# Efficient Delivery of Public Services

Assessor
Auditor-Controller
Board of Supervisors
Chief Executive Office
Clerk-Recorder
County Counsel
General Services Agency
Strategic Business Technology
Treasurer-Tax Collector

# EFFICIENT DELIVERY OF PUBLIC SERVICES

The public expects government to be responsive to their needs and to conduct business efficiently. County departments provide services to a diverse customer base. To serve customers effectively, departments must understand what is important to them and how to improve services. Customer feedback encourages County departments to remain focused on continuously improving how services are provided. Conducting business using the internet, is a convenient method for many residents. Providing services electronically recognizes this increasing trend and enhances the methods used to serve the public. The County can be reached online at www.stancounty.com. Improving the efficiency of core services allows staff to increase their focus on streamlining services and enhancing quality. Electronic services and more efficient processes mean customers spend less time conducting business with us.

The Assessor is responsible for preparing an annual assessment roll for property tax revenues using fair, accurate and timely property valuations. The Auditor-Controller safeguards the County's resources and ensures its financial integrity through fiscal monitoring and reporting. The Board of Supervisors provides governing, administrative and legislative direction to County departments and determines the overall policies for Stanislaus County government. The Clerk of the Board maintains accurate County legislative records and provides customer access to those records. The Chief Executive Office provides overall leadership and management of County government including the management of County resources, long-range financial planning, capital projects, and organizational planning. The Human Resource Division provides services to County departments, employees, and applicants. These services include: labor relations, policy development and implementation, recruitment and selection, classification, compensation, wellness and learning and development programs. The Risk Management Division of the Chief Executive Office manages the health, safety and well being of Stanislaus County employees through administration of employee benefits, liability claims/insurance, disabilities management (workers' compensation), and safety. The Clerk-Recorder processes all documents and records related to marriage licenses, certified copies of vital statistics, document filings and recording of real property; processes passports; and conducts civil wedding ceremonies. The Clerk-Recorder is also responsible for conducting elections and ensuring citizens have the opportunity to exercise their right to vote. County Counsel serves as the principal legal counsel for the

Board of Supervisors and provides legal advice to all County offices, departments and commissions. The General Services Agency supports County departments through purchasing services for goods, contracts, leased property and equipment; bulk store, delivery, mailroom and messenger services; through maintenance and operation of all building systems and equipment; and through maintenance services for County vehicles. Strategic Business Technology supports the technology and web-based needs of County departments by providing help desk and desktop support services, email services, technology security, and County website services. The Treasurer-Tax Collector collects secured and unsecured property taxes, as well as other revenue, and issues various licenses including business licenses.
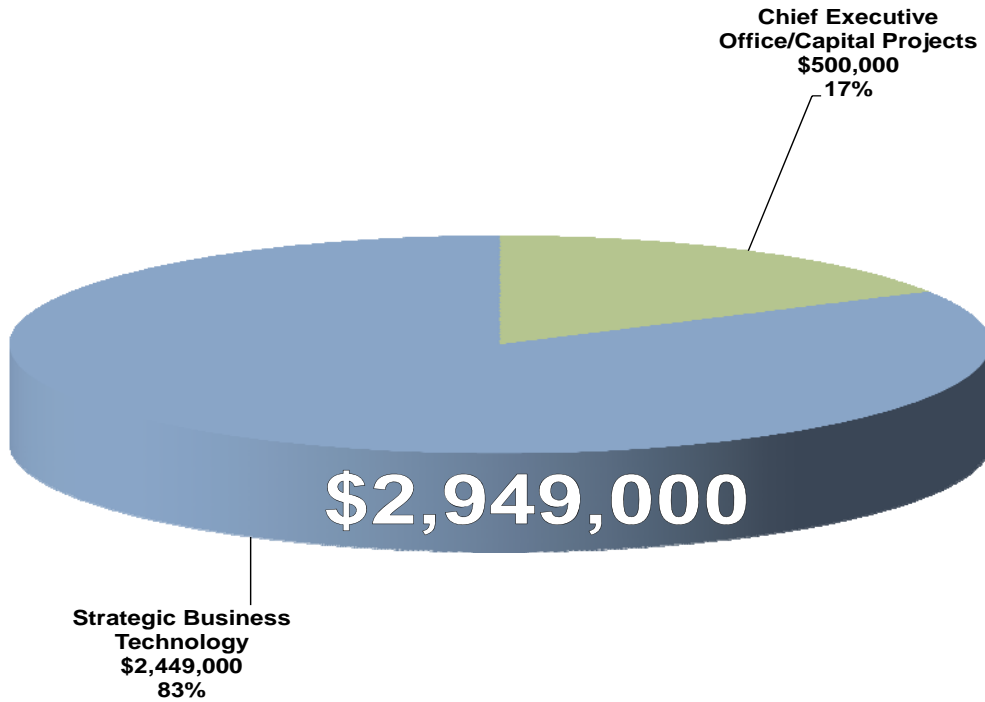
## SUMMARY OF PROJECT COSTS AND FUNDING SOURCES

The Final Capital Improvement Plan reflects overall estimated project costs of $2,949,000 for this priority area. It is anticipated that these projects will be funded by a combination of the County General Fund, Public Facilities Fees (PFF), department fund balance/retained earnings savings, bond/borrowing, State/Federal Funding, grants, and non-County contributions. Funding has not yet been identified for some projects.

The following charts represent estimated project costs by department for Fiscal Year 2012-2013 and a five year comparison of project costs in the Efficient Delivery of Public Services priority area of Stanislaus County government.
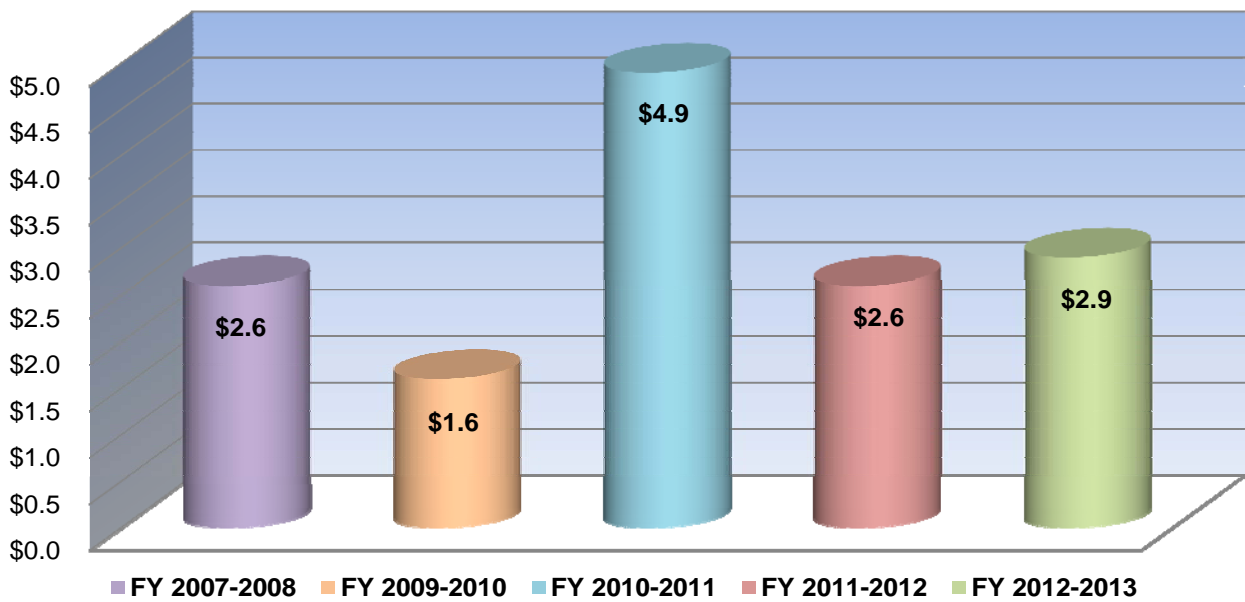
The section behind the charts lists those Capital Improvement Plan projects that support the Board of Supervisors' priority of Efficient Delivery of Public Services based on the lead department assigned to each project. A summary of the projects by department is followed by a detailed listing of the individual project information, provided in implementation category order.

# EFFICIENT DELIVERY OF PUBLIC SERVICES

**Chief Executive Office/Capital Projects $500,000 17%**

**$2,949,000**

**Strategic Business Technology $2,449,000 83%**

## Five Year Comparison

$5.0
$4.5
$4.0
$3.5
$3.0
$2.5
$2.0
$1.5
$1.0
$0.5
$0.0

**$4.9**

**$2.6**

**$1.6**

**$2.6**

**$2.9**

■ FY 2007-2008　■ FY 2009-2010　■ FY 2010-2011　■ FY 2011-2012　■ FY 2012-2013

**In Millions/Excludes D Projects**

| | | | 2012-2013 Total Estimated Project Cost | 2012-2013 Total County Funding | 2012-2013 Funding Not Yet Identified |
|---|---|---|---|---|---|
| **CHIEF EXECUTIVE OFFICE/CAPITAL PROJECTS** | | | **$500,000** | **$500,000** | **$0** |
| A | 2011.031 | ADA Accessibility Evaluation and Improvements | $500,000 | $500,000 | $0 |
| | | | | | |
| **STRATEGIC BUSINESS TECHNOLOGY** | | | **$2,449,000** | **$2,029,000** | **$420,000** |
| Status | CIP # | Project Name | | | |
| A | 2008.047 | Server Room Improvements | $1,799,000 | $1,799,000 | $0 |
| C | 2007.002 | Information Technology Business Continuity | $650,000 | $230,000 | $420,000 |
| | | **GRAND TOTAL** | **$2,949,000** | **$2,529,000** | **$420,000** |

# ADA ACCESSIBILITY EVALUATION AND STUDY

**CIP Category:** A—APPROVED/FUNDED
**Board Priority:** Efficient Delivery of Public Services
**Location:** Modesto
**Lead Department:** Chief Executive Office
**Project Number:** 2011.031
**Preliminary Schedule:** 2011-2013
**Estimated Project Cost:** **$500,000**
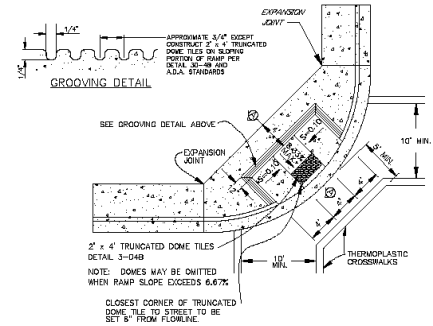


## DESCRIPTION

Conduct an analysis of County facilities and infrastructure to identify and determine priorities for improvements to meet the requirements for the Americans with Disabilities Act (ADA) for accessibility.

| ESTIMATED PROJECT COSTS | | FUNDING SOURCES | |
|---|---|---|---|
| Preliminary | $ 500,000 | | |
| Design | $ - | | |
| Acquisition | $ - | | |
| Construction | $ - | | |
| Other | $ - | **Total County Funding** | $ 500,000 |
| | | State/Federal Funding | $ - |
| | | Other--Grants | $ - |
| | | **Total Other Funding** | $ - |
| | | **Non-County Contribution** | $ - |
| **Total Estimated Project Cost** | $ 500,000 | **Total Project Funding** | $ 500,000 |
| | | Funding Not Yet Identified | $ - |

## BACKGROUND

Study was completed in late 2012.

## CURRENT STATUS

This project is pending implementation.

## IMPACT ON THE OPERATING BUDGET

There are no anticipated additional debt service payments, staffing, maintenance and/or operating costs associated with this project at this time. This study will determine the needs, cost and priorities for all ADA-related projects.

## SERVER ROOM IMPROVEMENTS

| | |
|---|---|
| **CIP Category:** | **A—APPROVED/FUNDED** |
| **Board Priority:** | Efficient Delivery of Public Services |
| **Lead Department:** | Strategic Business Technology |
| **Location:** | Modesto |
| **Project Number:** | 2008.047 |
| **Preliminary Schedule:** | 2008-2012 |
| **Estimated Project Cost:** | **$1,799,000** |

### DESCRIPTION

The Strategic Business Technology (SBT) data center houses over one hundred and forty-five (145) servers, one hundred and seven (107) are physical servers and thirty-eight are virtual servers. Many of these servers are responsible for providing critical business services. This project would implement operational, safety and business continuity improvements. It would also expand the available space.

| ESTIMATED PROJECT COSTS | | FUNDING SOURCES | |
|---|---|---|---|
| Preliminary | $ - | | |
| Design | $ 166,280 | | |
| Acquisition | $ - | | |
| Construction | $ 898,859 | | |
| Other | $ 733,861 | **Total County Funding** | $ 1,799,000 |
| | | State/Federal Funding | $ - |
| | | Other--Grants | $ - |
| | | **Total Other Funding** | |
| | | **Non-County Contribution** | $ - |
| **Total Estimated Project Cost** | $ 1,799,000 | **Total Project Funding** | $ 1,799,000 |
| | | Funding Not Yet Identified | $ - |

### BACKGROUND

The initial intent of this project was to upgrade the SBT Data Center located at 801 11th Street, Suite 4100. This has been included as part of SBT's budget request for a number of years as a critical need. The request initially covered uninterruptible power supply (UPS) and dry agent fire suppression system. The needs are greater at this point and include increase square footage, HVAC, auxiliary power supply and electrical requirements.

### CURRENT STATUS

This project is currently under construction.

On March 20, 2012 the Board of Supervisors approved the redesign plans and specifications for the Strategic Business Technology Data Center server room improvements at 3705 Oakdale Road and authorized the Project Manager to issues notice inviting bids for the construction portion of the project.

The objectives for the Strategic Business Technology Server Room Relocation Project are to ensure that the data center and server room functions are protected and to ensure business continuity in time of an emergency. At completion, the total project budget was originally estimated to be $1.79 million funded as follows: $889,342 Fund Balance from the Strategic Business Technology Department; $131,000 from the

Chief Executive Office Plant Acquisition budget; $231,000 from the Criminal Justice Facilities fund, and $547,627 from Public Facilities Fees.

On January 31, 2012, the Board of Supervisors approved to reject all bids received for Bid Package 1 for the construction of the Strategic Business Technology Data Center server room improvements at 3705 Oakdale Road, and Bid Package 2 for the data center management system component items to furnish and equip the server room. Overall, the lowest bids for both the tenant improvement work and the equipment were $84,989 over budget, not including the additive bid alternates.

At that time, the Board of Supervisors directed the Project Manager working in collaboration with the Project Engineer to redesign the project, and directed staff to return to the Board for approval of the redesigned project, and any funding recommendations that may be required to proceed with the project. Given the costs received at bid and the critical requirements for working in the Regional 911 Center, staff advised the Board some additional funding could be required to implement the project if necessary. The Board of Supervisors also authorized the Project Manager to issue Request for Proposals (RFP) for the direct purchase by the County of the back-up generator package; and to issue a RFP for the direct purchase by the County of the data center infrastructure management system component package.

Staff recommended re-bidding the equipment packages separate from the construction to achieve overall project savings.

Since that time, the Project Engineer worked with staff to redesign the project  The redesign of the server room recommends a structure that is self-contained with its' own cooling system, electrical systems, environmental remote monitoring, fire suppression, and uninterrupted power supply. The redesign recommends replacing the existing back up emergency generator with a more powerful and efficient back-up emergency generator that will provide power to both SR911 and the SBT Data Center. A back-up generator will minimize any chance of disruption, it will allow business to function in the midst of a power failure, power will be provided to HVAC, and will ensure continued operations for missions critical systems. The project also recommends installation of a second back-up dry fire suppression tank for increased reliability, and ADA upgrades to the parking lot to meet Americans with Disability Act (ADA) requirements.

On January 12, 2010, the Board of Supervisors approved to award a contract for the design and scoping phase for the Strategic Business Technology Data Center improvements to Miller-Pezzoni and Associates, Inc. of Modesto, California Since that time, the project team has worked with Miller-Pezzoni and Associates, Inc. to determine placement of the County Data Center on the fourth floor at 801 11th Street and to identify the requirements and components for construction.

However, as scoping efforts continued, it was determined that 801 11th Street location had several additional challenges including the following:

♦ Locations initially considered viable for the backup generator placement proved challenging due to space limitations, noise, fumes, or proximity to existing structures;
♦ Additional electrical service would be required, which would necessitate the installation of a new electrical service;
♦ The load-bearing capacity of the floor became a major concern. The density of the equipment slated to be deployed in the new data center would increase the amount of load on the building and would exceed the capacity of the current structure; and
♦ Inadequate space exists on the roof for the requisite air conditioning units to support the new data center, which would require compromises in design.

As a result of these unanticipated findings, the project team reconvened to further evaluate the best location for the County Data Center. Due to changes in availability of space at 3705 Oakdale Road, Modesto, the project team added this location as a consideration.

Focusing on the County-owned facilities, the project team rated the risk at each location for three functional categories:

1) Primary Project Goals –

      ♦ Fire mitigation – installation of a dry agent fire suppression system;

- Improved heating, ventilation, and air conditioning (HVAC) system to reduce overheating of equipment;
- Connectivity to the County network via high-speed fiber optic cable, either County-owned or already-installed leased fiber available under existing carrier agreements; and
- Adequate electrical supply without major improvements and adequate space to install an emergency backup generator.

2) Security and Disaster Concerns –

- Economic life of the building – County owned verses leased, is there a long term plan to sell a facility, etc.;
- Flooding, either natural or building related (e.g. overhead piping, restrooms, etc.);
- Earthquake impact; and
- General security measures, including controlled access to the site and data center, security cameras, what other services are provided at that location, hours of service and occupancy, etc.

3) Project and other Operational Concerns –

- Availability of adequate bandwidth to serve the County Fiber Optic Network and to provide redundancy.
- Changes in technology, such as virtualization that reduces the number of servers and space that might be needed, opportunities for external hosting that are reliable and available, and fiscal challenges.
- Collaboration opportunities.
- Structural limitations, such as load bearing capacity, expansion capabilities, ability to get equipment/materials into the location, disruption to existing operations during construction, etc.

After the additional in-depth review and analysis, the project team found the 3705 Oakdale Road, Modesto location to be best suited for the construction of a new, more reliable, and efficient County Data Center. Concern was expressed at the initial analysis of the 3705 Oakdale Road location due to the ability to efficiently and inexpensively transmit data between the main County telecommunications network and the proposed Server Room site; however, these concerns were mitigated by the availability of a redundant, existing fibre optic link. Given the elimination of the data communication infrastructure issue, several key benefits to this 3705 Oakdale Road site were identified:

- It is a Public Safety building with substantial physical security features already in place and constructed as an "essential services" type building per the California Health and Safety Code, Chapter 2, Sections 16000-16022;
- It is a single-story building that does not present the same construction challenges as a multi-floored structure for structural engineering purposes;
- Space requirements for both HVAC and a generator are not limited at the 3705 Oakdale Road site as they are at the 801 11<sup>th</sup> Street location;
- The economic life of the building was projected to be superior to other locations studied;
- It is connected to the County's leased fiber optic network with redundant connectivity using different pathways; and
- It provides collaboration opportunities allowing current data center at 3705 to leverage some of the upgrades that will be put into place. The SR911 computer equipment room can be incorporated into the same protective environment with the new Server Room. The cost of providing added protection to the existing computer facility will be offset by reduction in costs for added structural reinforcement, backup generator siting, reduced space requirements for the Server Room.

Improvements at the 3705 Oakdale Road, Modesto, facility would support a greater level of safety and availability of critical IT systems housed at the Data Center location. Business Continuity and Disaster Recovery have been in the forefront of all planning related to the SBT Data Center project. With any Disaster Recovery and Business Continuity Plan, redundancy of systems and data is a key.

The proposed use of a small area of the SR911 technical staff work area will be converted for use by the SBT Server Room. The existing technical staff workstations will be relocated internally within 3705 Oakdale Road using existing vacant office space.

The existing Server Room at 801 11$^{th}$ Street will remain in place, but will not require additional space to meet a heavier structural load on the 4$^{th}$ floor.  The resulting space savings will provide the ability to condense office space on the fourth floor if the security and circulation of the floor is reconfigured at a future time for a future additional tenant use.

SBT, in partnership with Capital Projects, will continue in Budget Year 2011-2012 to bring these business continuity improvements to fruition.

On April 19, 2011, the Capital Projects Team will return to the Board of Supervisors with a board item requesting them approve a change in the location of the placement of the Strategic Business Technology Data Center from 801 11$^{th}$ Street, Modesto, California to 3705 Oakdale Road, Modesto, California  Strategic Business Technology Data Center improvements.

**IMPACT ON THE OPERATING BUDGET**

The project constructed would net a total of approximately 750-978 square feet of new space. Ongoing increase in janitorial, ground services, calculated at $3.40 per square foot, total $3,325/year. Ongoing increases in utilities were calculated at $3.28 per square foot and additional cost added for power to run the data center, total $27,000.

There is the potential for additional on-going cost for network recurring cost to provide connectivity in the amount of approximately $20,000/year. Staff is currently working on a number of possible solutions that would reduce or eliminate the additional connectivity cost.

The department does not anticipate additional staffing needs.

## INFORMATION TECHNOLOGY BUSINESS CONTINUITY

| | |
|---|---|
| **CIP Category:** | **C—FUTURE PROJECT/PLANNED** |
| **Board Priority:** | Efficient Delivery of Public Services |
| **Lead Department:** | Strategic Business Technology |
| **Location:** | Countywide |
| **Project Number:** | 2007.002 |
| **Preliminary Schedule:** | 2008-2010 |
| **Estimated Project Cost:** | **$650,000** |



### DESCRIPTION

Develop a Countywide IT Business Continuity Plan and implement specific IT infrastructure improvements necessary to create a robust environment to support IT operations that can survive disruption at any critical location.

| ESTIMATED PROJECT COSTS | | FUNDING SOURCES | |
|---|---|---|---|
| Preliminary | $ 25,000 | | |
| Design | $ - | | |
| Acquisition | $ 400,000 | | |
| Construction | $ - | | |
| Implementation/Configuration/Testing | $ 225,000 | **Total County Funding** | $ 230,000 |
| | | State/Federal Funding | $ - |
| | | Other--Grants | $ - |
| | | **Total Other Funding** | $ - |
| | | **Non-County Contribution** | $ - |
| **Total Estimated Project Cost** | $ 650,000 | **Total Project Funding** | $ 230,000 |
| | | Funding Not Yet Identified | $ 420,000 |

### BACKGROUND

This project is included in the County's Business Technology Strategy adopted by the Board of Supervisors on September 11, 2007.

County business processes have become ever more dependent upon information technology systems. Every IT system should have some process for data recovery from a critical failure as part of a Business Continuity Plan. Frequently, this takes the form of data backup to some storage medium. Traditionally this is executed via a tape-based system. Some IT systems, like SBT's, which provide a variety of mission critical business functions, require more robust failover systems and plans to ensure that data is not lost forever.

An enterprise shared storage system is very efficient and robust with full redundancy in controllers, drives, power supplies, connectivity, and provides multiple security levels for data protection and a high level of performance. Since 2004, Strategic Business Technology (SBT) has been using a fiber channel shared storage for mission critical systems such as the primary cluster file system, Oracle Financial Management System, PeopleSoft Human Resource Management System databases, StanCERA System, Revenue Recovery Collection System, other databases, GroupWise email post offices, and virtualization infrastructure.

Shared storage allows SBT to make data readily available and greatly improves operational efficiency. However, with the expansion of technology and increased use of software applications and databases, the SBT shared storage system has been at capacity for the past two (2) years.  The lack of shared storage space has required SBT to use the local storage on physical servers.  If one of these servers goes down, it will take hours or even days to move the data/applications to another system.  County staff could have significant downtime in the case of server failure, regular maintenance period, or server replacement.  In order to minimize County staff downtime, SBT currently schedules regular maintenance or server replacement after hours.

The critical delivery and security of electronic information mandates that County departments be efficient and effective when delivering these services.  The County has been strategically approaching content and document management from an integrated, enterprise approach.  An Electronic Data Management (EDM) solution provides significant document management capability, allowing more efficient management, flow, and storage of vast amounts of required paper records.  For an EDM solution to be effective, a County infrastructure must provide scanning options, document management, search and retrieval functionality, secure and redundant storage methods and a robust network.

The increase in utilization of EDM continues to grow rapidly because it can greatly reduce the requirements of paper storage, decrease the time required to produce and share records and ensure compliance with federal and state records regulations.  Because the shared storage system has been at capacity for over two (2) years, the EDM documents are currently stored on the local storage of a physical server.  Once this server local storage is full, no additional documents can be stored.

In order to ensure business continuity of mission critical systems and data, improve the County's ability to recover from a disaster, allow for continued growth and use of technology resources, make daily operations more efficient, and reduce the risk of lost data or County staff time, SBT has identified a critical need to expand or replace the existing fiber channel shared storage system.

## CURRENT STATUS

**During Fiscal Year 2011-2012 completed the following as it relates to Business Continuity:**

♦ Completed the Implementation of the new Fiber Channel Shared Storage System Solution SAN storage system;

♦ Moved all VM's into cluster for ability to quickly move to any one of the 8 nodes in event of hardware failure.  Also makes upgrading to newer versions of VMware much easier by being able to move virtual machines from one node to another in the cluster, while up and running, with no service outage;

♦ Moved ESX5 server containing Oracle FMS databases from old SAN storage system at CSA to SBT connected to new SAN storage system for better fault tolerance and recovery;

♦ Upgraded Commvault 8 to Commvault version 9 to take advantage of new VMware backup capabilities for improved disaster recovery procedures;

♦ Migrated Commvault GALAXY server to VM from aging hardware to improve fault tolerance and recovery procedures;

♦ Migrated managed departments off nearing end of life NetWare network operating system to latest Windows file and print servers;

♦ Strategically placed virtual machine Windows domain controllers in 4 separate data centers within the County to provide a level of regional fault tolerance to our Active Directory;

♦ Created two new Linux virtual machines to host eDirectory partitions and replicas for fault tolerance of eDirectory.  Move eDirectory off old hardware in addition to end of life NetWare operating system.  Each server resides in different regional location to provide additional fault tolerance;

♦ Migrated several servers off old hardware platforms to virtual platform in SBT's VMware cluster;

♦ Implemented new VMware server at ALT-EOC to strengthen capabilities during EOC activation; and

♦ Implemented Windows DFS between primary EOC and alt-EOC. This mirrors critical files to both sites in case of loss of use at primary or alt EOC locations.

On March 15, 2011, Strategic Business Technology received approval from the Board of Supervisors to issue a request for proposal for the Fiber Channel Shared Storage System Solution.

Proposals for the storage solution have been received, reviewed and scored. In July 2011, Strategic Business Technology will return to the Board of Supervisors to award a contract for the purchase and implementation of the storage system solution.

Shared storage systems provide the following benefits over local storage in an enterprise data center:

♦ Data safeguards with fully redundant controllers, disks, and power supplies;
♦ Increased performance and flexibility due to the amount of hard disks running together in a redundant array of independent disks;
♦ Very easy to expand capacity;
♦ More efficient disk space utilization. Storage is kept in pools which allow the exact amount of space to be allocated directly to the servers that need it. Local servers may have lots of extra disk space that is not in use, but there is no way to re-allocate that space to another server;
♦ Allows for high availability server services such as clustering;
♦ Can be mirrored to another like storage system in an off-site location for real time backup and redundancy;
♦ Can optimize performance for the specific tasks the server will need to perform;
♦ Faster, centralized backup to tape;
♦ Provides TIER 1 level up time (99.999% storage availability to servers);
♦ Reduced power consumption as compared to local storage; and
♦ Provides flexibility and time savings when servers are upgraded.

The shared storage system is of great use not only for server failures or problems, but during regular maintenance periods when servers need to be upgraded/patched or a server needs to be physically replaced because it is at the end-of-life. Patches are updated every two (2) weeks and application and operating system upgrades performed 2-3 times per year on one hundred-eighty (180) servers. At this time, there are up to one hundred and ten (110) servers that are not part of the existing shared storage system.

Infrastructure staff time utilization would be extremely more efficient if all of the servers were on the shared storage system. Although server failure is rare (maybe a couple of times in the past five years), the County's exposure to risk and data loss increase as the number of servers, applications and databases continue to grow.

**Shared Storage System Solution**

SBT has researched and assessed a large variety of storage platforms from low end stand alone configurations to high end enterprise systems. With the substantial investment already made to virtualization and the significant shared storage space requirements, SBT has established the best option would be an enterprise level, fiber channel capable shared storage system. A fiber channel storage system will provide consistent performance and reliability, while allowing capacity expansion options to meet the County's future needs. Also, SBT has engineers trained in fiber channel storage system management and has been managing this type of environment for over six (6) years.

**IMPACT ON THE OPERATING BUDGET**

SBT has $200,000 designated in fund balance for the SAN storage solution project. The project proposals includes three years of annual maintenance and support cost; operating cost will increase year four in the amount of approximately $8,000. The department does not anticipate additional staffing needs.

Additional Virtual Servers were purchased to complete the projects designated for Fiscal Year 2011-2012 are designated in fund balance to cover the additional hardware in the amount of $30,000.

# EFFICIENT DELIVERY
# OF PUBLIC SERVICES
## Future Projects--Pending Analysis

| CHIEF EXECUTIVE OFFICE | | 2 PROJECTS |
|---|---|---|

| Status | CIP # | Project Name |
|---|---|---|
| D | 2011.028 | Finch Road Cleanup |
| D | 2011.030 | Arc Flash Study-Countywide |

| CLERK RECORDER | | 1 PROJECTS |
|---|---|---|

| Status | CIP # | Project Name |
|---|---|---|
| D | 2012.021 | 1021 "I" Street Building Renovations |

| GRAND TOTAL D PROJECTS | | 4 PROJECTS |
|---|---|---|