  - Cloning Windows computers with Ghost
- Session 3 – Windows
  - Deepfreeze
  - Policies
  - Foolproof
- Session 4 – Mac
  - Clean Install OS 9
  - Configure TCP/IP
  - Set up Printers
  - Install and configure Virex
  - Clean Install OS X
  - Configure TCP/IP
  - Set up Printers
  - Install and configure Virex
- Session 5 – Mac
  - Imaging Mac Computers with Carbon Copy Cloner/Net Restore
- Session 6 – Mac
  - Foolproof
- Session 7 – Mac/Win
  - Troubleshooting
  - Routine Maintenance

- Hands on Activities
- Q & A
- Share “Best Practices”
- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

- **MAINTAIN NETWORK**
  - Overview of Duty/Tasks
  - Technology Terms
  - Topics Covered
    - Networking
    - Configuration
    - Server
    - Standards
    - Wireless
    - Connecting to Servers
  - Hands On Activities
    - Create CER & CC closet designs
    - Create Site LAN design
  - Additional Resources

- Follow up Activities
- Assessment of Tasks
- Feedback for Trainers

❖ **MAINTAIN TELEPHONE SYSTEMS**

- Overview of Duty/Tasks
- Technology Terms
- Topics Covered
    - Receiving Calls
    - Making Internal Calls
    - Making Outside Calls
    - Putting a Call on Hold
    - Transferring Calls
    - Ending a Call
    - Call Pickup
    - Three-Way Conference Call
    - Using Speaker Phone
    - Adjusting Volume
    - Programming Speed Dial
    - Last Number Redial
    - Specialized Features
    - Camp On
    - Memory Call
    - Malicious Call Trace
    - Adds, Moves, Changes
    - Troubleshooting Tips
    - Telephone Etiquette
    - Supporting Web Resources
- Hands On Exercises
- Q & A
- Share “Best Practices”
- Additional Resources
- Follow up Activities
- Assessment of Tasks
- Feedback for Trainers

❖ **MAINTAIN SERVERS**

- Overview of Duty/Tasks
- Technology Terms
    - Session 1 – General Info
        - Locate types of servers at your location
        - Identify benefits of using server (handout)
        - Utilize District Resources (ETS servers)
        - Identify District Domain Structure
        - Identify Admin Responsibilities (handout)

- Session 2 – WIN
  - Use Server Management Software
  - Create users/groups/folders
  - Users/documents
  - Security
- Session 3 – WIN
  - VPDN
  - Remote Access
  - Backup/Recovery Procedures
  - Troubleshooting
- Session 4 – WIN
  - FileMaker Server
  - Database Management
  - Troubleshooting
- Session 5 – MAC
  - Use Server Management Software
  - Create users/groups/folders
  - Users/documents
- Session 6 – MAC
  - Security
  - Backup/Recovery Procedures
  - Troubleshooting
- Session 7 – MAC
  - Administrator Tools
  - Remote Access
  - Q & A
  - Share "Best Practices"

- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

- **IMPLEMENTING SOCIAL, LEGAL AND ETHICAL PRACTICES**
  - Overview of Duty/Tasks
  - Technology Terms
  - Topics Covered
    - Background Information
    - School Board Policies
    - Copyright Issues
    - Fair Use Policy
    - Fair Use Guidelines
    - Trademark Issues
    - BCPS Purchasing and Bid Procedures
    - Ethics for Technology
    - TLC Roles & Responsibilities

- Related Web Resources
- Q & A
- Share "Best Practices"
- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

❖ **APPLICATION SOFTWARE**

- Overview of Duty/Tasks
- Technology Terms
- Topics Covered
  - Identify supported software available
  - Provide District Site License Chart
  - Provide Help Desk Supported Software Chart
  - Identify applications functions
  - Productivity (Word Processing, Spreadsheet, Database, Presentation)
  - Email
  - Terminal Emulation
  - Printer Utility
  - Server Administration
  - Remote Administration
    - Describe multi-platform functionality (Mac/Win)
    - Identify software update ramifications (compatibility)
    - Differentiate server vs client installation concepts
    - Recognize software distribution methods
    - (server deployment/push technology)
  - CD
  - Server (Installer/Image)
  - Perform installation, downloading, configuration, updates
  - Top 10 Mostly Used Apps
    - Troubleshoot software applications
    - Identify additional software resources
- Q & A
- Share "Best Practices"
- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

❖ **INTERNET, INTRANET SERVICES**

- Overview of Duty/Tasks
- Technology Terms
- Topics Covered
  - Concept

- Components & Protocols
- WWW
- HyperText
- Email
- TelNet
- FTP
- Discussion Groups
- UseNet
- Chat & Instant Messaging
- URL
- Domains
- Web Browsers
- Netscape Components
- Internet Explorer Components
- Preferences
- Proxies
- Cache
- Bookmarks/Favorites
- Plug Ins
- VPDN
- Programming Languages
- Real Time Communication
  - Web Cam
  - Streaming
  - Push
- Security
- Virus Protection
- Firewalls
- Inappropriate URLs
- Downloads
- BCPS Resources
- Troubleshooting

- Q & A
- Share "Best Practices"
- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

- **MULTIMEDIA AND VIDEO CONFERENCING**
  - Overview of Duty/Tasks
  - Technology Terms
  - Topics Covered
    - Recognize background, concept, purpose of multimedia and video conferencing equipment

- Differentiate ports and cables
- Set up equipment (Audio/Video)
- Install and configure software
- Identify multimedia software functionality
- Demonstrate operation of equipment
- Utilize basic design concepts (Resolution, color etc.)
- Identify file storage, compression tools
- Define role of the VC Facilitator
- Troubleshoot software/hardware connections
- Identify additional resources

- Q & A
- Share "Best Practices"
- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

❖ **PROVIDE CUSTOMER SERVICE**

- Overview of Duty/Tasks
- Technology Terms
- Topics Covered
  - Define Customer Support Responsibilities
  - Utilize an established system to track customer support concerns
  - Utilize appropriate customer relations (People Skills)
  - Collect and analyze pertinent data
  - Communicate to customer the support processes
  - Prioritize work flow and follow up
  - Model appropriate technology behavior (do not abuse equipment)
  - Provide technology resource information to customer and peers
  - Provide strategies to disseminate technical information
  - Provide administration with customer requirement information
  - Establish an alternative support back-up system (back-up person)
  - Establish technology teams
  - Maintain current technology skills (software/hardware trends)
- Q & A
- Share "Best Practices"
- Additional Resources Available
- Assessment of Tasks
- Follow up Activities
- Feedback for Trainers

*Appendix F*

# Micro-Computer Technical Specialist Job Description

BCPS: MM-085
FL: 315

| | |
|---|---|
| POSITION TITLE: | Micro-Computer Technical Specialist |
| CONTRACT YEAR: | 10, 10 1/2, 11, 12 months or year round calendar |
| PAY GRADE: | 18 |
| QUALIFICATIONS: | Education - Standard high school diploma or satisfactory completion of an approved General Educational Development (GED) Testing Program.<br><br>Experience - Five (5) years of progressively more responsible work experience in the area of computers and technology.<br><br>Special Qualifications - Demonstrated proficiency in spread sheet, data base, and word processing in both MS-DOS and Macintosh. Ability to install software and trouble shoot problems with computer network. Well developed communications skills and familiarity with Local Area Networks (LAN). Bilingual skills preferred.<br><br>OR<br><br>Education - Associate's degree from an accredited community or junior college with a minimum of fifteen (15) semester hours of course work in computer science.<br><br>Experience - Three (3) years of progressively more responsible work experience in the area of computers and technology. |

Special Qualifications - Demonstrated, proficiency in spread sheet, data base, and word processing in data MS-DOS and Macintosh. Ability to install software and to trouble shoot computer network problems. Well developed communication skills and familiarity with Local Area Networks (LAN). Bilingual skills preferred.

The hiring administrator may specify additional preferred and appropriate qualifications as may be related to the job.

OR

Education - Bachelor's degree from an accredited college or university with course work in computer science.

Experience - One (1) year of work experience in the area of computers and technology.

Special Qualifications - Demonstrated proficiency in spread sheet, data base and word processing applications in both MS-DOS and Macintosh. Ability to install software and to trouble shoot computer network problems. Well developed communication skills and familiarity with Local Area Networks (LAN). Bilingual skills preferred.

The hiring administrator may specify additional preferred and appropriate qualifications as may be related to the job.

DIRECT ACCOUNTABILITY: Principal of the school or center or affected county department head

SUPERVISION: No supervisory responsibility

GOAL: To provide assistance and support to the micro environments. To assist administration in their transition to the micro network. To provide an expertise relating to the use of micro computer hardware and software, concentrating in the area of user concerns, problems, training and needs.

ACCOUNTABILITY

PROCEDURES:

The affected administrator will assess the effectiveness of the Micro-Computer Technical Specialist annually with respect to the performance of specific responsibilities.

PERFORMANCE RESPONSIBILITIES:

The Micro-Computer Technical Specialist shall

1. provide technical assistance and training to site-based staff for both hardware and software problems.
2. work with district level computer technology support staff to ensure smooth operations of micro computer network and their integration with District wide network.
3. coordinate with vendors the acquisition of appropriate software applications.
4. assist with the installation of hardware, both stand alone and networked, as needed.
5. assist with the installation of software products.
6. provide minor repair of computers.
7. communicate and interact successfully with using tact and good judgment.
8. network effectively with central office computer liaison.
9. serve on location computer technology team.
10. operate standard office equipment such as any generative of typewriter, calculator, CRT terminal, microcomputer, word processor, copier etc., as well as equipment developed or advanced from future technology as required by the job.
11. keep accurate inventory of computers and software.
12. participate, successfully in the training programs offered to increase the individual's

skill and proficiency related to the assignment.

13. review current developments, literature, and technical sources of information related to job responsibility.

14. ensure adherence to good safety procedures.

15. perform other duties as assigned by the affected supervisor.

16. follow federal and state laws, as well as School Board policies.

Board Approved: 3/15/94 &
Adopted: 4/5/94

Revised: 3/5/96 &
Adopted: 4/23/96

Modified: 9/3/96

Board Adopted: 12/16/03
Board Adopted: 6/1/04

# *Appendix G*

# Media Specialist Job Description

**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA**

## JOB DESCRIPTION

| | |
|---|---|
| **POSITION TITLE:** | Media Specialist |
| **CONTRACT YEAR:** | 196 Days |
| **PAY GRADE:** | Teacher Salary Schedule |

### QUALIFICATIONS

**EDUCATION:** An earned bachelor's degree from an accredited institution. An earned master's degree in library science and/or educational media preferred.

**EXPERIENCE:** Teaching experience preferred.

**ADDITIONAL REQUIREMENTS:** Certification as a media specialist, K-12

Special Qualifications - Ability to plan, implement and administer a media program; design, conduct, and evaluate learning activities that teach information literacy; build and manage collections that include diverse formats; organize, establish, and supervise routines and procedures for efficient operation of the media center. Requires expertise in print, nonprint and electronic information resources, library management systems, current and emerging instructional technologies, and knowledge of current educational trends and teaching practices.

Bilingual skills preferred. Computer skills as required for the position.

**REPORTS TO:** Administrator/Principal or designee

**SUPERVISES:** May supervise one or more employees, as assigned

**POSITION GOAL:** To develop, implement, and direct a library media program that supports the educational philosophy and meets the needs of the school.

## ESSENTIAL PERFORMANCE RESPONSIBILITIES:

**The Media Specialist shall:**

1. plan, administer, and supervise the library media program, developing policies and procedures for efficient operation and optimal service.
2. organize and facilitate a physical environment designed to meet the needs of all learners.
3. establish annual and long-range goals correlated to the School Improvement Plan in conjunction with the Library Media Advisory Committee.
4. provide an on-going evaluation of the library media/technology program and modify the program as needed.
5. prepare and administer the media center budget, keeping records of all expenditures.
6. design and implement a collection development plan which includes selecting and acquiring resources, maintaining a current inventory, weeding materials, and assessing and evaluating the collection.
7. review current developments, literature, and technical sources of information related to job responsibility.
8. provide students and teachers full accessibility to the library media center and its resources throughout the school day.
9. maintain an efficient system for classifying, cataloging, circulating, and inventorying all media center materials, according to districtwide standards.
10. maintain up-to-date bibliographic records of library media materials, adding, deleting, or modifying data as appropriate.
11. work as a curriculum and instructional leader on the school's leadership teams.
12. inform teachers, students, and administrators about new materials and recent media/technology developments in their specific instructional area.
13. be knowledgeable of current legislation and regulations and collaborate with staff and administrators to develop and implement policies and procedures related to copyright, acceptable use of information networks, and intellectual freedom issues.
14. provide staff development in and model the use of instructional resources and new information technologies.
15. maintain a professional library collection and provide access to off-site resources to promote professional development of the faculty and administrative staff.
16. deliver services coordinated with the technology specialist or the instructional technology specialist that meet the technology needs of the entire learning community through:
    a. establishing an environment that encourages use of instructional technology.
    b. assisting educators in planning for the use and integration of the full range of technologies to meet the learner's information need.
    c. assisting the school in evaluating the current technology status and preparing an action plan for incremental improvement.

17. ensure that students receive planned, sequential information skills instruction.
18. plan common objectives and instruction with teachers.
19 collaborate with teachers to develop curricular content that integrates information literacy skills into instructional activities.
20. promote reading and the use of information resources, through such activities as storytelling, booktalks, displays, publications, research projects, and special events.
21. select, collect, organize, store, and disseminate information in various formats.
22. provide a professionally selected, up-to-date, and diverse collection of media/technology resources for different levels of maturity, ability, and interest.
23. seek educator and student participation in selection and evaluation of materials, information databases, and technologies which support learning objectives.
24. support cooperative resource sharing with other library media/technology centers and local, state, national, and global information agencies.
25. attend workshops, inservice activities, conferences, and keep professional skills updated.
26. serve on school and district committees to plan, develop, and implement effective uses of information resources in all formats for learning and teaching.
27. review current developments, literature, and technical sources of information related to the job responsibility.
28. perform and promote all activities in compliance with equal employment and non-discrimination policies of the School Board of Broward County.
29. participate successfully in the training programs offered to increase the individual's skill and proficiency related to the assignments.
30. train, supervise, and evaluate library media clerks, paraprofessionals, and parent and student volunteers.
31. ensure adherence to good safety procedures
32. follow Federal and State laws, as well as School Board policies.
33. perform other duties as assigned.

**PHYSICAL REQUIREMENTS:**

Light Work: Exerting up to 20 pounds of force occasionally and/or up to 10 pounds of force as frequently as needed to move objects.

**TERMS OF EMPLOYMENT:**

Salary and benefits shall be paid consistent with the District's approved compensation plan. Length of the work year and hours of employment shall be those established by the School Board.

**EVALUATION:** Performance will be evaluated in accordance with Board Policy.

Board approved: 4/14/77 4/20/78
ER80-12 Approved: 10/2/80
Revised: 4/1/2003
Adopted: 5/6/2003
Revised: 10/05/04

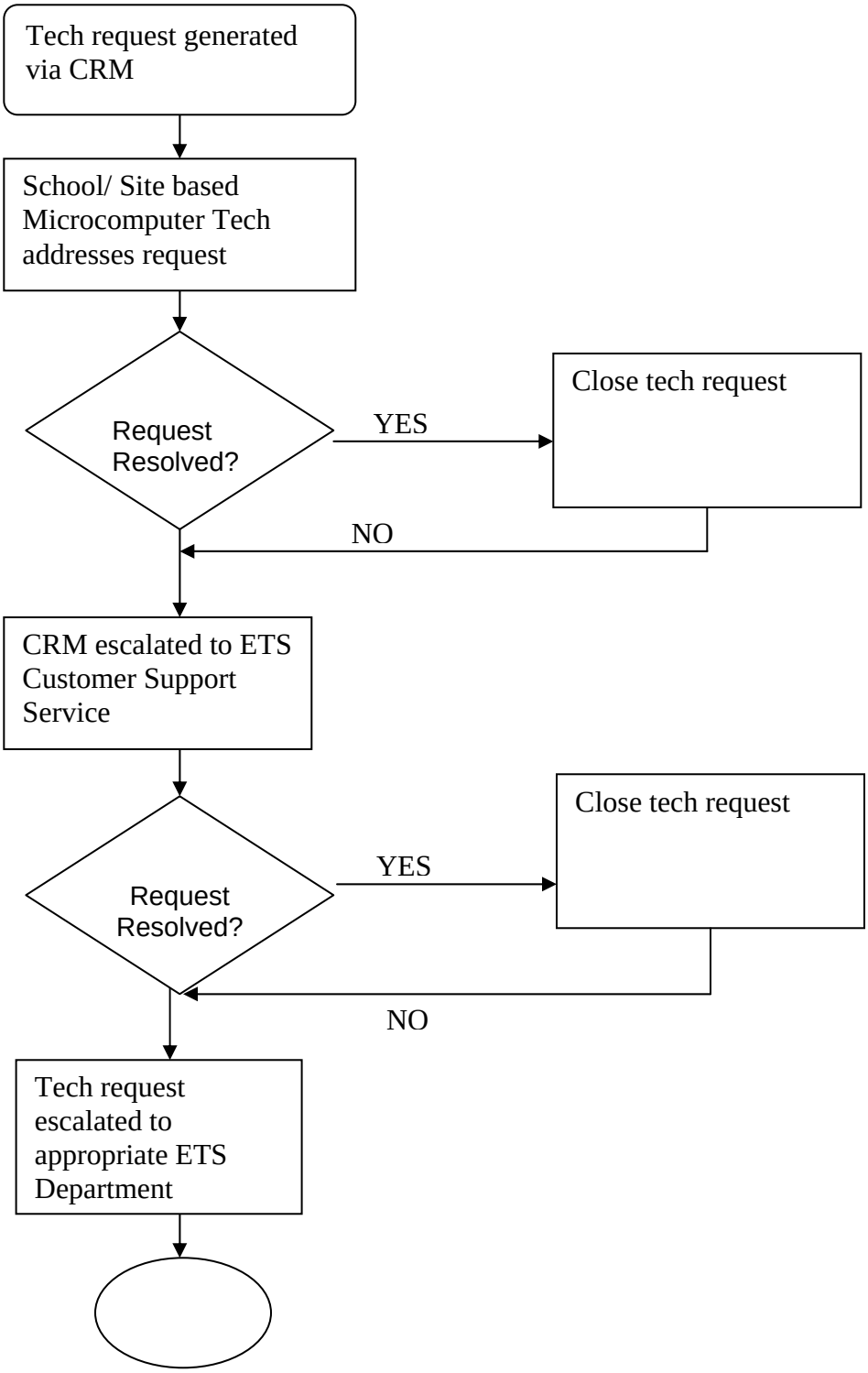
# *Appendix H*

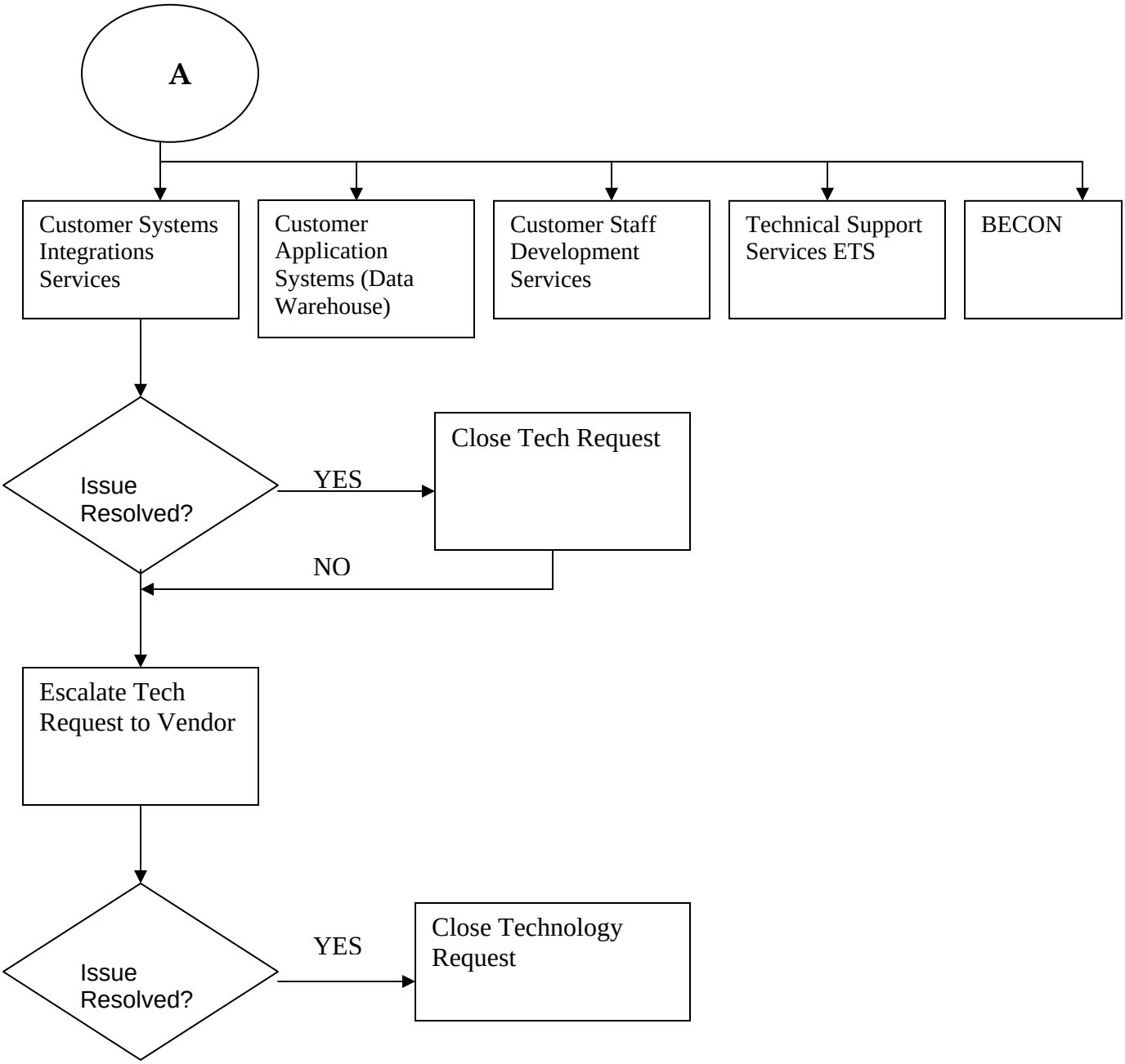
## Summary of School Visits

| SCHOOL | EMPLOYEE MICRO-COMPUTER TECH? | IF NO, WHO PROVIDES TECH SUPPORT? | COMMENTS ON MICRO-COMPUTER TECH | EMPLOYEE MICRO-COMPUTER TECH? | POINT OF CONTACT-HELP DESK / METROLOGY (IN ADDITION TO DPC) | COMMENTS ON HELP DESK | COMMENTS ON METROLOGY | MEDIA SPECIALIST – TECH SERVICES |
|---|---|---|---|---|---|---|---|---|
| **Elementary Schools** | | | | | | | | |
| **Colbert** | Yes | | Tech also has assigned clerical duties; graduated from 1st TSSP class | Yes | Tech | Depends on who you talk to | great! | Savvy cat, Acc. Reader |
| **Deerfield Park** | No | Media Specialist | | No | Media Specialist | AP unaware of HD | AP unaware of Metrology | Provides tech support |
| **Foxtrail** | Yes | | Tech also serves as budgetkeeper; graduated from 2nd TSSP class | Yes | Tech | Tries not to use | awesome! | Excellent student on-line research training |
| **Nob Hill** | No | Science Teacher Tech. Team | | No | Science Teacher | | | Outstanding – includes TV production |
| **Sandpiper** | No | Tech. Teacher | | No | Tech Teacher | Phone linesbusy/MacCenter should have e-mail | never used | Normal program |
| **Tamarac** | No | Ins. Tech. Specialist | | No | Ins. Tech Specialist | good experience | good experience | Excellent student on-line research training |
| **Watkins** | Yes | | | Yes | | Depends on who you talk to | wait period a little long | Excellent student on-line research training |
| **Middle Schools** | | | | | | | | |
| **Nova** | No | McFatter Tech Science Teacher | | No | TBA | note: AP who was contact is out | | |
| **Pioneer** | Yes | | Tech has A+ Certification | Yes | Media Specialist Tech & Teacher-based | Depends on who you talk to | wait period a little long | Outstanding Media Spec is coord. of tech. |
| **Plantation** | Yes | | | Yes | Media Specialist and Tech | Good | never used | Currently enrolled in TSSP class |
| **Pompano** | Yes | | Tech also serves as office manager | Yes | Teacher- CCC Lab | Good | good | Excellent research classes |
| **High Schools** | | | | | | | | |
| **Boyd Anderson** | Yes | | | Yes | Tech & Tech Specialist | | | 2 media spec-full tech services |

# *Appendix I*

## *Technical Support Flowchart*





# Attachment G:

# Assess the Budget Impact and Cost Effectiveness of all Recent and Currently Proposed IT RFPs and IT Contracts within SBBC

Broward County Public Schools

# Assess the Budget Impact and Cost Effectiveness of all Recent and Currently Proposed IT RFPs and IT Contracts within SBBC

***Final report***


**Prepared by:**

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**November 10, 2006**

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**2.0 Methodology** ..... 1

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**4.0 General Discussion** ..... 3

**5.0 Recommendations** ..... 4

**APPENDICES:**

Appendix A: SBBC Technology RFPs/Contracts from October 2004-October 2006

Appendix B: Top forty-six (46) Technology Vendor Listing Based on Payments Made from January 2005-October 2006

# Report to
# SCHOOL BOARD OF BROWARD COUNTY

## 1.0 Background and Rationale

In August of 2003, the school district approved the superintendent's recommendation to hire CELT Corporation to conduct an extensive analysis of SBBC's information technology needs, assess current information technology initiatives, and provide specific recommendations with clearly focused action plans and corresponding benefits/results. The final web-based report/blueprint was presented to and accepted by the SBBC in June of 2004. This document aligned the successful implementation of the school district's vision, mission, and goals and contemporary education reforms to a comprehensive and cost-effective information technology system.

For the past two years, the district has been in the process of implementing the many projects outlined in the blueprint. Many of these projects involved major investment decisions and large vendor contracts. The district identified the need for an assessment of these major RFPs and contracts. This audit includes an assessment of value received, identifies potential problem areas, and assesses if vendor bias is evident.

## 2.0 Methodology

To accomplish these goals, interviews were held with:

- Angela Coluzzi – Director of Network Integration
- Robert Waremburg – Director of Supply Management & Logistics
- Winston Pierre – ETS Manager of Finance
- Bill Harris – Director of Purchasing Agents
- Vijay Sonty – Chief Information Officer

In addition, the following documents were reviewed:

- Thirteen (13) Technology RFPs/contracts (see Appendix A)
- Top forty-six (46) Technology Vendor Listing Based on Actual Payments (see Appendix B)

# 3.0 Findings

1. Thirteen (13) RFP/contracts totaling $81.1M were reviewed. These were all processed during the time period from October 2004 to October 2006. These 13 RFP/contracts represent approximately 80% of the total number and 95% of the dollar value for this time frame. These are listed in Attachment A.
2. The top forty-six (46) technology vendors, based on actual payments during this time period, amounted to $106.5M from ETS and another $63.0M from other district departments outside ETS. Thus, 62% of the total technology vendor contracts were from ETS and 38% were from other district departments and Schools. This includes spending from all contracts, some of which have been in place for several years prior to the time period being looked at in this report. See attachment B.
3. There are generic Service Level Agreement (SLA) clauses in a few of the most recent RFP/contracts. The detailed analysis of the SLA clauses is included in the SLA report.
4. There were no Total Cost of Ownership (TCO) or Return on Investment (ROI) analyses on any of these RFPs/contracts. The detailed analysis of the TCO is included in the TCO report.
5. In reviewing the contracts in detail with respect to the actual results/value received, there are several contracts that deserve more scrutiny.

    a. The UST contracts for the Customer Relationship Management system, total approximately $1.6M. The users of this system are dissatisfied with the results to date. This is due to 1) not having any integration between the CRM system and the Automated Call Director (ACD), 2) the help desk staff having to enter more data now than before due to multiple screens, 3) not having any diagnostic scripts and 4) not having any knowledge base. The results to date are not worth the dollars paid to the vendor.

    In addition, this department has gone through some organizational changes. 7 staff was added due to consolidating the Micro-Computer Technology Specialists from various district departments and 4 staff was added due to reassigning the district switchboard staff to this service desk. However, the actual number of staff sitting on the service desk was reduced to 8.

    b. The grade book RFP, for Pinnacle, totals $2.8M through 2009 and the vendor Excelsior did not deliver an operational version that functions on the Macintosh OS/X operating system in time for school opening this year. Further, there are multiple deployments/versions installed based on the need for multiple hardware and software platforms of PCs, Mac OS/9 and Mac/OS/X. Some school users are dissatisfied with the results to date. Even though there was no language in the contract that stated a penalty for lack of performance, the CIO has withheld payments of $1.2M.

c. There is another BID being released for multifunction copiers at the same time of this review. It is anticipated that this will cost approximately $7.0M. This BID was developed and released by Purchasing with an ETS technical review of specifications to insure it would work on the network. The purpose of the bid is to get the district off month-by-month maintenance agreements that have been in place for 2 years. This is a worthy objective. However, there is no one in the district actively taking charge to define a district document management strategy that would achieve major savings.

d. There are three lease programs in effect, all for refreshing equipment. This was a different and important strategy change for the district to undertake.

| | | |
|---|---|---|
| DELL | $15.7M – 4-year lease | Paid as of October, 2006, $5.9M |
| Apple | $46.4M – 4-year lease | Paid as of October, 2006, $17.4M |
| Lexmark | $6.0M – 4-year lease | Paid as of October, 2006, $2.2M |

e. The Telecommunications infrastructure for Internal Connection, Internet, plus goods and services was put out for bids in 2003 and final awards were made in December 2003. The total award was for $117.0M over a 5-year period from 2004-2009. This bid covered 9 services and was awarded to 5 vendors. This resulted in making parts of the infrastructure eligible for E-rate dollars. The first spending authority of $33.5M was board approved based on the spending estimate for the first 17 months. This original release of funds actually lasted for 27 months due the greater than estimated savings of the bid. In August 2006, and additional $44.0M was Board approved for the next time period. In addition, this telecommunications bid allowed the district to get $5.2M in additional E-rate funding.

# 4.0 General Discussion

The RFPs/contracts budget impact is determined to be “effective.” With a few exceptions, there appears to be good value for the dollars spent on most RFPs/contracts. In reviewing these contracts, there is no evidence to suspect a vendor bias. The district needs more controls on technology spending being done outside ETS since it is 38% ($63.0M) of the total technology dollars spent for the time period investigated. There needs to be TCO and ROI analyses for each proposal made prior to an RFP. This would give management a way to prioritize. The specific issues on the RFPs/contracts include the grade book – Pinnacle, the help desk system – CRM, and the copier bid in process at this time.

### *Grade book – Pinnacle*

The development effort to port the application to OS/X was not been delivered on time from the vendor. This had significant impact to schools, as attendance/grades could not be processed as required. Some schools had no backup plans to address attendance and grade reporting needs. The vendor has made revisions to the OS/X application that allowed grades

to be collected in time for first marking period report cards but additional functional improvements to the application are still required. Since there are still product deficiencies in this application, continued executive management attention will be required.

### *Help Desk System – CRM*

This system has not provided the value for the dollars spent to date. A major effort is required that includes an analysis of the direction of this effort. In addition, reducing the actual number of service desk staff and not providing needed system automation functions at the same time will result in an ineffective help desk. If staff is reduced, then automation must increase to enable the staff to become more productive.

### *Copier Bid*

SBBC is still continuing to separately bid copiers, faxes, printers, scanners, consumables, and services. There is significant opportunity for large cost savings by bundling these into a single bid. This would be the start of a document management strategy. There are vendors with the capacity to supply a bundled set of equipment and services at reduced cost to the district. The current bids only consider purchase. Further, there is no one in the district actively taking charge to define a district document management strategy that would achieve these savings. It should be noted that ETS has a document management director.

## 5.0 Recommendations

1. Assign the Chief Information Officer the role of overseeing all technology purchases in the district. Since 38% ($63.0M) of the dollars were spent outside of ETS, this needs to be managed in a more centralized manner. This is not to say all the technology dollars should be in one budget, but rather the approvals for spending should be centralized. The ETS budget is managed with integrity and scrutinized by many, however the technology dollars spent outside of ETS do not receive such scrutiny.
2. Define and establish SLAs for each technology contract. Do not require or expect the vendor to define these.
3. Include a financial analysis for TCO, payback and return on Investment so that district management can clearly see the benefits on each project. This would be especially helpful to the Budget Forecast committee in helping to determine priority of projects.
4. Conduct an analysis for the Customer Resource Management system that would review whether to: 1) keep investing in the current system; 2) replace this system with a more robust help desk system; or, 3) outsource the function. If the decision is made to keep the current CRM, then discontinue adding new functions until existing features perform reliably. The need capabilities include (1) integration with the Automated, Call Director - ACD, (2) building the required scripts and knowledge base to eliminate as much manual work as possible from the help desk staff, (3) using the data for reporting and measurements, and (4) initiating a program of continuous improvement in problem resolution.

5. Increase the executive management focus on the Pinnacle grade book implementation. More emphasis is needed to set the tone and give this project the priority and attention it deserves. Conduct regular status meetings with the vendor and hold them to checkpoints on product deficiencies. Manage this project in crisis mode until mission critical issues are addressed. In addition assign ETS staff to each school to insure a successful installation.
6. Change the approach for the copier bid currently in process. Consider bundling copiers, faxes, printers, scanners, consumables, and services into one contract for the district. Currently each of these is a separate contract from separate vendors. Significant savings can result from bundling these together for one vendor partner to provide and manage these products and services. This would also be an opportunity to consider leasing versus purchase.

## Appendix A:

## SBBC Technology RFPs/Contracts from October 2004-October 2006

| SBBC Technology RFPs and Contracts from October 2004 to October 2006 | | | | | | |
|---|---|---|---|---|---|---|
| **RFP/Contract Name** | **Contract Value M$** | **Vendor Name** | **TCO** | **SLA** | **ROI** | **Lease** |
| Centralized Systems Mgmt. Facility | 2.4 | JDL/Landesk | N | N | N | N |
| Gradebook and Classroom Data Mgmt. (Pinnacle) | 2.8 | Excelsior | N | N | N | N |
| Customer Resource Mgmt. CRMI (Help Desk) | 1.6 | UST | N | N | N | N |
| Security Identification (STAR) | 2.7 | Johnson Controls | N | N | N | N |
| E-Agenda | 0.038 | Apple | N | N | N | N |
| Time Management (Kronos) | 1.5 | Kronos | N | N | N | N |
| Maintenance of Software and Services | 10.5 | 62 Vendors | N | N | N | N |
| Refresh for laptops/wireless carts | 15.7 | Dell | N | N | N | Y |
| Refresh for laser printers | 5.9 | Lexmark | N | N | N | Y |
| Automated Attendance call out (ParentLink) | 1.2 | Sprint/Parlant | N | N | N | N |
| ERP - Software Licenses/upgrade | 6.3 | SAP | N | N | N | N |
| ERP implementation services | 30.5 | IBM | N | N | N | N |
| Portal Knexus | 4.3 | IBM | N | N | N | N |
| **Total** | **81.138** | | | | | |

| SBBC technology RFP/Contracts prior to Oct. 2004-Oct 2006 but significant | | | | | | |
|---|---|---|---|---|---|---|
| **RFP/Contract Name** | **Contract Value M$** | **Vendor Name** | **TCO** | **SLA** | **ROI** | **Lease** |
| Portal Beep | 6.5 | Riverdeep | N | N | N | N |
| Telecommunications services -9 groups | 117 | 5 Vendors | N | N | N | N |

## Appendix B

### Top forty-six (46) SBBC Technology Vendor Listing Based on Actual Payments from January 2005 – October 2006
### Cumulative Payments Over $250,000

| NO. | Vendor Name | District Payment Amount | Total ETS Capital Amount | ETS General Fund FY-04/05&05/06 | ETS General Fund FY-06/07 | Total ETS General Fund | Total ETS Payments | Total Non-ETS Payments |
|---|---|---|---|---|---|---|---|---|
| 1 | Apple Computers, Inc. (including leases) | 29,376,776 | 22,579,488 | 1,782,820 | 542,719 | 2,325,539 | 24,905,027 | 4,471,749 |
| 2 | Bellsouth Communications, Systems/ Bellsouth Telecommunications | 17,443,760 | 3,509,324 | 9,895,362 | 2,382,157 | 12,277,519 | 15,786,843 | 1,656,917 |
| 3 | Dell Marketing, L P (including leases) | 15,661,423 | 8,080,706 | 48,734 | 1,458 | 50,192 | 8,130,898 | 7,530,525 |
| 4 | JDL Technologies | 13,778,514 | 7,957,494 | 2,311,718 | 854,083 | 3,165,801 | 11,123,295 | 2,655,219 |
| 5 | Xerox Corporation | 11,760,160 | 0 | 77,954 | 7,651 | 85,605 | 85,605 | 11,674,555 |
| 6 | Quality Holding Group | 9,932,765 | 4,226,627 | 472,736 | 81,606 | 554,342 | 4,780,969 | 5,151,796 |
| 7 | Mainline Information System | 7,959,901 | 7,643,863 | 245,858 | 58,010 | 303,868 | 7,947,731 | 12,170 |
| 8 | SAP Public Sector & Education | 7,836,312 | 0 | 7,836,312 | 0 | 7,836,312 | 7,836,312 | 0 |
| 9 | IBM Corporation | 5,672,415 | 255,908 | 3,540,713 | 748,296 | 4,289,009 | 4,544,917 | 1,127,498 |
| 10 | Lexmark Int./Prosys Information Systems (including leases) | 5,131,222 | 3,297,476 | 1,065,068 | 0 | 1,065,068 | 4,362,544 | 768,678 |
| 11 | Johnson Controls, Inc. | 4,746,675 | 0 | 0 | 0 | 0 | 0 | 4,746,675 |
| 12 | Audio Visual Innovations | 4,332,257 | 53,143 | 5,522 | 0 | 5,522 | 58,665 | 4,273,592 |
| 13 | Pearson Education, Inc. | 3,412,279 | 0 | 155,180 | 0 | 155,180 | 155,180 | 3,257,099 |
| 14 | Compass Learning | 2,922,724 | 0 | 790,933 | 714,839 | 1,505,772 | 1,505,772 | 1,416,952 |

| NO. | Vendor Name | District Payment Amount | Total ETS Capital Amount | ETS General Fund FY-04/05&05/06 | ETS General Fund FY-06/07 | Total ETS General Fund | Total ETS Payments | Total Non-ETS Payments |
|---|---|---|---|---|---|---|---|---|
| 15 | Software House International | 2,775,168 | 107,116 | 1,141,404 | 1,847 | 1,143,251 | 1,250,367 | 1,524,801 |
| 16 | Audio Visual Solutions Corporation | 2,759,847 | 2,027,899 | 2,607 | 571 | 3,178 | 2,031,077 | 728,770 |
| 17 | Roth Brothers, Inc. | 2,566,568 | 649,304 | 70,852 | 0 | 70,852 | 720,156 | 1,846,412 |
| 18 | Universal Systems Technologies | 2,467,608 | 79,000 | 2,388,608 | 0 | 2,388,608 | 2,467,608 | 0 |
| 19 | Siemens Bldg. Technologies, Inc. | 2,163,787 | 0 | 0 | 0 | 0 | 0 | 2,163,787 |
| 20 | NCS Pearson Incorporated | 1,798,958 | 150,411 | 56,142 | 438,333 | 494,475 | 644,886 | 1,154,072 |
| 21 | Riverdeep/The Learning Company | 1,351,115 | 0 | 455,000 | 0 | 455,000 | 455,000 | 896,115 |
| 22 | Motorola, Inc. | 1,184,537 | 172,453 | 0 | 0 | 0 | 172,453 | 1,012,084 |
| 23 | Excelsior Software Inc. (PINNACLE) | 1,111,959 | 0 | 750,000 | 323,750 | 1,073,750 | 1,073,750 | 38,209 |
| 24 | Florida Atlantic University (DETA Program) | 1,021,339 | 0 | 0 | 0 | 0 | 0 | 1,021,339 |
| 25 | CDW-Government | 945,943 | 12,259 | 12,480 | 1,196 | 13,676 | 25,935 | 920,008 |
| 26 | Kronos Incorporated | 832,181 | 141,445 | 594,659 | 96,077 | 690,736 | 832,181 | 0 |
| 27 | IVCI | 662,714 | 662,714 | 0 | 0 | 0 | 662,714 | 0 |
| 28 | Technical Training Aids, Inc. | 614,960 | 0 | 1,295 | 0 | 1,295 | 1,295 | 613,665 |
| 29 | Blackboard, Inc. | 613,284 | 0 | 331,396 | 281,888 | 613,284 | 613,284 | 0 |
| 30 | Bear Communications | 603,168 | 100,915 | 0 | 0 | 0 | 100,915 | 502,253 |
| 31 | Cost Recovery Group | 602,791 | 0 | 602,791 | 0 | 602,791 | 602,791 | 0 |
| 32 | Hyperion Solutions Corp | 585,119 | 0 | 585,119 | 0 | 585,119 | 585,119 | 0 |

| NO. | Vendor Name | District Payment Amount | Total ETS Capital Amount | ETS General Fund FY-04/05&05/06 | ETS General Fund FY-06/07 | Total ETS General Fund | Total ETS Payments | Total Non-ETS Payments |
|---|---|---|---|---|---|---|---|---|
| 33 | Library Corporation | 562,347 | 0 | 280,302 | 273,185 | 553,487 | 553,487 | 8,860 |
| 34 | The Millennium Group (MGT) | 505,874 | 260,458 | 245,416 | 0 | 245,416 | 505,874 | 0 |
| 35 | High Tech (Import/Export) | 452,957 | 0 | 77,279 | 0 | 77,279 | 77,279 | 375,678 |
| 36 | CELT Corporation | 428,000 | 0 | 388,000 | 0 | 388,000 | 388,000 | 40,000 |
| 37 | Acello Solutions | 414,258 | 0 | 0 | 60,793 | 60,793 | 60,793 | 353,465 |
| 38 | Hewlett Packard | 351,143 | 3,045 | 8,375 | 0 | 8,375 | 11,420 | 339,723 |
| 39 | One-Net Inc. | 343,156 | 0 | 171,578 | 171,578 | 343,156 | 343,156 | 0 |
| 40 | Extensity, Inc. | 306,929 | 0 | 147,562 | 159,367 | 306,929 | 306,929 | 0 |
| 41 | Comp USA | 305,391 | 16,058 | 1,791 | 0 | 1,791 | 17,849 | 287,542 |
| 42 | Scholastic, Inc. | 293,392 | 0 | 0 | 0 | 0 | 0 | 293,392 |
| 43 | 911 Computers | 292,108 | 0 | 262,298 | 0 | 262,298 | 262,298 | 29,810 |
| 44 | Diskovery Education | 288,610 | 0 | 0 | 222,805 | 222,805 | 222,805 | 65,805 |
| 45 | Computer Associates | 278,028 | 0 | 141,236 | 136,792 | 278,028 | 278,028 | 0 |
| 46 | Renaissance Learning, Inc. | 267,730 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **TOTALS** | **169,718,152** | **61,987,106** | **36,945,100** | **7,559,001** | **44,504,101** | **106,491,207** | **62,959,215** |

# Attachment H:

# Review of Total Cost of Ownership, Cost Benefit and Return on Investment

Broward County Public Schools

# Review of Total Cost of Ownership, Cost Benefit and Return on Investment

## *Final Report*

**Prepared by:**

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**November 10, 2006**

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# Report to
# SCHOOL BOARD OF BROWARD COUNTY

## 1.0 Background and Rationale

In August of 2003, the school district approved the superintendent's recommendation to hire CELT Corporation to conduct an extensive analysis of SBBC's information technology needs, assess current information technology initiatives, and provide specific recommendations with clearly focused action plans and corresponding benefits/results. The final web-based report/blueprint was presented to and accepted by the SBBC in June of 2004. This document aligned the successful implementation of the school district's vision, mission, and goals and contemporary education reforms to a comprehensive and cost-effective information technology system.

For the past two years, the district has been in the process of implementing the many projects outlined in the blueprint. Many of these projects involved major procurement decisions. The district wanted to review the current practices of cost benefit analysis, return on investment and Total Cost of Ownership models used to make informed procurement decisions. The purpose of this report is to document the findings and make specific recommendations on the models used.

## 2.0 Methodology

To accomplish these goals, interviews were held with:

- Mary Baker – ETS Director of Quality and customer services
- Robert Waremburg – Director of Supply Management & Logistics

In addition, the following documents were reviewed:

- Total Cost of Ownership (TCO) Base-Year 2003-2004 Analysis
- Five (5) submitted District Agenda Request Forms for Technology Items
- ETS Project Charter Form

# 3.0 Findings

1. Following the completion of an extensive research and analysis process, the district decided to join the CoSN/Gartner Group K-12 TCO project. The goal of this project is to 'create a culture within the district that utilizes data and Gartner's TCO analytical tool before deciding and implementing not only educational technology purchases, but all technology purchases.
2. The main purpose of the TCO project was to base line SBBC ETS with other school districts. ETS conducted this base line study to show that the SBBC ETS budget was in line with these other districts. The data showed ETS in line at 4% of the district 's budget. See Attachment A.
3. There is no one page template/spreadsheet that shows the detailed line item costs, committed savings, cost redirects or calculations for payback, and return on investment
4. ETS is in process of embedding TCO into proposals for new projects and any RFP that ETS generates and will be complete by start of school year 2006-2006. There is no effort to include comparison with other school districts on the specific project in the RFP. There is no effort to include TCO into other departments' technology RFPs.
5. There is no effort underway to identify key technology drivers of cost and target areas to focus on in an effort to drive the costs down.
6. The ETS Project Management Office (PMO) charter form has four sections for financial information:
    a. Business Case – a narrative description of why this is needed
    b. Budget Forecast Information – dates and approvals for the budget committee review
    c. Budget Information – detailed breakdown of the budgeted costs for the ETS project
    d. Funding Information – detailed breakdown of the funding sources

    There is no section for financial commitments of savings or calculations of payback or return on investment.
7. The district board agenda request form has a section for financial impact. This is usually filled in with the estimated project cost and identifies the funding source. There is no section for financial commitments of savings, budget redirection, or calculations of payback or return on investment. A SBBC board member has requested similar information be added to this form.

# 4.0 General Discussion

The TCO project is determined to be 'not effective'. While the original research was done well, and there was activity, there was only one real result-base-lining ETS with other districts. There were no other results. This was not embedded into the culture, either in the district, or within ETS, as stated in the original goal. The concepts of identifying savings to calculate

payback and rate of return were not part of the original TCO project. There were no changes to any district business process such as using for technology project priority setting, collecting savings, or changing any district forms.

For perspective, it should be noted here that very few districts have the capability or are in the process of identifying business cases. Most districts show the cost estimates but not the savings side so payback and return on investment can be shown. This is also true in Broward. It should be further noted that project based financial tracking is limited with the legacy systems in place.

# 5.0 Recommendations

1. Develop and implement a template/spreadsheet to standardize the collection of line item costs by year and project total, commitments of savings, calculations of payback, and return on investment. Include this for all ETS projects.
2. Expand the ETS PMO project charter to include this template information along with the business case rationale (which is currently included) for the project.
3. Revise the RFP process so that this template is included for all technology purchases for ETS and across the district. Work with Purchasing to implement this.
4. Expand the Board agenda request form to include a summary of these TCO items. Work with Purchasing to implement this.
5. Expand the Budget review committee form so the financial data of payback and return on investment are included. Work with the Budget review committee to implement this.
6. As a follow on activity, establish the major cost drivers for technology in the district and establish an on-going process for cost reduction.

# Appendix A:
# TCO Baseline Report Comparing ETS with other Districts

**Attachment A comes from the final report of the TCO project, and is the work of the SBBC ETS staff.**

## *Results*

There is no magic number for TCO; a low TCO is not desirable if it is accompanied by low customer satisfaction or is created through draconian measures to limit access to technology resources and services. For example, the TCO for Internet access might be low because the school system severely restricts the time that Internet service is available and limits the number of users per school. Students and faculty become frustrated because this limited access restricts the deployment of the technology to meet instructional or management goals. Conversely, a higher TCO for Internet service would be acceptable if it meant access was available to students and staff for instructional activities to leverage the learning process. In this example, higher TCO actually is more desirable when measured against school system objectives.

It should be noted that comparison of case studies with other school districts or other educational institutions must be done with care, as many factors enter into the cost of ownership. Districts and other educational institutions have different approaches and philosophies when it comes to acquiring and supporting technology to meet the needs of their unique environment. The case study TCO numbers provide a reasonability check for your own numbers, and the case study scenarios should provide some insights into how data has been analyzed for other districts. Once your own baseline study has been completed, additional value may be achieved by running "what-if" scenarios or conducting subsequent analyses to review the results of major efforts to improve efficiency.

## *Total Costs*

| Cost Type | Total District Cost per Client Computer | Total District Cost | Case Study Low | Case Study High |
|---|---|---|---|---|
| Direct Costs | $1,232.09 | $118,050,000.00 | $384.72 | $1,241.86 |
| Indirect Costs | $490.11 | $46,958,784.95 | $131.00 | $2,012.93 |
| **Total Costs** | $1,722.20 | $165,008,784.95 | $1,004.00 | $3,254.79 |

Total cost includes all costs within the model. It is a balanced look at what it truly takes to support a computer for the district. The metric includes both Direct and Indirect costs.

Direct Costs include all technology and direct labor costs incurred by the school district during the study period. Some districts may incur less direct costs, but drive support requirements to the user community. This will in turn drive indirect costs.

Indirect costs include all of the labor incurred by the user community for the study period. Indirect Labor includes the costs of users supporting one another, spent in training classes, casual learning, self-support, user applications development and downtime costs. While these costs are considered "soft", they do represent an opportunity cost to the district as a whole.

| Cost Type | Total District Cost per Client Computer | Total District Cost | Case Study Low | Case Study High |
|---|---|---|---|---|
| Hardware | $268.23 | $25,700,000.00 | $176.65 | $432.12 |
| Software | $224.40 | $21,500,000.00 | $6.00 | $218.76 |
| Direct Labor | $733.20 | $70,250,000.00 | $180.60 | $818.57 |
| External Application Providers | $6.26 | $600,000.00 | $7.08 | $93.00 |
| **Total Costs** | $1,232.09 | $118,050,000.00 | $384.72 | $1,241.88 |

Direct costs include costs for hardware, software, external application providers, and direct labor.

Hardware includes the annual costs for client computers, peripherals, servers, network equipment, and printers.

Software includes the annual costs for all software running on client computers and servers. This would include infrastructure software, educational administrative software and personal productivity software, as well as content and curriculum specific software.

Direct Labor includes burdened salaries from personnel whose job role includes operations and financial support, professional training and development or curriculum development.

External application provider includes all costs associated with organizations that provide the use of applications, and associated services to customers.

These metrics are useful for planning purposes. In order to better understand drivers of Total Costs it is necessary to analyze the subcomponents of these metrics shown further in these reports.

| Metrics | District Total | Case Study Low | Case Study High |
|---|---|---|---|
| Students per available client computer | 3.39 | 2.8 | 8.5 |
| Teachers per dedicated client computer | 1.02 | 0.8 | 2.3 |
| Non-Classroom personnel per Non-Classroom personnel client computers | 1.00 | 0.8 | 6.6 |
| Total Users per total client computers | 2.92 | 2.4 | 4.5 |
| Client computers per printer | 3.83 | 3.2 | 16.3 |
| Client computers per server | 107.78 | 21.2 | 101.0 |

## *Asset Metrics*

Students per available client computer includes the total number of students divided by the total number of client computers located in classrooms, libraries, media centers, labs, etc.,

along with the total number of student dedicated client computers, not including student owned equipment. When trying to determine the number of computers per student this is the best methodology to use. It is important to remember that just the presence of computers in the classroom will not lead to educational success. This metric is, however, an indicator of the level of investment that the district has made.

Teachers per teacher dedicated client computer includes the total number of classroom teachers divided by the total number of client computers dedicated for use by these individuals. Districts that have more mature administrative applications and processes will tend to have close to a 1:1 ratio (a dedicated computer for each professional). Having dedicated computers for teachers allows more flexibility in using the device, and may ease security concerns related to access to records.

Non-classroom personnel per Non Classroom personnel client computer includes the total number of non-classroom personnel divided by the number of client computers dedicated for use by them. Districts which require these users to share computers will have a lower total cost because they will save on hardware and software expenses. In this case, however, users tend to get less utility out of the equipment because they cannot always be sure it is available. Shared devices may also cost more to support because more than one person may be making modifications to them.

Client computers per printer include the total number of client computers divided by the total number of printers. A higher ratio indicates a more efficient deployment of printers. While printers don't have high purchase costs when compared with other computer equipment, driver and setup issues can drive support costs. Consumables such as printer cartridges can also be an important cost factor over the life of the asset. Printer consolidation efforts may lead to lower hardware, supplies, and support costs.

Client computers per server include the total number of client computers divided by the total number of servers. A higher ratio indicates a more efficient deployment of servers. Factors that may favorably affect this ratio include district-wide server purchasing policies and server consolidation efforts. The amount of applications provided will also affect this metric. As more applications become available, more servers will be necessary, and the ratio will go down.

## *Asset Cost Metrics*

| Cost Type | Total District Cost per Client Computer | Total District Cost | Case Study Low | Case Study High |
|---|---|---|---|---|
| Client computers | $151.34 | $14,500,000.00 | $110.66 | $370.00 |
| Server | $41.75 | $4,000,000.00 | $10.14 | $63.00 |
| Network | $41.75 | $4,000,000.00 | $6.00 | $34.26 |
| Printer | $31.31 | $3,000,000.00 | $3.65 | $27.00 |
| Supplies | $2.09 | $200,000.00 | $1.00 | $26.15 |
| Total Costs | $268.23 | $25,700,000.00 | $176.65 | $520.41 |

Client cost per client computer measures the annualized cost of personal computers, and peripherals divided by the total number of client computers. Costs for hardware that are fully depreciated are not included in this metric. Therefore, districts with very old hardware will

tend to have a low client cost per client computer. Other factors that come into play driving this metric include the pricing obtained for each client computer as well as the quality of devices purchased. Some districts may be able to save money here by profiling usage requirements and only buying what is needed for each class of users.

Server cost per client computer measures the annualized cost of servers divided by the total number of client computers. Districts with older, fully depreciated servers will have a lower server cost per client computer. Other factors driving this metric are the number of servers in place, pricing, and the quality of servers purchased. Some districts may be able to save money here by controlling how servers are purchased, and instituting server consolidation.

Network cost per client computer measures the annualized cost of network equipment (hubs/routers/switches etc.) divided by the total number of client computers. Districts with older, fully depreciated network equipment will have a lower server cost per client computer. Other factors driving this metric are the number of network ports in place as well as the bandwidth of the local network. Some districts may be able to change their cost profile by looking at wireless solutions, or examining access requirements.

Printer cost per client computer measures the annualized cost of printers divided by the total number of client computers. Districts which have older, fully depreciated printers, or who haven't purchased personal printers in the current year, will have a lower printer cost per client. Other factors driving this metric are the number of printers in place as well as the quality of printers purchased. Some districts may be able to change their cost profile by changing the number of printers, or examining printing requirements.

### *Direct Labor Cost Metrics*

| Labor Type | Total District Cost | Total District Cost per Client Computer | Case Study Low per Client Computer | Case Study High per Client Computer |
|---|---|---|---|---|
| Operations & Financial Labor | $39,250,000.00 | $409.65 | $110.83 | $622.91 |
| Professional Dev & Training | $26,000,000.00 | $271.36 | $5.00 | $170.44 |
| Content and Curriculum Dev & Support | $5,000,000.00 | $52.18 | $23.00 | $210.00 |
| **Total Support Costs** | $70,250,000.00 | $733.20 | $180.60 | $818.57 |

Operations and Financial cost measures the total personnel, and vendor costs associated with "hands-on" labor, and help desk support around client computers, servers, printers, and network equipment. It also includes any costs around planning and process management, finance and administration (budgeting, procurement, asset management etc.), and physical database administration. Practices or factors that tend to drive support costs include:

- Salary and personnel practices such as technology personnel staff salary levels, use of possibly higher cost and less experienced teachers to perform technology support functions, use of high-cost contract staff.
- Improved asset inventory systems can reduce costs by reducing the amount of time it takes to diagnose a problem.
- Improved asset inventory systems can reduce costs by reducing the amount of time it takes to diagnose a problem.
- Desktop policy management can reduce labor costs by preventing the user from corrupting client configurations.

**Review the cost benefit analysis, return on investment and Total cost of ownership models used by the district/ETS to make informed procurement decisions**

A lack of spending in this area may support activities and costs to the user community. For example one teacher may go to another teacher rather than an IS person to help solve a problem. The model uses indirect costs to measure this.

Professional Development and Training costs include training of personnel to provide familiarization, and proficiency with the operation of equipment and software to carry out school tasks whether instructional or administrative. Experience has shown that proper training can help users avoid problems in the first place. This may have the affect of reducing support requirements and costs. Training also increases the utility of the distributed environment.

Content and Curriculum Development and Support costs includes labor involved in integrating IT into the teaching and learning process. Investments in technology cannot be useful unless school districts make investments in this area. One best practice in this area is to leverage work across classrooms, grades, and schools. This can only be done if the curriculum itself is somewhat standardized. Another best practice is to closely align the process of making software application decisions to the process for making infrastructure decisions. This ensures that the software will run properly in the school district environment.

| Labor Type | Total District Cost per Teacher | Case Study Low Cost per Teacher | Case Study High Cost per Teacher |
|---|---|---|---|
| Professional Dev & Training | $1,763.67 | $22.00 | $879.59 |
| Content and Curriculum Dev & Support | $339.17 | $85.10 | $875.90 |

| Labor Type | District Support Cost per Student | Case Study Low Cost per Student | Case Study High Cost per Student |
|---|---|---|---|
| Professional Dev & Training | $100.43 | $1.08 | $73.25 |
| Content and Curriculum Dev & Support | $19.31 | $6.50 | $61.90 |

These metrics are also shown on a "per teacher" basis and on staff and students respectively.

| Labor Type | District Support Cost Distribution | Case Study Cost Distribution |
|---|---|---|
| Technology Staff | 31% | 46% |
| Classroom Staff - Teachers | 43% | 41% |
| Classroom Staff - Aides* | 3% | NA |
| Non-Classroom Staff | 17% | 13% |
| Outsourced | 6% | 1% |

* In the case studies, Classroom Staff - Aides category was combined with the Non-Classroom Staff category. This metric indicates how much cost is involved in staff outside of the IS department supporting the distributed environment. This is for staff assigned to provide such support; not indirect labor costs.

## *Direct Labor Staffing Matrix*

| Labor Type | Total District Clients per Staff | Case Study Low Clients per Staff | Case Study High Clients per Staff |
|---|---|---|---|
| Operations & Financial Labor | 126.1 | 86.6 | 359.3 |
| Professional Dev & Training | 186.2 | 418.0 | 11,600.0 |
| Content and Curriculum Dev & Support | 1149.8 | 112.0 | 3,470.9 |
| Clients per Total Staff | 70.6 | 62.0 | 268.0 |

These metrics are also shown as client computers per staff. This measures the number of staff needed to support the function. Looking at the data this way tends to normalize for high or low salaries.

| Labor Type | District Avg Cost per Staff | Case Study Low Cost per Staff | Case Study High Cost per Staff |
|---|---|---|---|
| Operations & Financial Labor | $51,667 | $29,474 | $80,051 |
| Professional Dev & Training | $50,526 | $40,345 | $85,047 |
| Content and Curriculum Dev & Support | $60,000 | $23,551 | $80,510 |
| Support Costs per Total Staff | $51,569 | $27,824 | $81,150 |

These metrics represent the average salary for each category. They are calculated by dividing total labor costs by number of full time equivalents in each category. Regional cost of living, district discretion, and the law of supply and demand all drive these metrics.

| Labor Type | District Avg Cost per Staff | Case Study Low Cost per Staff | Case Study High Cost per Staff |
|---|---|---|---|
| Technology Staff | $66,154 | $24,939 | $82,958 |
| Classroom Staff - Teachers | $60,000 | $40,000 | $71,709 |
| Classroom Staff - Aides* | $20,000 | NA | NA |
| Non-Classroom Staff | $35,000 | $18,000 | $83,061 |
| Average Cost per Total Staff | $51,569 | $28,316 | $81,150 |

* In the case studies, Classroom Staff - Aides category was combined with the Non-Classroom Staff category.
These metrics represent the average salary for each type of support staff. They are calculated by dividing total labor costs by number of full time equivalents in each category. Regional cost of living, district discretion, and the law of supply and demand all drive these metrics.

| Labor Type | District Support Staff Distribution | Case Study Staff Distribution |
|---|---|---|
| Technology Staff | 25% | 40% |
| Classroom Staff - Teachers | 39% | 27% |
| Classroom Staff - Aides* | 8% | NA |
| Non-Classroom Staff | 27% | 21% |
| Students/Volunteers | 0% | 12% |

* In the case studies, Classroom Staff - Aides category was combined with the Non-Classroom Staff category.
This metric indicates what percent of the staff supporting the distributed environment is not from the IS department.

# Attachment I:

# Review of Audit Requests, Exceptions, and Observations of ETS from January 2005 to October 2006

Broward County Public Schools

# *Review of Audit Requests, Exceptions, and Observations of ETS from January 2005 to October 2006*

***Final Report***

**Prepared by:**

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**November 10, 2006**

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# Report to
# SCHOOL BOARD OF BROWARD COUNTY

## 1.0 Background and Rationale

In August of 2003, the school district approved the superintendent's recommendation to hire CELT Corporation to conduct an extensive analysis of SBBC's information technology needs, assess current information technology initiatives, and provide specific recommendations with clearly focused action plans and corresponding benefits/results. The final web-based report/blueprint was presented to and accepted by the SBBC in June of 2004. This document aligned the successful implementation of the school district's vision, mission, and goals and contemporary education reforms to a comprehensive and cost-effective information technology system.

For the past two years, the district has been in the process of implementing the many projects outlined in the blueprint. Many of these projects involved major investment decisions, coupled with the goal of moving ETS to become a service-oriented organization. The district wanted to review the current practices of business controls on these projects. The district also wanted an assessment of the ETS observations as it moves to transform itself into a service-oriented organization. This is no simply task. Several things are needed, (1) the technology organization must be perceived as a value add to the district by its customers, (2) it has to be proactive in helping its customers use the technology, and (3) it requires a reputation of delivering quality products on time.

## 2.0 Methodology

To accomplish these goals, interviews were held with:

- Denis Moquin – Director of Finance Applications and Document Management
- Brian Sullivan – Director of Computer Operations
- Winston Pierre – ETS Manager of Finance
- Lynn Strong – Human Resources Associate Superintendent
- Sam Gregg – South Area Superintendent
- Jim Notter – Chief of Staff
- Vijay Sonty – Chief Information Officer
- Ben Leong – Chief Financial Officer
- Patrick Reilly – Chief Auditor
- Ken Zacharias – Director of Enterprise Resource Planning Systems

In addition, the Ernst and Young 2005 IT General Controls Audit documents were reviewed.

# 3.0 Findings

ETS had one formal audit, performed by Ernst and Young in their 2005 IT general controls review. Two issues were identified and one was repeated from the previous year.

1. The first audit item addressed the practice of making some changes to the current Human Resource Management System (HRMS) and MSA systems without the appropriate documentation trail authorizing the programming, testing, and installation of changes. This audit item was documented in 2004 with a management response. It came up again in 2005 with a more complete management response. Further, this item also noted not all changes went through the change management process. The management response committed corrections by March 2006. It should be noted changes made to the original HRMS set of SAP applications do not go through the ETS change management process. The HRMS applications group has their own change management process. The servers are still housed at ETS and they reside on the district network but the HRMS-ERP team controls them.
2. The second audit item involved removing SBBC staff from Compass, the work order system, in a timely manner, when they no longer were SBBC employees. This also has a management response correcting this by March 31, 2006.
3. There was second external review done by the Cost Recovery Group. They reviewed the telecommunications projects and specifically the phone charges from BellSouth. They found errors in the billing amounting to $790K. BellSouth agreed to refund this amount. Action plans are now in place to have BellSouth certify their invoices each month. In addition ETS staff will monitor each invoice also.
4. There were no other external reviews of ETS identified.

# 4.0 Observations of ETS

Regarding observations of ETS made from interviews with ETS directors and Senior Management members, the following findings were observed:

1. There is not enough interaction between ETS and its customers. ETS is still surprised by projects that require their help after the project has been approved by a grant or by management, but with no prior involvement by ETS. In general, ETS customers want more interaction and participation on a daily basis. Further, ETS staff wants more interaction with other departments on all Technology Projects.
2. Senior Managers and many principals believe technology needs to be a productivity tool, but instead it is viewed as a detractor at this time. They note that there are too many technology projects with implementation problems that are plaguing the district. Implementation of these projects is not proceeding smoothly, with each having large impacts on the schools. This has happened at the worst possible time, the start of the school year. (These projects include the time management system -Kronos, the student grade book - Pinnacle, the principal portal –Knexus, the security identification system – Star and the help desk system - CRM). One current district application, the email system –First Class, is not stable, further compounding communication issues.

3. There were successful projects that were installed during this time frame. These include, the call out system – Parentlink, the computer refresh of old equipment, the district conversion to one area code, the implementation of the Network Operating Center –NOC and the telecommunications bids that resulted in 5.2M$ additional E-rate funds for the district.

# 5.0 General Discussion

The formal audit response is determined to be "minimally effective." The objective of an audit response from management is not to just meet the letter of the law with the specific finding, but to meet the spirit and intent of the law, by making sure that the issue has a solution with integrity. An audit item repeating for another year certainly is not acceptable. Further, the change management process should be strengthened and expanded to include all changes that could affect the districts network or servers into one process not multiple ones.

With the views of Senior Managers and the application issues, the observations of ETS and its relationship with its customers would be determined to be "minimally effective." The observations of ETS made by senior managers are significant. While the ideas and concepts of the new applications are viewed as positive and will benefit the district, the implementation including testing, lack of training, and customer communications has not been effective. Some of the problems are real software applications function issues – the programs just don't work, are not reliable, or are not sufficiently stable for district wide rollout (this is especially true of Pinnacle). Some of the problems relate to business process issues that the new technology installations have surfaced (this is especially true for Kronos). Some of the problems relate to lack of training (this is true again for Kronos). Some of the problems relate to scope of work issues and not specifying the deliverables adequately, (this is true for the CEM system). The overall situation is recoverable but will take concerted effort and significant attention on the part of ETS.

# 6.0 Recommendations

1. Establish a peer review of all audit responses to ensure the integrity of the response. These peers would be knowledgeable ETS staff not involved in the specific application but experienced with the ETS/SBBC processes and viewed as professionals in the technology field. This would be a step to meet the spirit and intent not just the letter of the issue.
2. Require <u>all</u> changes go through the ETS change management process. This is especially true for the HRMS original implementation of SAP. None of these HRMS application or systems changes have gone through ETS change management for the past year. However, HRMS changes do go through their own change management process. In addition, in the original implementation of change management, there were some changes that didn't need to go through the change management process. Now is the time to set the bar higher and require all changes go through the change management process. The data tracking on change management shows about one change a week goes through the change management process. This suggests many changes for an organization the size of ETS don't go through the ETS change management process.

3. Establish a major focus in ETS for the next 3-6 months to make what is installed work and work reliably. Treat this as a real crisis of confidence. This is not business as usual. Do not introduce any new initiatives until existing projects work and work reliably. Redirect management and staff time and attention to solve these issues for the schools. Each of the major projects may involve different solutions. To identify these solutions, initiate the following as appropriate:
    a. Appoint a principal as a co-sponsor with an ETS leader for each application issue.
    b. Reassign current staff to help each application team –on special assignment for the period of time it takes to remedy these project issues. Overpower each of these projects to make them successful.
    c. Introduce a freeze on all changes for this period. This will provide the needed staff to be redirected onto the focus teams that would be required. Reduce and/eliminate activities that reduce management/staff focus except on these problem areas.
    d. Hold special focused status meetings to ensure progress chaired by the CIO.
4. Establish a communications plan to let the senior managers and principals know of the redirection of ETS staff to overpower these issues. Use the district capabilities of Conferencing services applications including audio and videoconferencing, BECON and vendor on line help to deliver the support and training. Install a website for relevant information and Frequently Asked Questions (FAQs) for each application. Use BECON's capability for content development and then use the various delivery channels the district has to deliver the communications and training. These include BECON's ITF network, online instruction via Human Resource Development (HRD) and various distance learning technologies, such as Elluminate and audio conferencing (Meeting Place). Many of the live sessions can be recorded, copied to CD, or where available streamed to the desktop for anytime learning.
5. Establish training as a necessary deliverable in every project. At this time, some of the ETS management do not view training as part of their responsibility to deliver. This does not mean the content and delivery has to be done by them. It could be done by BECON, vendors, HRD, other staff. Someone needs to insure it gets done. This would be a major benefit to the district.
6. Establish a process through the Project Management Office (PMO) that looks at and raises the risks of installing many projects at the same time. Management can then take action. Currently each project is managed as a separate entity and its installation timing is not taken into account with other projects planned for installation at the same time. This is the case for the beginning of this school year. There are two major additions to the PMO that are recommended:
    a. There are specific windows of opportunity where installations make sense. These installations have to be coordinated with the school year cyclic events. The PMO needs to coordinate all project installation dates for ETS.
    b. Resource loading is another major issue. Through effective project planning, these resources can be managed and conflicts can be identified and avoided. First might come policies from the superintendents about how much time a principal can be away from the school. This can be put into an effective project management system and be managed across all projects. This would be in

addition to the resource loading of the ETS development staff, which also needs to be included within the project management system.

c. The PMO responsibility should significantly increase. The PMO needs to manage additional activities that include:
    i. Holding a separate and dedicated 'operations review meeting 'chaired by the CIO and facilitated by the PMO.
    ii. Provide the tracking on each project. The PMO would provide, at the highest level, trend tracking with scorecards and/or red light-green light charts showing the condition of all projects on a weekly basis. All yellow and red light status projects need in depth status reporting every week. The CIO would insure any barriers are eliminated.
    iii. Insuring the data presented has integrity. The PMO needs to insure the data represented in the project tracking system has integrity. Ownership of the data presented is a responsibility of the project manager and the PMO.
    iv. Expand the ETS PMO so it helps to manage the projects and can suggest remedial actions when a project needs help. Further each PMO staff member should be PMI certified and helps the project he/she is assigned to.
    v. This will require a larger staff for the ETS PMO and the size will be determined based on the agreed to responsibilities.
d. Establish a district-wide PMO for all projects. The processes, tools, and training would all be consistent for all projects across the district.

# Attachment J:

# Assess How Effectively the District/ETS Staff Use 'Service Level Agreement' Contracts for Payment of Major Information Technology Vendors Based on Performance Levels

Broward County Public Schools

# *Assess How Effectively the District/ETS Staff Use 'Service Level Agreement' Contracts for Payment of Major Information Technology Vendors Based on Performance Levels*

***Final Report***

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**November 10, 2006**

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# Report to
# SCHOOL BOARD OF BROWARD COUNTY

## 1.0 Background and Rationale

In August of 2003, the school district approved the superintendent's recommendation to hire CELT Corporation to conduct an extensive analysis of SBBC's information technology needs, assess current information technology initiatives, and provide specific recommendations with clearly focused action plans and corresponding benefits/results. The final web-based report/blueprint was presented to and accepted by the SBBC in June of 2004. This document aligned the successful implementation of the school district's vision, mission, and goals and contemporary education reforms to a comprehensive and cost-effective information technology system.

For the past two years, the district has been in the process of implementing the many projects outlined in the blueprint. Many of these projects involved major investment decisions and large vendor contracts. The district wanted an assessment of Service Level Agreements, (SLA) implementation and their use in the district for vendor contracts.

## 2.0 Methodology

To accomplish these goals, interviews were held with:

- Mary Baker – Director of Quality and Customer Services
- Robert Waremburg – Director of Supply Management & Logistics
- Winston Pierre – ETS Manager of Finance
- Chuck Stanley – Director of Technical Support Services
- Four (4) members of JDL staff of the Network Operations Center (NOC)

In addition, ten (10) technology contracts were reviewed:

## 3.0 Findings

1. The original blueprint recommended setting SLAs on the then defined five (5) critical applications. As of this date, there are twenty-one (21) applications being monitored. The first five are the original recommendations and the rest have been added: Broward Intranet (Web), Email, HRMS, TERMS, MSA, BrowardSchools.com, Compass Odyssey, Content Engines, DNS, ETS Service Desk, First Class Client, HOD Server, BEEP, Knexus, Kronos Web, McAfee EPO, Riverdeep, SAP-HR, Star, TheLibraryCorp and United Streaming. This is an impressive increase in applications and services being monitored.
2. The Network Operations Center (NOC) has installed network monitors/probes for each application and these allow the monitoring to occur. This monitoring tracks availability,

response time, and attainment of control limits set for each application. There are control limit checks on each application for each of the three monitored attributes for each service to the internal customer. If an application drifts out of the control limits there are automatic emails sent to designated ETS staff for further review. The NOC has an impressive and effective reporting capability with its scorecards.

3. The critical dependencies on vendor services are also monitored to ensure that they meet the service limits set to the internal customer.
4. All data from the monitoring is loaded on an internal web site so users can see scorecard data in terms of their own schools or application, but this website has not been made public.
5. There has been no formal contract with the internal customers committing to service levels.
6. There has been no formal contract with supplying vendors committing to service levels that are needed to support the internal customer service levels that are being monitored.
7. The RFP and vendor contract has a generic clause for Service level agreement. It asks the vendor to define the SLA they are willing to commit to and asks the vendor to define a specific response time for a problem recovery outage. SBBC doesn't define, in the RFP, the service level required, but rather asks the vendor to define it.

# 4.0 General Discussion

The Service Level Agreement practice is determined to be 'effective'. The major steps in a SLA process are: 1) Define a catalog of services for the organization, 2) commit to a service level for the customer in written form with his/her agreement, 3) monitor the SLA with specific measurements, 4) publish/meet with the customer on regular status, 5) provide continuous improvement on the SLA year over year, 6) link the customer service levels to the vendor service levels needed to support the committed customer service levels and 7) include a pay clause based on SLA performance with the vendor.

In ETS' case, focus has been on step 3) monitor the SLA with specific measurements. ETS is now poised to include the other steps. The number of services monitored has been significantly increased (4X) over the initial recommendations. Many monitors and probes have been put in place to collect the data for measurements. This has allowed a proactive process to be put in place to avoid major outages. Performance degradations can be seen before an outage occurs, so corrective action can be taken. While the number of services monitored has been increased by 4X, the rest of the process has not been implemented yet, including formal customer commitments with regular reviews, a continuous improvement process to improve service levels, and vendor payment based on their performance levels. In addition, asking vendors for their service levels instead of stating the requirement and having them respond to it is not sufficient. Also requesting vendors for response time to outages is necessary but not sufficient.

# 5.0 Recommendations

### *For SLAs from ETS to the District*

1. Document the list of services, in a catalog, that ETS provides and use this as a basis for developing SLAs. Examples might include Help Desk response time, Internet connection time, backup, and recovery services for file servers every night, periodic intrusion detection, in addition to the NOC scorecards by application.
2. Commit the service limits that are in place to ETS customers in a formal written document. Implement a plan to improve the service levels by minimum (5-10%) per year. Seek to improve service levels for the same cost or reduce costs of each service each year.
3. Establish a communication process with periodic face-to-face meetings so each customer knows where his/her data is stored and can be viewed as desired.
4. Establish a summary-reporting scorecard for each service to review internally in ETS at the operations meeting.
5. Expand the service level to other important services of ETS. This would include tier 1 and tier 2 support for the help desk.
6. Establish the SLA performance as criteria for individual managers/directors performance evaluations in ETS. SLAs need to have consequences.

### *For SLAs from Vendors to the District/ETS*

7. Redefine the SLA process for technology contracts/RFPs. Define what is required and ask the vendors for these instead of asking vendors to define this for SBBC. The current process needs to be reversed.
8. Link vendor payment to their SLA performance. Make their performance monitoring part of their contract and not just for time to repair for support issues. SLAs need to have consequences.

# Attachment K:

# Projects Added to ETS PMO After Blueprint

# Projects Added to ETS PMO After Blueprint

| Project Name | Approved By | | | |
|---|---|---|---|---|
| | Board | Senior Management Capital Review | State Requirements | ETS Management |
| **Vijay Sonty** | | | | |
| ETS05041 Memory Upgrade for Computers | X | | | |
| ETS05042 Change Management | | X | | |
| ETS05044 Support of Digital Learning Environment | | X | | |
| ETS05045 Broward Parentlink Project | X | | | |
| ETS05046 Education Technology Plan | | | X | |
| ETS05047 Customer Relationship Management CRM Implementation | | X | | |
| ETS05048 District Wireless Network Implementation | X | | | |
| ETS05049 Student Technology Refresh | X | | | |
| ETS06001-0 Project Knexus, Workplace for Education Pilot | X | | | |
| ETS06001-1 Project Knexus, Workplace for Education Phase 1 | X | | | |
| ETS06001-1A Knexus Communications Plan | X | | | |
| ETS06002 District Wireless Implementation Phase 2 | X | | | |
| ETS06003 District-wide Electronic Gradebook Implementation | X | | | |
| ETS06004 Additions and Upgrades to School and District Conferencing Services | | X | | |
| ETS06005 ONE BROWARD NETWORK ASSESSMENT | | X | | |
| ETS06006 Upgrade MeetingPlace Collaborative Tools | | X | | |
| ETS06007 Independent Devices Enabling Access (IDEA) | | X | | |
| ETS06008 Customer Resource Management System Phase 2 | | X | | |
| ETS06009 TSSC Building Access Layer Upgrade | X | | | |

# Projects Added to ETS PMO After Blueprint

| Project Name | Approved By | | | |
|---|---|---|---|---|
| | Board | Senior Management Capital Review | State Requirements | ETS Management |
| ETS06010 Network Integration Group - Active Directory (AD) Migration | | | | X |
| ETS06011 Blackboard eLearning District-Wide Pilot | | | | X |
| ETS06012 Centralized Technical Support Upgrades | | | | X |
| ETS06013 Accessing Video Content Through United Streaming | | | | X |
| ETS07001 Budget Forecast Committee Video Collaboration Upgrades | | X | | |
| ETS07002 District IT Blueprint Review conducted by the CELT Corporation | | X | | |
| ETS07003 Classroom Video Projector Project 06_07 | X | | | |
| ETS07004 Student Laptop Refresh 06_07 | X | | | |
| ETS07005 Teacher Laptop Refresh 06_07 | X | | | |
| **Lynn Strong** | | | | |
| HRS06001 Highly Qualified Teacher Designation and Reporting Process | | | X | |
| HRS07001 Highly Qualified Teacher Status - Phase II | | | X | |
| **Special Investigative Unit** | | | | |
| SIU06002 Security Tracking & Response System (STAR) | X | | | |
| **SUB-TOTALS** | **14** | **10** | **3** | **4** |
| **TOTAL** | **31 PROJECTS** | | | |