



ACQUISITION AND DEPLOYMENT OF INFORMATION TECHNOLOGY RESOURCES BY THE COUNTY OF SAN MATEO

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ISSUE

Information technology has been the most transformative and, in many ways, the most disruptive influence on private and public sector processes and operations over the recent four decades. Forty years ago, mainframe computers produced periodically updated listings and statuses of orders, sales, inventories, revenues, expenditures, and cash receipts and disbursements with which large private and public organizations performed their missions. By 1981, the desktop computer revolution began the democratization of data processing, enabling employees to automate their own analytical processes and to communicate by instant intra-organizational email. By 1994, the Internet became generally available, opening global data and instant communication to all. Now, these processes are delivered wirelessly through mobile smartphones, tablets, laptops and desktop computers in textual, video, and audio forms. With the anticipated adoption of artificial intelligence tools throughout the information technology infrastructure, the rapid pace of information technology innovation will not slow.

Notwithstanding tremendous increases in productivity and knowledge, information technology has also exposed us to data security risks from identity thieves, fraudsters, hackers, hostile foreign governments, and unintentional malfunction.

Does San Mateo County acquire and deploy its information technology resources to maximize its productivity and knowledge and minimize data security risks during the continuing era of rapid innovation?

GLOSSARY

ISD – Information Services Department

IT – Information Technology

RFP – Request For Proposal

VOIP – Voice-Over-Internet Protocol

SUMMARY

The 2016-2017 County of San Mateo Civil Grand Jury (Grand Jury) embarked on this investigation for the dual purposes of examining current processes for procurement and delivery of Information Technology (IT) services within the County of San Mateo (County). The Grand Jury's investigation focused in particular on the County's procurement integrity, internal charging practices, and data security.

The County's IT resources are hosted by the Information Services Department (ISD) within an infrastructure consisting of a fiber-optic backbone, Wi-Fi connectivity, a number of dispersed telecommunication networks, a public safety radio network, a legacy mainframe system, and general system software used widely by departments in the County.

The Grand Jury found a difference in user satisfaction between the County Procurement Division's general procurement services and its IT procurement services. Specific competence and attention to detail by members of the Procurement Division with respect to IT products and services appear to engender wide respect within user departments. While "favored vendor" capture is an ever-present risk in procurement of complex technological products, ISD and the Procurement Division appear to cooperate effectively in competitive bidding practices, and user departments use Request-For-Proposal (RFP) practices in refining their own specifications for large, department-specific application development projects. The Grand Jury found that users are satisfied with the quality of the Procurement Division's IT procurement services and are interested in accessing more of those services which are unavailable due to understaffing.

Over many years, the County has developed "full-costing" methods, under which direct service providers, such as the Health System, add the costs for their support services from departments like ISD to determine the total (or "full") costs for reimbursement under state and federal grants. The most significant of these is the cross-charging method by which ISD charges various costs to user departments. The cross-charging method currently in place achieves that objective, but at the expense of some efficiency and, in some cases, data security.

ISD maintains a lengthy digest of service descriptions and related charge rates to facilitate budgeting and costing. The current cross-charging method accommodates three alternatives for acquiring and maintaining IT resources:

- user departments may engage ISD to provide all services, including initiation of procurements, hardware and software maintenance, and security administration, on a subscription basis for fixed charges;
- user departments may provide all these services internally for themselves;
- user departments may request ISD services on a time and materials basis as needed.

The Grand Jury detected three problems. First, there is some confusion among user departments as to responsibility for scheduling routine software updates and security patches. Second, user departments spend considerable time checking ISD charges, requesting corrections of errors, and verifying that errors are corrected. Third, budgeting by ISD and user departments is unduly complicated because user departments can annually switch among these alternatives.

Under the current cross-charging method, ISD makes actual cost transfers to user departments for ISD services. Under a memorandum charging system, however, no actual cost transfers would be made. Memoranda of costs of ISD efforts on users' behalf would be made available for reimbursement under federal and state grants. In either case, costs of ISD's efforts can be added to those of user departments as long as they are reasonably related to user departments' performance of services under such grants.

A memorandum charging method, in lieu of cross-charging, can be developed to replace the current cross-charging method, achieving the objective of legal grant reimbursement without the

problems listed above. ISD can budget and collect actual costs for the entire missions for backbone infrastructure, software and hardware support, including all data security, without actual cross-charge.

The Grand Jury believes the current cross-charging method should be replaced by such a memorandum charging method in the 2018-2019 fiscal year.

BACKGROUND

The Grand Jury last addressed the County's technology management, operations, and acquisition in its report, *Information Systems Management*, issued in 2004.¹ The Grand Jury later addressed the County's policy and operations with respect to procurement of goods in its recent report, *Review of the County of San Mateo's Procurement of Goods*, issued in 2015.²

Over 85% of County technology procurements, in dollars, are initiated directly by ISD, the central organization responsible for infrastructure architecture and deployment, systems compatibility, and standards. The bulk of these procurements are for services, such as contract labor, technical consulting, project management, and hardware and software maintenance; and capital goods, such as personal computers, servers, routers, and telecommunications equipment.

The Grand Jury decided to revisit technology operations, with respect to resource acquisition and deployment, and to examine the procurement function for services, a different perspective than taken in the 2015 Grand Jury report mentioned above.

Areas of particular interest are:

- ISD cross-charging of services and acquired products
- Advantages of competitive technology procurements and pursuit of quantity discounts
- Data Security

METHODOLOGY

The Grand Jury read and reviewed key documents and data, including the 2015 ISD Strategic Plan,³ the 2013 Procurement Customer Guide,⁴ Calendar-Year 2015 Open Data expenditures for IT procurements initiated by ISD and user departments, the 2016-2017 ISD adopted budget, and 2014-2015 actual costs.⁵

¹ 2003-2004 Grand Jury. *Information Systems Management*, July, 2004.

https://www.sanmateocourt.org/documents/grand_jury/2003/Information-Systems-Management.pdf.

² 2014-2015 Grand Jury. *Review of the County of San Mateo's Procurement of Goods*, July 13, 2015.

http://www.sanmateocourt.org/documents/grand_jury/2014/procurement.pdf.

³ Info-Tech Research Group. *Technology Assessment & Strategy*, October 1, 2015.

<http://isd.smcgov.org/sites/isd.smcgov.org/files/documents/files/County%20of%20San%20Mateo%20-%20Technology%20Assessment%20and%20Strategy%20-%20Final.pdf>.

⁴ Human Resources Procurement Division, County of San Mateo. *Procurement Customer Guide*, August 2013.

⁵ *County of San Mateo, FY 2016-17 Adopted Budget*, 2016.

<http://cmo.smcgov.org/sites/cmo.smcgov.org/files/documents/files/FY%202016-17%20Adopted%20Budget.pdf>.

The Grand Jury also interviewed management personnel in ISD, Procurement, the Health System, the Human Services Agency, the Sheriff's Office, and the Controller's Office.

DISCUSSION

In addition to computing resources, the County's IT infrastructure includes a number of dispersed telecommunication networks (provided principally by one vendor),⁶ a public safety radio network, and Wi-Fi connectivity.

The County provides a wide variety of public services in law enforcement, corrections, probation, civil and criminal legal proceedings, public health, public works, property title and taxation, and human services. In addition to information systems support common to all, many user departments require specific and customized software to accomplish their missions. ISD provides the universal hardware and software infrastructure. Maintenance is performed by either ISD or the user departments themselves. ISD provides expert services to user departments which specify and acquire software applications specific to their varied requirements. There appears to be close and effective involvement by ISD with user departments in evaluation and selection of significant specific hardware and software applications.

During the last five years, ISD has committed to an ongoing effort to push out information access and, to some extent, interactive transactional capability to County personnel's mobile devices, such as laptop computers, tablets, and smart phones.

ISD is staffed by over 100 full-time equivalent employees and has an annual budget (before charges to user departments) exceeding \$70 million. Departmental expenses have generally been held well within budgeted amounts. According to documents reviewed and sources interviewed by the Grand Jury, less than 15% of purchased IT resources are acquired directly by other departments for their specific needs.

CHARGING

In order to maximize cost recovery under federal and state grants through "full costing" methods, most ISD expenses are charged to user departments, which can then legally claim them for reimbursement under such grants.

ISD's cross-charging method is described in detail in a 54-page document.⁷ Appendix A of this report briefly summarizes this document.

⁶ Avaya, the County's prime telecommunications equipment vendor, filed for bankruptcy on January 19, 2017. Expectations are that Avaya will continue to operate under a plan of reorganization and debt restructuring. Acquired in a 2007 leveraged buyout by SilverLake Partners LP and TPG Capital LP, the company will deal with a relatively small number of owners and large creditors. ISD management is working with Avaya, County Counsel, and an external expert to evaluate options to minimize risk in its coming telecommunications upgrade to VOIP. See Jessica DeNapoli, John Hals, *Telecommunications company Avaya files for bankruptcy*, Reuters, January 19, 2017, www.reuters.com/article/us-avaya-bankruptcy-idUSKBN1532JY, accessed April 16, 2017.

⁷ *ISD, County of San Mateo, IT Service Catalog*, September 26, 2016. FY1517 Service Catalog 092016.pdf.

In general, centralized infrastructure costs are charged to user departments based on monthly average number of employees. Capital costs of standard dispersed computing resources, such as computers, printers, and department servers, are charged directly to user departments upon installation. To the extent possible, maintenance and other ongoing costs for hardware and software applications deemed specific to user departments are charged to or directly incurred by user departments, whether initially acquired by ISD or by the user departments.

Some user departments employ technical personnel internally and take varying levels of responsibility for their department's own hardware and software.

Repair, maintenance, and software update services for most standard dispersed computer resources are charged to user departments at predetermined monthly rates by device type on a subscription basis. However, user departments may alternatively take primary responsibility for these activities and contract with ISD for limited services as needs arise, at actual time and materials costs determined after the fact or at fixed-price cost estimates. Costs of hardware installation by ISD personnel are charged to user departments under both subscription and non-subscription bases. Project consulting, help-desk, and emergency services outside of normal working hours by ISD personnel are additionally charged at established fixed rates, depending upon levels of expertise to be provided.

In addition to full-cost recovery under grants, the existing cross-charging method provides benefits including incentives for user departments to avoid expensive alternatives when possible and to avoid procurements altogether unless truly needed. User departments also tend to hold ISD accountable for effective and timely services for which they pay.

However, the cross-charging method is complex, time-consuming to administer, and subject to some level of error and error correction. It may result in some adverse consequences. Departments may avoid appropriate ISD assistance and services truly needed for effective and secure operations because of service charges. User departments may also procure and install hardware and software on desktops and servers without the involvement of ISD, bypassing existing discount arrangements and technical standards. The budgeting process may confuse users as to which hardware and software costs are included in ISD charges as opposed to those that are borne by the individual departments. Users may not clearly understand who holds responsibility for security software updates.

Elimination of the cross-charging method would replace its costs and problems with some new ones. To preserve reimbursement of grant funds, a memorandum charging system would have to be developed in order to mimic the existing cross-charging method without actually charging user departments. Such a memorandum charging system would have to be carefully designed to yield very similar results to those of the existing method. In current efforts to correct erroneous charges, the user community reinforces the relative accuracy of the existing cross-charging method. Greater diligence would be required of ISD administration to maintain the relative accuracy of a memorandum charging system without feedback from the user community. Also, user departments might be more prone to make unreasonable demands upon ISD services, perceived as “free.”

Nevertheless, sources indicated to the Grand Jury that departing from the existing cross-charging method could save time, enhance service, and simplify budgeting. The current methods for charging costs of department-specific capital items, diverse computing devices, printers, servers, and vendor subscriptions for hardware support would presumably be preserved. ISD personnel and contractors could reflect their time spent on department-specific applications development, as they do now, but for memorandum charging purposes only. Other ISD services could be allocated to users, on a memorandum basis, over a small number of metrics relating to the number of employees and devices. Effort and resources spent on infrastructure could be lumped and allocated, on a memorandum basis, over employee count. Effort and resources spent on maintenance and security of user department hardware and software could be lumped and allocated, on a memorandum basis, over numbers of desktop, laptop, department servers, radios, and employee-owned remote devices (smartphones and tablets) according to their *estimated* proportions of cost.

The essential differences from the current practices would be that ISD would budget all of its estimated costs, and user departments would budget only department-specific hardware and software costs, whether acquired by them or by ISD on their behalf. The long list of charge rates currently in existence would vanish. The distinction between subscription and time and materials services would also vanish.

ISD would be responsible for estimating the relative cost buckets for total infrastructure, department support, application development, and also for fine-tuning the estimates each year for memorandum charging purposes. As user departments would no longer see these charges, they would encourage larger ISD expenditures for needed services as opposed to objecting to the high costs perceived for current services.

The Grand Jury is confident that County personnel have the expertise to define a simpler system to achieve the same desirable objectives as the current method. As development of a simpler system meeting federal and state granting agencies' requirements is not an easy task, the Grand Jury recommends that the current method not be replaced until Fiscal Year 2018-2019, against the budget baseline established for that year in the 2017-2019 budget process.

COSTS AND COMPETITION IN PROCUREMENTS

While the 2013 Procurement Customer Guide permits considerable department discretion in procurements under Vendor Agreements and most procurements under \$5,000, the Grand Jury found very tight liaison with ISD in the procurement process and vendor qualification for IT products. ISD and its user departments rate Procurement Division support as superior in spite of difficulties perceived as due to understaffing.

Because of the nature of technology products and standards, some natural limits apply to product and vendor selection. For example, Microsoft Office software is most commonly used and many of the County's archived documents were created in Microsoft Word and Excel. While Hewlett Packard, Lenovo, and Dell computers offer similar features, mixing them in a common network environment or replacing one vendor's products with another's poses significant demands on the expertise of staff responsible for repairing, updating, and networking them.

ISD generally prefers to purchase directly from manufacturers in order to maintain close technical communication with them. However, standard hardware and software products and software update services are often available only through resellers, with which standard competitive bidding practices are used.

Historically, ISD takes the lead in planning for the replacement and subsequent procurement of standard hardware and software throughout the County. This enables ISD to identify and address difficulties inherent in maintaining compatibility and software version control in a common network environment.

User departments take the lead in developing RFPs for complex development projects specific to their missions. The rigor of the RFP process in developing initial specifications and refining them through discussions with bidders and with ISD appears well established throughout the user community.

The Grand Jury concluded that standard procurement policies and procedures are observed in the purchase of IT products, and that transparency is adequate to prevent capture by specific vendors.

The Grand Jury inquired as to whether the County is taking advantage of other local government agencies' quantity discount agreements with vendors for which the County is able to legally "piggyback." While the Grand Jury detected a desire for more extensive surveillance of such opportunities, it also found that the Procurement Division pursues such opportunities aggressively.

DATA SECURITY

ISD recently organized its IT security personnel and resources within a distinct IT security division responsible for:

- Implementation of routine software updates and security patches;
- Mobile device encryption;
- Device and file anti-virus and malware detection;
- Incoming email monitoring;
- Data security awareness training;
- Data security policy, procedures, and technical standards.

Data security is maintained through implementation of vendors' general security and antivirus patches, routine software updates, and encryption of portable computing devices (laptops and tablets).

Before making patches and updates generally available, ISD tests them rigorously to ensure that they will run correctly with application software currently deployed. ISD may elect to skip some of these if they do not run properly. As user departments must shut down and reboot their desktops and laptops to receive the patches and updates, ISD arranges specific days of each month with user departments to implement them.

Patch and update services are included for devices charged to user departments on a subscription basis. User departments may alternatively elect to install these themselves or request that ISD implement them at fixed charges.

County security policy requires that documents and other data maintained by users be maintained on network storage rather than on desktop or laptop computers.⁸ In addition, the mass memories (discs and flash memories) of all County-owned portable computing devices are to be encrypted to safeguard County data in the event that the devices fall into the wrong hands. Mass memories of desktop computers and servers are not normally encrypted, as these devices are located in fixed or secure locations.

In most cases, ISD initially acquires County-owned portable devices and encrypts their storage prior to installation with user departments. When user departments acquire such devices themselves, they are responsible for encrypting them or incurring charges for ISD to encrypt them.

The County has enthusiastically enabled remote access to select employees and some external contractors through their own devices (laptops, tablets, smartphones). While this poses some vulnerability, the added productivity is thought to be worth the risk.

The County's IT security practices have been sufficiently robust to prevent major breaches, such as theft of data and external control of County computing devices. System security software allows ISD personnel to scan all computing devices accessing County systems, wired or wireless, and to determine device type and software version levels. Those user departments electing to patch and update software themselves have access to County data to determine current-level patches and updates available. However, vulnerabilities do arise because of delays in software patch and update installation and hardware encryption, resulting from diffused and confused responsibilities in the varied arrangements under the current cross-charging method.

The Grand Jury has made efficiency arguments, above, for replacing the existing cross-charging methodology. However, the most important reason for placing all software support responsibility and budget in ISD is to establish a single point of accountability for data security. While some user departments may prefer to continue management of data security compliance, the IT Security Division of ISD has system surveillance tools to detect levels of compliance and software version compatibility throughout the County. The Grand Jury recommends that the IT Security Division have the authority to ensure security compliance.

⁸ Human Resources Department, County of San Mateo, *Information Technology Security Policy*, March 24, 2003. <http://hr.smcgov.org/information-technology-security-policy>.

FINDINGS

- F1. Based upon Grand Jury interviews and examination of the IT Service Catalog, the Information Services Department cross-charging method appears complex, difficult to manage, and subject to time-consuming error correction.
- F2. Data security vulnerabilities arise because of the varied responsibilities of the Information Services Department and user departments for software patches and upgrades and hardware encryption under different arrangements supported in the current cross-charging method.
- F3. The current cross-charging method complicates the budget process because it causes difficulties for both the Information Services Department in forecasting alternative modes of service that departments may elect, and also for departments in forecasting their Information Services Department charges.

RECOMMENDATIONS

- R1. The County Manager's Office and Information Services Department shall:
- Centralize the budgeting, cost-incurrence, personnel, operations, and responsibilities for backbone infrastructure and general-purpose hardware support not managed by user departments and *all* software support (including nonstandard, special mission applications) within the Information Services Department;
 - Discontinue actual charging of services to user departments and replace with a memorandum-charging system to mimic the current cross-charging method for continued grant reimbursement;
 - Continue inclusion of costs for supplies, capital, and leasing of hardware and software in departments using them, as is currently done.
- R2: The Information Services Department shall schedule replacement of the existing cross-charging method with the memorandum charging system for July 2018.
- R3: The Information Services Department shall assume single-point responsibility and accountability for all software security compliance throughout the County.

REQUEST FOR RESPONSES

Pursuant to Penal code section 933.05, the grand jury requests responses as follows:

From the County of San Mateo Board of Supervisors

Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Civil Grand Jury.

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APPENDIX A

INFORMATION SYSTEMS DEPARTMENT CHARGING STRUCTURE

The Information Systems Department (ISD) charging structure is described in detail in the a 54-page document, the ISD IT Service Catalog,⁹ published for the benefit of County user departments in order to plan their uses of resources. This appendix provides a general, overall description of the most salient features of the ISD methods for charging resources and services to users.

ISD provides acquisition, maintenance, and services common to all County users (“Core IT”), the costs of which are allocated to users based on number of employees.

Similarly, ISD provides additional resources and services not common to all users, some of which are optional, charged to users on a number of different bases.

Finally, ISD provides services, charged on a time and materials basis, ancillary to those above, for a wide variety of needs of an ad-hoc kind. Examples are installations, equipment moves, customization, procurement and administrative support, technical consulting, and special testing.

These are briefly discussed below:

CORE IT

Core IT includes the following resources and services:

- Facility Card-Key access system and controls
- County Call Center
- ISD Data Center (includes sole mainframe)
- Information security services
- Fiber-optic backbone
- Microsoft Office 365:
 - County Intranet
 - Internet
 - Email and instant messaging
 - Document management and archival
- ISD Service Desk
- Video conferencing connect infrastructure
- Timekeeping (hosted by Alameda County; funded by Controller)
- Open Data (public portal for County data and information)

⁹ *ISD, County of San Mateo, IT Service Catalog, September 26, 2016. FY1517 Service Catalog 092016.pdf.*

Customizations, specific departmental security requirements, fiber extensions to departmental servers, departmental-specific networks, storage resources over standard maximums, and other non-standard support are charged separately on a time and materials basis.

DEDICATED AND OPTIONAL RESOURCES

- **Criminal Justice Information System (CJIS):**
 - Jail management
 - District Attorney
 - Probation
 - County Courts

Time and materials spent to maintain these systems are charged to shared governance bodies of the departments served.
- **Geographical Information System (GIS):**

County Manager's Office funds support for this system.
- Desktop computer support*
- Laptop computer support*
- Terminal and tablet support*
- Printer/scanner support*
- **Database support:**

Charged at separate fixed rates per user for production and test databases under SQL, MySQL, Microsoft, and Oracle. Users may subscribe at lower fixed rates to more limited "virtual" database services.
- **Backup and recovery services:**

Charged at fixed rates per gigabyte of departmental storage for short-term disk backup and long-term offsite tape backup.
- **Public safety radio network:**

Charged at fixed rates to departments by number of radios.
- **County telephone systems:**

Charged at fixed rates to departments by number of telephones; higher rates apply to enhanced telecommunications features.
- **User-owned remote access:**

Charged at separate fixed rates to departments for initial account setups and by number of accounts.
- **Video conferencing connections:**

Charged at fixed rates to departments by number of connections

*Charged at fixed rates to using departments based on number of standard devices served. Services include maintenance, software security and updates, licenses, repair, disk encryption (laptops). Desktop computer users may subscribe at lower fixed rates to more limited "virtual" desktop services, or to premier desktop services at higher fixed rates.

ANCILLARY SERVICES

ISD provides technical and administrative services to users on a time-and-materials basis, as requested, beyond those listed above. Depending upon the requirements, Project Managers may be provided in addition to IT Professionals at fixed rates per hour. Administrative support may also be requested for procurement and vendor payables assistance.

Technical services include equipment installation and moves, expert and consulting services.

In support of Request-For-Proposal efforts, the Project Management Office charges 2% of the contract value.

Issued: June 26, 2017



County of San Mateo

Inter-Departmental Correspondence

Department: COUNTY MANAGER

File #: 16-517

Board Meeting Date: 9/12/2017

Special Notice / Hearing: None
Vote Required: Majority

To: Honorable Board of Supervisors

From: John L. Maltbie, County Manager

Subject: Board of Supervisors' Response to the 2016-2017 Civil Grand Jury Report, "Acquisition and Deployment of Information Technology Resources by the County of San Mateo"

RECOMMENDATION:

Approve the Board of Supervisors' Response to the 2016-2017 Civil Grand Jury Report, "Acquisition and Deployment of Information Technology Resources by the County of San Mateo."

BACKGROUND:

On June 26, 2017, the FY 2016-2017 San Mateo County Civil Grand Jury issued a report titled "Acquisition and Deployment of Information Technology Resources by the County of San Mateo." The Board of Supervisors is required to submit comments on the findings and recommendations pertaining to the matters over which it has some decision making authority within 90 days. The Board's response to the report is due to the Honorable Leland Davis, III no later than September 25, 2017.

DISCUSSION:

The Grand Jury made three findings and three recommendations in its report. Each finding and recommendation, along with County staff's recommended response, is set forth below:

FINDINGS

Finding 1:

Based upon Grand Jury interviews and examination of the IT Service Catalog, the Information Services Department cross-charging method appears complex, difficult to manage, and subject to time-consuming error correction.

Response:

Agree.

Finding 2:

Data security vulnerabilities arise because of the varied responsibilities of the Information Services Department and user departments for software patches and upgrades and hardware encryption under different arrangements supported in the current cross-charging method.

Response:

Agree.

Finding 3:

The current cross-charging method complicates the budget process because it causes difficulties for both the Information Services Department in forecasting alternative modes of service that departments may elect, and also for departments in forecasting their Information Services Department charges.

Response:

Agree.

RECOMMENDATIONS

Recommendation 1:

The County Manager's Office and Information Services Department shall:

- Centralize the budgeting, cost-incurrence, personnel, operations, and responsibilities for backbone infrastructure and general-purpose hardware support not managed by user departments and all software support (including nonstandard, special mission applications) within the Information Services Department;
- Discontinue actual charging of services to user departments and replace with a memorandum-charging system to mimic the current cross-charging method for continued grant reimbursement;
- Continue inclusion of costs for supplies, capital, and leasing of hardware and software in departments using them, as is currently done.

Response:

ISD will take responsibility for the budgeting, procurement, licensing, security, compliance, and support of the County's technology communications infrastructure and common computing devices (PC, radios, phones, servers, switches, etc.) that connect to this infrastructure.

All budgeting for such devices and procurement will be done following standard County budget practices as directed by the CMO and the procurement office, via County Procurement bid processes as managed by HR Procurement. Starting in FY 18-19 the above-mentioned technology devices will be tracked in an asset management system managed by ISD and assessed a one-time 3% asset management charge to offset the cost of the asset management program.

ISD will focus on the licensing, security and patching of software for county wide systems that are directly managed by ISD. Department specific, or department managed application licenses,

compliance, patching, and security will remain the responsibility of departments.

The funding for the replacement of equipment, licensing of software installed on the equipment, and ongoing security patching and replacement of the equipment will continue through a combination of funds (non-departmental, departmental, grant, etc.) based on direction from the County Manager's Office to ensure that costs are fairly assessed to user departments, and that the source of funding for this plan does not adversely impact the finances of the County.

Changes to the IT Budget process and ISD Service Charge system are currently being studied by ISD, CMO and the Controller's Office with the assistance of external consultants. This work is scheduled to be complete in FY 17-18 and any changes resulting from that study would be scheduled for implementation as part of the next budget cycle (FY 19-21).

Recommendation 2:

The Information Services Department shall schedule replacement of the existing cross charging method with the memorandum charging system for July 2018.

Response:

Changes to the IT Budget process and ISD Service Charge system are currently being studied by ISD, CMO and the Controller's Office with the assistance of external consultants. This work is scheduled to be complete in FY 17-18 and any changes resulting from that study would be scheduled for implementation as part of the next budget cycle (FY 19-21).

Recommendation 3:

The Information Services Department shall assume single-point responsibility and accountability for all software security compliance throughout the County.

Response:

ISD is responsible for software licensing and security compliance to all systems managed by ISD as either a Core Service or as an annual Application Subscription Service basis for departments.

Many departments procure and manage their own applications both on internal servers or as hosted / cloud applications. Those departments will be responsible to ensure that the software they procure independently is licensed for the entire lifecycle of each application, and that the licenses are renewed in compliance with the licensing model for each application.

Departments are required to complete a "Security Review form" when independently procuring software or signing an agreement with an application service provider. ISD will revise the current "Security Review Form" to better highlight the ongoing compliance and security responsibilities of departments when signing software agreements.

Additionally, ISD will continue to provide a centralized software patching system, security compliance oversight, and require that all personal computers and servers on the County network be configured to receive patches from this resource to be completed by Dec 2017.

An update to the County's Patch, Virus and Vulnerability Management Policy will be approved by Dec 2017.

The report has been reviewed and approved by County Counsel as to form.

Acceptance of this report contributes to the Shared Vision 2025 outcome of a Collaborative Community by ensuring that all Grand Jury findings and recommendations are thoroughly reviewed by the appropriate County departments and that, when appropriate, process improvements are made to improve the quality and efficiency of services provided to the public and other agencies.

FISCAL IMPACT:

There is no Net County Cost associated with accepting this report.