846

SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

FROM: Executive Office

SUBMITTAL DATE:
March 10, 2011

SUBJECT: Chief Information Officer (CIO) 90-day Report

RECOMMENDED MOTION: That the Board of Supervisors:
1. Direct the County Executive Office to work with the CIO to develop and execute a plan that eliminates the duplication of IT services in 27 departments across the county, through the cooperation of the Department Heads acting via the ITGC;
2. Direct that the CIO use savings from efficiencies from restructuring IT operations to fund the consolidation of Active Directory, enterprise e-mail, and enhancing the county's infrastructure to facilitate the deployment of contemporary technologies;
3. Approve the proposed organizational structure under the CIO; and,
4. Direct Human Resources to work with the CIO to establish the necessary positions under the new organizational structure for execution in fiscal year 2011/12.

Nathan J. Golodney
Chief Information Officer

FINANCIAL DATA	Current F.Y. Total Cost:	$ N/A	In Current Year Budget:	N/A
	Current F.Y. Net County Cost:	$ N/A	Budget Adjustment:	N/A
	Annual Net County Cost:	$ N/A	For Fiscal Year:	10/11

SOURCE OF FUNDS:	Positions To Be Deleted Per A-30	☐
	Requires 4/5 Vote	☐

C.E.O. RECOMMENDATION:

APPROVE

BY:

County Executive Office Signature

Jay E Orr

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Ashley, seconded by Supervisor Buster and duly carried by unanimous vote, IT WAS ORDERED that the Board Approved the CIO's 90 day Report with a report back quarterly on the development and proposed execution of the plan and, IT WAS FURTHER ORDERED that senior Information Technology staff from each Department and BOS' Chief's of Staff be involved in the discussions on the development of the plan.

Ayes: Buster, Tavaglione, Stone, Benoit and Ashley
Nays: None
Absent: None
Date: March 22, 2011
xc: EO, RCIT, All Dist.'s.

Kecia Harper-Ihem
Clerk of the Board
By:
Deputy

Prev. Agn. Ref.:	District:	Agenda Number:

3.1

March 9, 2011

To: Bill Luna

CC: Supervisor Bob Buster, Chairman, 1st District
     Supervisor John Tavaglione, 2nd District
     Supervisor Jeff Stone, 3rd District
     Supervisor John Benoit, 4th District
     Supervisor Marion Ashley, 5th District

From: Nathan Colodney
     Chief Information Officer

SUBJECT: 90 Day Report

The following executive summary provides the strategic direction I believe will best utilize limited County resources and place us in a more secure centralized environment. Following the executive summary are my findings to date.

Executive Summary

Over the past several years, the county's information technology function has become decentralized and expensive. IT has become a complex mix of internal and enterprise IT systems with both county departments and private-sector companies competing for IT business with other departments and each other. This has significantly increased county costs and added unnecessary complexity to the county's IT infrastructure.

The county's current fiscal crisis mandates action.

There are over 27 departments with an IT organization along with the RCIT and OASIS departments. RCIT and OASIS both provide enterprise IT services to the county, including those departments with internal IT organizations. Total IT county expenditures are over $170 million, including approximately $73 million to fund over 700 IT positions. RCIT and OASIS combine for 1/3 of the county's total IT spend and staffing.

An opportunity exists to more efficiently manage and use current resources to fund much needed county-wide technology to bring the county up to contemporary standards and avoid obsolescence. It requires an aggregation of IT resources from across the county to reduce the duplication and other inefficiencies from operating 27 different IT organizations. For example, closest to home, an opportunity exists to merge RCIT and OASIS to streamline administration, improve enterprise IT services and reduce cost. The merger has the potential for significant savings in about 2 years and will yield an organization that will focus exclusively on enterprise IT services as its core business.

The new organization will pull back from areas in which RCIT is currently competing with other departments and the IT private sector for business. The saving will be used to help fund long awaited network and system improvements.

Looking more broadly across the county, we have over 700 authorized IT positions, yet studies indicate that a governmental organization the size of Riverside should have only 400-450. Thus, there is an opportunity to save $20 million annually. This would permit self-funding much needed technology requirements to bring the county to contemporary standards in the short-term, and returning significant money to the general fund in the long-term, by acting as one organization rather than 27. Achieving a single county IT organization, like merging RCIT and OASIS, would require several years.

Additionally, the CIO has brought together leading department heads to form an IT governance committee which will map out the county's IT strategic direction, with a focus on IT meeting the business and mission requirements of the departments. This will look into several uncharted areas of IT efficiencies so that the IT services under the CIO's control can be better matched to improve business processes and the county's bottom line.

Introduction

As noted in the county's second quarter budget report, "the county confronts a stark new reality that extends well into the foreseeable future. The most optimistic forecasts continue to project either no or slow economic growth over the near term, with only gradual recovery....over the long term.... At the same time, the economic downturn and recent population growth continue to drive increased demand for services. As the county moves forward in this new reality, we cannot avoid hard decisions." And as further noted, "To achieve all these goals there is no choice but to match all cost increases, and all cost overruns, *with commensurate cost reductions*".

With this new fiscal reality, cost containment and cost reduction are now strategic objectives for all departments. The continued increase in demand for services to the public forces the county to seek more effective, streamlined approaches to deliver business services and value to constituents. At no time more than the present, the old axiom "to do more with less" applies.

In today's business environment, no department can operate without information technology (IT). However, due to at least a decade of uncoordinated departmental investments and little to no centralized governance and oversight, the county's IT has become decentralized, expansive and expensive. The county's current IT capabilities must be strengthened, brought up to contemporary technical standards, and its IT efficiencies must be significantly improved with a focus on the bottom line. Only then

can IT make a meaningful contribution towards driving down business costs while improving service delivery – the county's primary strategic objective.

Current IT Environment

The Chief Information Officer (CIO) "position is characterized by (the) responsibility for county-wide information technology oversight and managing the county's *enterprise* information systems..."[1] This includes the authority to develop and enforce county IT standards and approve major technology investments that departments may undertake – with the objective of maximizing the value from the county's technology investments and operations.

The CIO is also the department head of the Riverside County Information Technology (RCIT) department.

There are another 27 departments that have some form of a formalized IT organization. Furthermore, all departments contract some or all of their IT services to the RCIT department, and in some cases to other public or private sector organizations.

In addition, the RCIT and Online Administrative Services Information System (OASIS) departments provide county-wide *enterprise* IT services to all departments – and to each other. Both OASIS and RCIT are internal service fund (ISF) departments.

Total IT county expenditures are estimated at over $170 million, including approximately $73 million to fund over 700 IT positions.

RCIT and OASIS, combined, for $53 (31%) million of expenditures and over 250 positions (36%) of the county's total.

Enterprise IT Services (RCIT, OASIS)

RCIT provides enterprise communication services (telephone, public safety radio, wide area networking (WAN), also known as County of Riverside wide area data network (CORNET)). The direct cost to operate these enterprise services is $23.6 million per year.

RCIT billed $26 million for enterprise communications services to all departments, almost 80% of RCIT's total revenue.

The *Information Security Office (ISO)* provides enterprise IT security services to all departments. Although part of the RCIT department, the ISO works at "arm's length"

---

[1] Chief Information Officer class specification bulletin, class code 74268, County of Riverside; March 1, 1997, May 17, 2010 (revised)

from RCIT. Total revenue for the ISO is $1.9 million, which is 5.4% of RCIT's total revenue.

RCIT's total expenditure, which includes enterprise services, is $39 million.

OASIS manages the county's PeopleSoft enterprise resource planning (ERP) system. PeopleSoft is used by all departments for financial, payroll and human resources functions. It is also the county's only enterprise application system.

The current cost of operations for OASIS is $14 million.

CIO Oversight and Authority

In the last several years, the CIO has not fully exercised his authority to develop and enforce IT standards and to oversee departmental IT projects. Nor has the CIO developed an effective IT strategy that would lead departments toward a common IT platform.

As a result, departments have been relatively unrestrained from developing autonomous, uncoordinated IT environments. There has been little or no integration of common systems and technology between departments, unless voluntarily undertaken. Furthermore, departmental "shadow systems" have been permitted to continue and grow while new systems have been developed that duplicate corporate enterprise systems with the same or similar functionality.

This has led to a complex mix of internal and enterprise IT systems and both county and private-sector service providers competing for IT business with departments and each other – which has significantly increased county costs and added unnecessary complexity to the county's IT infrastructure.

OASIS PeopleSoft

At least 13 departments, including RCIT and OASIS, operate 22 or more PeopleSoft "shadow systems". Each shadow system requires additional technology and staff to operate and maintain as well as an "interface" program to the county's primary PeopleSoft system. This in effect creates three systems: (1) department shadow system, (2) interface system and (3) the PeopleSoft system. Given that each system has dedicated hardware, software, maintenance and IT staff requirements, it is clear that the IT costs are significantly higher when shadow systems are introduced. Furthermore, because multiple systems are installed, instead of one central PeopleSoft environment, the probability for data loss or errors – or worse a security breach or failure – is significantly increased.

An initial analysis undertaken in 2009 by the SCRAPE program indicates that a minimum of $5 million in non-salary costs per year can be saved by eliminating all known shadow systems (note that there is a greater savings potential when staffing and system maintenance costs are factored in, as discussed above). However, the OASIS department is currently unable to unilaterally undertake the SCRAPE project, and other projects, due to repeated departmental underfunding.

The inability of OASIS to deliver new PeopleSoft system functionality, convert over shadow systems and maintain optimal system performance has been repeatedly underscored in negative customer survey responses and OASIS Governance Committee (OGC) meetings.

This failure has significantly cut into the potential business efficiency and cost saving that integrated ERP systems like PeopleSoft provide the county – which is ultimately why the county invested so heavily in the system over 10 years ago.

Departmental IT Services

RCIT provides specialized IT services to individual departments upon request. They include e-mail, application development, database engineering, data center hosting, desktop computing and local area network (LAN) support. Although all these services are in common use by all departments, these services are not enterprise services in the sense that RCIT provides them to all departments and all departments use them – like enterprise communication services or PeopleSoft ERP.

Together these specialized IT services make up less than 9% of RCIT's total revenue.

In many cases, these "non-enterprise" RCIT services duplicate internal IT services in other departments. For those departments where RCIT is the service provider, RCIT is in competition with other public or private IT service providers for this business. For example:

•   17 departments operate their own e-mail systems, at an annual cost of $2.6 million. For comparison, RCIT provides e-mail services to over 35 departments ($824,000 or 2% of RCIT's total revenue).

•   Most departments operate their own LANs and manage their own desktop computer support while RCIT provides 5 departments with desktop and/or LAN support ($600,000 or 1.5% of RCIT's total revenue).

•   Most departments develop and maintain their own business applications and web sites while RCIT provides the same service to 18 departments ($1.5 million or 4% of total revenue). Furthermore, there is no common standard for web-site "look-and-feel"

and navigation, even for those departments that RCIT contracts with for web-site services. This leaves a visitor with a very disjointed impression of the county and how it is organized. Even worse, many department web-sites go unmaintained, leaving the user to deal with missing links or dated content.

• Many departments host their applications and web sites internally in dedicated data centers. At least 18 of these data center sites are in operation in the county. On the other hand, RCIT hosts 12 departments in its data center and but collects less than $200,000 from external customers the service, a mere 0.5% of revenue.[2]

In FY2009, 91% of RCIT's business consisted of enterprise services (communications, property tax mainframe system and ISO). The remaining 9% of RCIT's revenue was generated from services that RCIT competed with other departments or the private sector for business.

Data Centers

As noted, at least 18 data centers are in operation in the county. However, no single data center in the county meets contemporary industry standards. Furthermore, the county's current published data center standard does not meet current industry standards and there is no central inventory of data center facilities known to exist.

At this point and particularly given the county's fiscal situation, the cost of building a centralized county data center capable of replacing and hosting all 18 or more departmental data centers is cost prohibitive. However the risk remains of catastrophic failure of up to all 18 known facilities, particularly when the county's location in Southern California's "earthquake country" is considered. In addition, physical security and environment maintenance is of concern at the facilities. Finally, while power consumption is the driving cost behind any data center, there is no known county data center that is built to manage power consumption, thus reduce county costs.

Geographic Information Systems (GIS)

At least 7 departments operate different geographic information systems (GIS). These include separate $20 million or greater investments by Transportation and Land Management Agency (TLMA) and Riverside County Flood Control and Water Conservation District (RCFC&WCD) in competing system technologies.

---

[2] RCIT also provides property tax mainframe system hosting to 3 departments for $2.3 million or 6% of total revenue. For the purposes of this report this service can be classified as an enterprise service, even though it is provided exclusively for the 3 property system departments and it is installed in the RCIT data center.

Without a corporate enterprise GIS system and data standard, these departments and others have deployed systems of their choice and collected and maintained separate databases, each with unique features and nomenclature. Thus, any opportunity to integrate and share data or co-exist systems on a common hardware and database platform is hamstrung by incompatible system, database and mapping standards.

In 2008, a multi-department GIS committee was formed to develop a common GIS standard with the goal towards converting to a common architecture, and ultimately operate a county-wide enterprise system. Recently, the Assistant County Executive Officer met with Flood Control, TLMA, and the Assessor's Office. Flood Control agreed to take the lead on working with the other departments to review GIS operations for opportunities for reduce costs and develop other efficiencies.

Looking Ahead

Given that the county's primary strategic direction is now cost containment and reduction, the county's past approach to IT management and oversight is no longer viable. The CIO must assume his authority for developing and enforcing IT standards that provide a common and secure county IT platform that are the most effective in reducing the cost of business to the county. Investment in those platforms must go ahead, while other expenditures that do not meet county standards or are duplicative must cease. This must be done while enhancing flexibility for departments so they can continue to deliver and expand services to the public, as their individual missions dictate.

The complex, competitive and duplicative county IT environment that currently exists must be streamlined and simplified. Common IT infrastructure platforms and services like e-mail, data center hosting, desk top support and LAN management must be consolidated and strengthened for cost reduction and they must be hardened with industry-standard controls for enhanced security. Shadow systems must be identified and replaced with corporate enterprise systems. IT staffing must be realigned to work on common IT standards, duplicative management structures[3] must be eliminated, and internal competition for IT business must cease.

Finally, departments must have a seat at the table. The CIO must seek and receive oversight from all departments regarding their individual and collective business requirements and ensure that all technology standards and investments wholly meet and comply with departmental business goals, while still ensuring that the same IT

---

[3] See the attached proposed management structure, which will be the basis for consolidating all county IT management and undertake county-wide IT strategic planning and reporting.

investments deliver on their cost reduction potential and security hardening requirements.

The ultimate extent of the county's IT centralization and consolidation will be governed by three elements: (1) departmental business requirements and (2) IT security hardening and (3) cost reductions gained from effective information technology management.

Phase 1 – OASIS and RCIT Merger

The EO recently reorganized to place RCIT and OASIS under the common management of the CIO. This presents an opportunity to merge the RCIT and OASIS departments. And, just like any corporate merger, there is an opportunity to focus and renew the core business and consequently shed business lines that are not profitable or no longer fit the new business model. This leads to streamlined management, less overhead, simplified rates and lower costs.

Core Business The merged RCIT-OASIS organization's core business will be management and operation of the county's corporate enterprise IT services: PeopleSoft ERP, telecommunications and information security.

The PeopleSoft ERP service has the potential to be reinvigorated through additional internal funding and resources freed up from the merger. Resources may be transferred from some of the former RCIT application development, database engineering and systems administration business units and reoriented towards enterprise application development. Current unfunded OASIS projects, such as SCRAPE shadow system elimination, PeopleSoft supply-chain management automation, PeopleSoft employee performance management might be funded in-part and implemented. Formal procedures for enterprise software development life-cycle (SDLC) and change control would be strengthened.

A review of the Information Security Officer's operation will be conducted to ensure compliance in critical areas of ISO IT and protected health information (PHI) security responsibilities. These areas of responsibility include business continuity planning (BCP), disaster recovery (DR), and Health Insurance Portability and Accountability Act (HIPAA) oversight. Staffing and system requirements for efficient operations will be determined, and staffing adjusted accordingly.

Although not a core business, the property system mainframe hosting services will remain active. Potential service improvements will be assessed – in particular, manual system monitoring and batch process operations currently in practice at RCIT will be assessed to determine the appropriateness and practicality for automation and system

staffing and cost reduction. The system will remain operational and supported until property system replacement system (CREST) is on line. At that point, mainframe system operations will be retired.

Non-core Business Lines Eliminated All remaining non-core, non-enterprise services that are currently competing for county IT business or are slated for consolidation and outsourcing will be eliminated[4] *(see ITGC Initiatives)*. Some application development, database engineering and systems administration staff and funding will be reassigned to PeopleSoft ERP services to meet demands there. Management staff and overhead will be reduced.

Office Consolidation A new office location for most staff of the merged department will be established. The location will be a leased facility that permits most of the professional IT staff, such as business systems administration, business process analysts, application development, database administration, system administration and network and communications staff to be co-located in a common office environment.

It may be necessary to maintain some limited space provisions in up to all three current RCIT/OASIS locations for a period of time to operate any remaining equipment or warehouse services to end-of-life. However, every effort will be made to reduce or eliminate as many existing systems through attrition or replacement by move date. Any remaining space requirements in these former locations will be very minimal.[5]

The projected annual lease cost of a new leased office facility capable of locating all or most RCIT and OASIS professional staff is $900,000 or less. One-time tenant improvements and furniture and equipment purchases are expected to cost $800,000 or less.

Projected Cost Reduction As noted, RCIT and OASIS currently combine for $53 million in expenditures and over 250 positions. This is just over 1/3 of the total county's current spend on IT. Once the reorganization is completed, the merged organization will have a reduced budget and staffing levels.

Further streamlining and staff reductions will continue beyond the merger as business efficiencies further improve and additional county IT consolidation efforts bear fruit.

---

[4] RCIT will be treated no differently than any of other IT organizations in the county. There is no reason for it to continue to perform services being performed by multiple other county organizations, which all need to be consolidated.

[5] This includes the current RCIT CAC data center which is currently hosting a small collection of department systems (including OASIS) and the property tax mainframe system. The mainframe is nearing end of life and is slated for replacement later this year.

As previously noted, **the RCIT/OASIS merger is just the initial step in consolidating all county IT resources**. Overall consolidation, which must follow, would significantly reduce operating expenses while ensuring the implementation of contemporary county-wide technological standards/solutions.

Phase 2 – Undertake Current Information Technology Governance Committee (ITGC) Initiatives

In 2010, the Assistant County Executive Officer (Assistant CEO) established the ITGC as the county's forum for IT governance. The principle purpose of the ITGC is to bring together the county's business leaders to advise the CIO on the county's business requirements (not IT requirements). IT must then deliver the enterprise service at the lowest possible cost and highest efficiency.

The CIO is the ITGC Chair.

Consolidated Directory Services To date, the ITGC determined the county should proceed with outsourced county email consolidation and a county network consolidation with a standardized configuration using Microsoft Active Directory (AD). Once these current projects are completed, all county email systems will be consolidated and services will be provided by a contracted service provider using an industry-standard and secure Microsoft e-mail and network configuration. The e-mail service will be provisioned at a total cost of about 60% less when compared to the county's current heterogeneous, multi-department installations.

Data Center Consolidation and Server Virtualization The ITGC will soon be tasked with advising on the best direction for undertaking data center consolidation, server consolidation and system virtualization – again while ensuring departmental business requirements are objectively met and enhanced. This is another area of promising cost-savings benefits for the future. It is also an area that is particularly critical at the present time as departmental data center facilities, such as the RCIT data center, are reaching end-of-life and continue to remain at risk of failure. County-wide BCP and DR planning efforts, spearheaded by the ISO, will dove-tail with this ITGC project.

Phase 3 – Further ITGC Initiatives

PeopleSoft ERP Governance The best direction for future enterprise application developments, such as PeopleSoft ERP enhancements, will fall to the ITGC for strategic guidance on the strategic direction. Essentially, this will merge the

responsibilities of the current OASIS Governance Committee (OGC)[6], which is in place to oversee OASIS development, with that of ITGC.

Among other things, this will serve to balance the responsibility of departments for individual departmental application development with the functionality and capabilities that will be set forth for the county's corporate enterprise PeopleSoft ERP application. In other words, the ITGC will provide high-level guidance on the strategic direction for both departmental system management and the county's enterprise PeopleSoft system capabilities.

Enterprise GIS The development of a common GIS technology platform and mapping standards will to the ITGC. The platform will serve the basis of the county's enterprise GIS that will be shared with all county GIS users.

The ITGC advise the CIO and track IT strategic progress by the county based on a strategic plan written by the CIO in collaboration with all county departments. The county's IT operations will be directed by the CIO, who will be responsible for delivering all IT services to the county as cost effectively as possible that established strategic objectives.

---

[6] The OASIS Governance Committee was also established by the Assistant CEO, as was used as a model for the ITGC which followed it.

```
                    ┌─────────────────────┐
                    │   Riverside County   │
                    │ Board of Supervisors │
                    └──────────┬──────────┘
                               │
                    ┌──────────┴──────────┐
                    │ County Executive Officer │
                    │         (CEO)        │
                    └──────────┬──────────┘
                               │
                    ┌──────────┴──────────┐
                    │ Chief Information Officer │
                    │         (CIO)        │
                    └──────────┬──────────┘
```

| Director Business Operations | Assistant CIO Operations | Assistant CIO Chief Technology Officer Strategic Planning | Dept. Strategic Liasons |

Assistant CIO Operations:
- Customer Service
- Data Center
- Networking
- Comm

Assistant CIO Chief Technology Officer Strategic Planning:
- CISO
- App Dev
- Project Management
- ITGC