LACK OF TECHNOLOGY VISION COSTS COUNTY $$$

Summary

In the course of its introductory tours of various departments in Santa Clara County (County) at the beginning of its term, the 2006-2007 Santa Clara County Civil Grand Jury heard on several occasions that departmental computer systems were inadequate and that information technology (IT) support was unresponsive. Of particular interest were concerns raised about disaster readiness in regard to technology issues. The Grand Jury became interested in how IT is managed and funded in the County and how it services its customers.

The Grand Jury found that there is a lack of vision for IT in the County to improve productivity, reduce operational inefficiencies, and reduce costs. The Grand Jury was shown reports that studied how IT infrastructure and applications are used throughout County departments and that outlined a strategy for the County to improve services and reduce cost. The first step in implementing this strategy was consolidation of network servers and services. These recommendations would save the County $6.7 million over the first five years of implementation and $2 million annually thereafter. This project was never approved by County management. County priorities for IT spending revolve around short-term savings rather than long-term gains.

A key reason for this disparity is that IT spending in the County is widely dispersed and control is spread among thirty-five different departments. The Chief Information Officer (CIO) for the County directly controls only 20 percent of General Fund IT spending of $87.4 million. Currently, the CIO is tasked with reviewing and recommending projects for funding but has no control over most project management. The CIO has the authority to establish long-term strategic IT objectives but no authority to implement them. County management has failed to mandate implementation of that vision.

The Grand Jury acknowledges the difficulty of adopting a new paradigm to choose IT as a tool to improve County services. However, to get started the Grand Jury recommends the following actions:

- Adopt the basic principles of the 2003 Gartner, Inc. *Information Systems Strategic Plan* as the County's road map to improve services and save money;
- Mandate the Information Systems Strategic Plan as the official IT strategic policy for the County;
- Consolidate email services, directory services, and file-print services to save $6.7 million over the next five years as the first step in implementing the strategic plan;

- Select IT projects for funding based on their effectiveness in achieving strategic goals; and
- Consolidate control of IT spending and project management under the CIO.

Background

The Grand Jury visited many agencies and departments at the beginning of its fiscal year term to become familiar with the workings of County government. During these visits, the Grand Jury noted common problems including outdated computer systems, voluminous paper file systems, and departments with similar functions that have computer systems that do not share information. Feedback from these departments encouraged the Grand Jury to study how IT strategy and spending was managed at the County level to determine reasons for these perceived deficiencies.

The Grand Jury interviewed senior County officials and a member of the County Board of Supervisors (BOS) to develop an understanding of IT infrastructure and project development. The Grand Jury learned about the mechanics of IT operations, including the review and approval process for projects, budget control issues, project management issues, and how state and federal mandates control aspects of certain applications. Common themes that emerged from these interviews demonstrate that County management underutilizes IT as an important resource for improving County service delivery at a lower cost. Weaknesses include a short-term dollar-driven mindset about project funding, lack of strong central control of project management and spending, and lack of a long-range strategic vision of IT in support of County goals.

Discussion

The County Chief Information Officer commissioned a series of studies from January 2002 through April 2005 costing $1.3 million. A report on global IT architecture, *The County of Santa Clara Information Systems Strategic Plan Project* (ISSP), was completed by Gartner, Inc. in April 2003. The study drew on expertise from thirty-seven County departments plus input from County Supervisors and management to describe County business goals and impediments to achieving them. This report, presented to the BOS, proposed a new concept to use IT as a tool for improving County services. The focus of the new design was described as follows:

> At present, almost all computer applications of the County are designed and utilized as production systems to aid in the day-to-day work of delivering County services. With leadership from the Office of the CIO, the County recognized its need for applications aimed at improving County decision-making by collecting, compiling and analyzing data from operational systems.

The ISSP proposed a comprehensive technology architecture that addressed service delivery, data collection and storage, security and access, and a decision support system feedback mechanism to evaluate the effectiveness of public service

delivery. From concept to implementation, the study was a complete road map to successfully overcome redundancy and inefficiency in the County IT world. In December 2003, BOS approved, in concept, the report "…and direct[ed] staff to establish a priority for the Plan's projects and processes based on achieving cost savings and focus on those projects and processes."

There were two studies that followed that cost nearly $300,000 combined, prepared by Intel Solution Services in April 2004 and by Ciber, Inc. in March 2005. These studies proposed consolidating network servers in use throughout the County for email services, directory services, and file-print sharing services as a major first step in laying the foundation for future strategic goals outlined in the ISSP. The studies detailed hardware, software, and personnel savings of $6.7 to $8.8 million over a five year period with ongoing savings of $2 million per year after the implementation was completed. This project encountered resistance from departments and lack of support from management and was never begun. Thus, substantial savings from an IT strategic goal were never realized.

The County has a process for funding IT projects. Departments decide their own IT application needs. These projects are discussed with the Information Technology Governance Council (ITGC) for technical feasibility. If the total cost of the project is over $100,000, a Business Case document is required that describes the purpose of the project, the proposed solution, alternatives considered, risk factors, and cost/benefit analysis. These plans are then presented to the Information Technology Executive Committee (ITEC) for review. ITEC, which is chaired by the CIO, recommends and prioritizes projects for funding. It is important to note that priorities are set, not by the goals of a strategic plan, but by criteria established by the BOS, specifically:

1. Projects that identify actual cost savings or revenue generation;
2. Projects that are mid-way through implementation that have shown substantial progress;
3. Projects that have been mandated and/or address IT Security vulnerabilities that place the County data, systems and networks at risk;
4. Projects where the vendors have given notice that the application or system will no longer be supported;
5. Projects replacing infrastructure based on the County's IT Replacement Policy criteria or older equipment, also including equipment that have safety or security issues;
6. Projects covering Disaster Recovery requirements; and
7. Projects that demonstrate productivity and operational efficiencies.

The ISSP and server consolidation studies presented the County with a strategy to improve services and reduce costs, yet the plan was largely ignored in favor of priorities that emphasize short-term cost savings. The first six selection priorities

identify tactical necessities; only the last priority, which captures all the projects left over when funding is gone, suggests strategic objectives. Some infrastructure projects that are being funded based on these tactical objectives are in line with the goals of the server consolidation project. For example, file-print server and email server consolidation is happening in some of the smaller departments that are in the same reporting area as Information Services Department (ISD); however, larger departments, such as Social Services Agency and Health and Hospital Systems, continue to manage, maintain, and expand their own server systems while controlling about 41 percent, $35.6 million, of total General Fund IT spending.

County officials described the impediments to the ISSP as data security issues, data privacy issues, and state and federal regulations. Data security and privacy issues have been overcome in commercial banking, investment, health care, and government systems. These are technical problems that, while significant, have solutions. State programs, notably CalWIN, which deals with public assistance funding, are mostly isolated to the County Social Services Agency and should be excluded from a County IT plan. The Grand Jury found that there are two more relevant issues that prevent implementing a countywide IT strategy.

The first problem that became apparent to the Grand Jury is the scope of budget control. Authority, approval, and management of IT projects are very dispersed, which makes efficiencies and savings through consolidation of infrastructure and management unachievable. The Budget Office provided a summary by department of budgeted IT expenditures from the County's General Fund for Fiscal Year 2006-2007. Of all IT spending on services, hardware, and software countywide, ISD controls $7.4 million of $33.0 million (22 percent). Of IT employee salaries countywide, ISD controls $4.4 million of $54.4 million (8 percent). The CIO directs and manages ISD, which is charged with planning, installing, and maintaining the County technology infrastructure, maintaining certain mainframe and enterprise applications, and assisting departments implement their own technology plans. Assigned with these key responsibilities for setting the direction of IT, the CIO controls only about 20 percent of General Fund technology spending throughout the County. This limited control contributes to the confusion over the role of the CIO, which was validated by the Gartner study.

The second problem in implementing a countywide IT strategy is that individual departments have issues with giving up control over their IT environment. During difficult financial times when budgets are being reduced, departments are required to perform the same services with fewer resources and therefore are very reluctant to sacrifice staff positions. In many of the smaller departments, IT functions take only a portion of one staff position, so losing that function might mean losing a full staff position. Also, departments do not want to be held accountable for administering a program or service if they do not have the authority to control the infrastructure necessary to provide that service. Finally, departments do not want to feel dependent on a centralized data processing center where their needs are subject to someone else's priorities. However, the County ISSP cannot be implemented if peer level departments are tasked with consolidating their own redundant, inefficient, and costly

applications. A broader view is needed to identify inefficiencies, both in the hardware infrastructure and in the collection and management of information.

In April 2007, the Office of the County Executive produced an updated Information Technology Three-Year Plan, the most comprehensive inventory to date of countywide IT projects planned for the next three years. Review of the plan finds overlapping projects across departments that have different implementation schedules. This illustrates the problem of vesting control of project planning at an inappropriate management level. Common projects with common goals should be consolidated and planned at a level appropriate to the span of control of the project. This exercise of evaluating projects in the three-year plan was described as "connecting the dots" and represents a major step in developing a strategy document. The Gartner study represents a grand plan whose principles and goals are accepted by some County decision makers. Planners need this target to judge how to "connect the dots" in order to turn tactical plans into effective strategic goals.

The Grand Jury uses server consolidation as an example of a strategic goal representing a major shift in authority and control of County IT resources. Of the entire ISSP, this is the first and only cost/benefit study issued, so it is the only area in which we can evaluate the service improvements and financial advantages of a change in County IT policy. The server consolidation studies describe many technical advantages achieved through reduction in overall hardware costs, improved security, and flexibility in administration of the County network. Equally important are service improvements that could result. Perhaps most important are countywide disaster preparedness improvements. Presently, departments must manage their own disaster planning, including data backup, security, and testing. With centralized servers, planning, backup, testing, and replication to data centers outside of the Santa Clara Valley could be greatly simplified. The studies also detail cost savings from personnel reorganization and consolidation, and, most importantly, from reducing the number of servers needed and the complexity of the network to run them. At the time of the Intel Solution Services report in April 2004, 30 percent of the 837 total servers in the County were used for email, directory services, and file-printer sharing. The consolidation project would reduce these servers from 250 to 115.

During the first two years of implementation, additional startup costs would be needed over the current budget, specifically in the areas of email server consolidation and ISD server virtualization. Directory servers and file-print server costs show savings even in the first years of implementation. In the first year, overall costs for the project, as estimated at the time of the study in 2004, would require $148,000 in additional funding. The recommended IT project funding for Fiscal Year 2007-2008 is $7.4 million. Nearly $1.3 million in spending on infrastructure replacement comes from ISD's own funds. Rescheduling some of the planned projects to future years to fund the first year of server consolidation would free almost $900,000 in the second year alone.

Conclusion

ISD has spent considerable time, effort, and money since 2002 developing a high-level technology strategy to address County business goals. However, it has not produced a convincing plan to County management that emphasizes the importance of IT in achieving those goals. County officials understand the benefits of reducing costs and improving service through the use of technology. What is lacking is a statement of specific, achievable objectives both financially and functionally justified, and the determination to overcome departmental resistance to major operational change.

The Grand Jury does not believe that such significant efforts as reconfiguring large numbers of file servers and consolidating directory services is a trivial undertaking. Other recommendations in the Gartner study regarding more integrated collection, storage, and analysis of data throughout all County agencies and departments are even more daunting. Despite the apparent magnitude of these challenges, cost savings can be significant as evidenced by just the first step of server consolidation. Administration of the countywide network would be much more manageable, disaster readiness would be more achievable, and security of the network as a whole and for users individually would be more controllable.

A well-structured strategic plan, consolidation of spending and management control, and strong leadership are all necessary for the County to improve its use of technology as a means to more effective, efficient, and economical IT operations and service delivery.

Findings

The following findings were reviewed with the subject agencies:

F1: There is no statement of strategic technology objectives for the County.

F2: No one in the County has championed the idea that IT is an area where a long-range vision could provide significant savings and improve service to the public.

F3: The County spent $1.3 million on studies that identified a strategy to make IT more efficient and effective. The County has not adopted this strategy. Specifically, $6.7 million to $8.8 million could be saved over the next five years in server consolidation projects with minimal additional spending. Ongoing savings in this area alone are estimated at $2 million annually.

F4: Spending on technology projects addresses short-term tactical needs rather than a fundamental change toward a centralized architecture.

F5: The authority of the CIO is not understood or recognized throughout County agencies. As a result, departments control 80 percent of General Fund IT spending, allowing them to make choices that solve immediate, local problems, but do not necessarily take into account a collective benefit to the County.

Recommendations

The 2006-2007 Civil Grand Jury recommends that the Santa Clara County Board of Supervisors take the following actions:

R1(a): Adopt the basic principles of the 2003 Gartner, Inc. study as the County's Information Systems Strategic Plan.

R1(b): Implement the 2003 Gartner, Inc. design to reduce infrastructure problems, make departmental systems more efficient, and improve County management of its services to the public.

R1(c): Prepare and update annually a County IT strategic objectives document as recommended in the study.

R2: Mandate the ISSP as the official IT strategic policy of Santa Clara County. The BOS must assume leadership in endorsing this significant change of direction in IT decision making.

R3: Consolidate email services, directory services, and file-print services as recommended in the two server consolidation studies. Identify $150,000 in infrastructure replacement projects planned in the Fiscal Year 2007-2008 IT budget that can be deferred or included as part of server consolidation as the source of funds needed for the first year of the implementation plan.

R4: Revise IT project funding priority criteria to emphasize those projects which help achieve stated strategic objectives.

R5: Formally establish the role of the CIO as having responsibility for all countywide IT functions. As a first step, consolidate control of all IT spending and project management under the CIO.

Bibliography

Ciber, Inc. *Final Report for County Server Consolidation Project (Phase II), Directory, Email, and File & Print Services, Version 3.0,* March 28, 2005.

Ciber, Inc. *ISD Virtualization Design Using VMware, Version 1.0,* March 28, 2005.

County of Santa Clara, Board of Supervisors. *Summary of Proceedings, Agenda Item 24a, "Consider report from Information Services Department on Strategic Plan Executive Summary and 2003−2004 through 2005−2006 Three−Year Information Technology Plan for the County of Santa Clara,"* December 16, 2003.

County of Santa Clara, Office of the Chief Information Officer. *Consider the Staff Recommendation on the FY2007 Information Technology Projects Funding Recommendations,* April 6, 2006.

County of Santa Clara, Office of the Chief Information Officer. *Consider the Staff Recommendation on the FY2008 Information Technology Projects Funding Recommendations,* April 19, 2007.

County of Santa Clara, Office of the County Executive. *3-Year Information Technology Plan, Fiscal Year 2006 to 2008,* May 2005.

County of Santa Clara, Office of the County Executive. *Information Technology Three-Year Plan, Fiscal Year 2008 - 2010,* June 2007.

County of Santa Clara, County Executive's Office of Budget and Analysis. *Information on Information Technology Expenditures,* January 18, 2007.

Gartner, Inc. *The County of Santa Clara Information Systems Strategic Plan Project,* April 2003.

Intel Solution Services. *Santa Clara County Server Consolidation Assessment, Cost/Benefit Analysis and Recommendations,* April 23, 2004.

Interviews

October 6, 2006	Interviewed Senior County Official.
October 27, 2006	Interviewed Member of Santa Clara County Board of Supervisors.
November 1, 2006	Interviewed Senior Information Services Department Official.
November 3, 2006	Interviewed Senior County Official.
December 21, 2006	Interviewed Senior Information Services Department Official.
April 4, 2007	Interviewed Senior Information Services Department Official.
May 9, 2007	Interviewed Senior County Official. Interviewed Member of Santa Clara County Board of Supervisors.
May 11, 2007	Interviewed Senior County Official.

PASSED and **ADOPTED** by the Santa Clara County Civil Grand Jury on this 5th day of June 2007.

Ronald R. Layman
Foreperson

David M. Burnham
Foreperson Pro tem

Kathryn C. Philp
Secretary