# MEMORANDUM

Date: April 5, 2013

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **Information Technology Professional Services Contract Continued by the Board of Supervisors on March 19, 2013 and Contract Removed by Staff from the April 2, 2013 Agenda**

When Requisition No. 13000301 (TekSystems, Inc.; information technology staffing services) was continued at the March 19, 2013 Board meeting, a number of questions were raised regarding information technology; particularly issues related to consolidation, outsourcing costs and performance. This memorandum addresses the general issues raised by the Board. A memorandum dated April 3, 2013 from Information Technology Director Lionel Bittner is attached, which addresses many of the questions and issues in greater detail.

In addition, and not attached to this memorandum are a number of documents that support and provide factual basis for the responses provided by Mr. Bittner. This information is too voluminous to include with this memorandum, but it is available upon request from my office.

Theory of Consolidation

As a cost saving measure and performance enhancement, including consistency, a number of largely administrative consolidations have occurred in the County in the past several years. These consolidations were largely in the provision of financial and information technology services. The County has 47 different departments, a consolidated legislative and executive branch of the Board of Supervisors, a separate judiciary and 27 other elected county officials, such as the Sheriff, County Attorney, Treasurer, Recorder, Assessor, Superintendent of Schools, Justices of the Peace, etc. Each of these organizational units has, to some extent, their own separate administrative support systems, many of which duplicate one another throughout the County.

Generally, administrative support systems encompass the functions of human resources or personnel systems, finance and audit systems, procurement systems and information technology systems. The County, by Code, has effectively consolidated human resources and procurement systems; and while there likely are still some cost savings to be made by

further central management control in these areas, cost savings and efficiencies of these systems have largely been achieved. An example of consolidated system efficiency in human resources is obvious when there is only one interpretation of Merit System Rules by a centralized human resources organization as opposed to 47 different interpretations of the same rule by decentralized human resources support organizations.

General Benefits of Information Technology Consolidation

Approximately five years ago, the decision was made that further cost savings and organizational efficiencies could be achieved by consolidating then partially distributed financial and information technology services into core central service delivery organizations. These departments already existed; however, the scope of services was limited from a centralization perspective.

Consolidation benefits were generally threefold; first, the simple cost savings by elimination of duplication; second, significant reduction and conflicting decisions, policies and directions; and third, more uniform evaluation and quality of performance of centralized staff. As an example, when information technology was distributed largely in departments whose primary missions were not related to information technology, performance evaluation and compensation decisions affecting information technology staff were performed by management staff that had little knowledge of core information technology principles; hence, performance, technical capability and compensation varied widely.

Information Technology Risk and Compliance Issues

One of the reasons for consolidating and strengthening our information technology organization was to address compliance issues the County faced and to eliminate or reduce risk. Given increasing day-to-day business operations of the County relying on information technology systems, it was important that what had not been modernized or improved over 15 to 20 years be thoroughly evaluated and a modernization and improvement plan be implemented. This was accomplished in the first steps of consolidation. The risk the compliance issues faced by the County were numerous; they are detailed in the IT Director's communication.

Generally, the consolidation efforts to date have eliminated these risks and achieved compliance. Five years of Arizona Auditor General adverse findings have been reversed; an operational and effective disaster recovery environment has been developed; the data center has been modernized and significantly strengthened; and as of this date, there are no outstanding regulatory or audit findings related to risk or compliance.

Specific Benefits of Information Technology Consolidation

First, overall costs have been reduced. Thirty-four budgeted positions were reduced within the organization. In the aggregate, approximately $830,000 of recurring annual expense has been eliminated from the personnel services and expenses budget and reinvested in modernization or systems development.

In addition, the consolidation has afforded the County the opportunity to institute standardization in technology service delivery. With the prior disbursed accountability model, the County had many different service delivery platforms; most of which did not interact with one another. Stringent standardization has been implemented with regard to hardware, software and operational processes. This standardization has afforded significant interchangeability and standard training and testing environments and has significantly reduced legacy costs associated with older systems that required custom maintenance and support.

In addition, security response has been standardized and significantly strengthened. Not long ago, the Superior Courts computer system was hacked. Standardization has allowed security systems to be unified, allowed encryption and strengthened security of administration; and the County has now implemented a new demilitarized zone separating public access systems on a secure network separate and distinct from the County's internal network environment, further insulating the County's systems from hacking or penetration.

Another benefit of consolidation is the allowance of County information technology functions to concentrate support applications on desired applications, rather than having a number of very limited and specialized applications used by decentralized County information technology users. Further, the limitation on the systems being deployed forces improved business operationalization among the various user departments, particularly when systems can be used for many purposes by many different departments. Permitting and land database management is an example of where the benefits accrue not only to Public Works, but Public Health functions and others. These benefits are detailed in the memorandum from Mr. Bittner.

The County departments and agencies under the direct supervision of the County Administrator have all been largely consolidated with respect to information technology services. They share certain systems, data centers and information technology infrastructure. In many other areas, there are also benefits that will accrue by continuing consolidation.

Outsourcing

Outsourcing can be a very effective and desirable process that actually saves the County money. In addition, outsourcing may be required from time to time because the County does not have or cannot attract desired skillsets in certain information technology positions to create, develop and maintain the type of information technology required. In the area of outsourcing, we almost exclusively today outsource software development, which means we purchase software programs rather than write or create our own. We have outsourced the operation of the County's mainframe to the Arizona Department of Administration in a cooperative intergovernmental action. We also outsource components of our network through service providers who have networks or systems that fill gaps in our internal networks. Outsourcing certain components of our information technology systems will continue and is appropriate to balance resources, minimize costs and take advantage of technology upgrades without incurring the capital cost to do so.

The contract that was continued by the Board (TekSystems, Inc.) and the contract that was removed by staff from the agenda of April 2, 2013 (GRUPO-SMS USA, LLC; PimaCore and tax assembly financial systems) are examples of outsourcing related to staffing and our ability to attract and retain a robust and highly qualified information technology management team. These resources are limited and require supplemental support from private professional service contractors. The County has done a great deal to upgrade the quality, qualifications, competency and compensation of our information technology staff. However, we remain understaffed and lacking in the ability to attract and retain highly qualified staff.

This problem is universal in government information technology organizations. While we are experiencing a problem, other local governments are experiencing this problem more acutely than the County. Mr. Bittner meets regularly with other State and County information technology directors, and all of them are dealing with these issues. Mr. Bittner also meets regularly with the Chief Information Officers of the City of Tucson, The University of Arizona and Pima Community College.

While we have come very far in a short period with regard to information technology improvement, there are still improvements to be made.

I would recommend the Board approve the TekSystems, Inc. and GRUPO-SMS USA, LLC contracts.

CHH/mjk

Attachment

c: Lionel Bittner, Director, Information Technology

# MEMORANDUM
## INFORMATION TECHNOLOGY DEPARTMENT

**Date:** April 3, 2013

**To:** C. H. Huckelberry
County Administrator

**From:** L. H. Bittner
Chief Information Officer

**Re:** Information Technology Department (ITD) Performance and Staffing Progression

This memo is to provide responses to address the Board of Supervisors information request made during the March 19th Board of Supervisor's Meeting on the Information Technology Department's consolidation progress and challenges in filling open Relationship & Application positions. After review of the meeting's transcript, we will address this information under the following categories:

1. Has the IT consolidation enhanced services and cost effectiveness in Pima County
2. Should outsourcing be used over time as a cost effective approach to address difficulties in filling positions
3. Overview of open positions and approaches/challenges in filling these positions

We will start by addressing Category #1.

**1. <u>Has the IT consolidation enhanced services and cost effectiveness in Pima County</u>**

Over the last four years, considerable progress has been made in streamlining customer service delivery processes, providing Pima County incremental technological capability and in remediating risks associated with past life cycle neglect. This has primarily been accomplished without any increase in the ITD base budget by reducing 34 budgeted PCNs from FY 10 – FY 13 and personnel expenses from 78% to 61% within the general fund budget. At the same time, ITD has acquired incremental cost from the PimaCore project, but has absorbed a portion of this cost by eliminating Synergen maintenance. Future savings will be attained by eliminating the legacy financial/payroll system vendor maintenance and associated mainframe processing costs at the State of Arizona Data Center once a new Payroll solution is implemented. Each cost reduction and corresponding investment has been reviewed and approved by the County Administrator based on capabilities provided and risks being remediated. The improvement efforts over the last four years have provided the foundation on which to deliver enhanced levels of services to our Constituents through future application system investments. Attachment A provides various County Administrator status updates from 2009 through February 2013.

**Risks Facing Pima County in FY 2009**

In FY 2009, Pima County had many risks associated with its Information Technology environment ranging from "out-of-compliance" situations to systems and hardware "beyond end-of-life". Out-of-Compliance could be found in the following examples:

- Approximately two hundred thousand pended AHCCCS PHS transactions, with AHCCCS notifying PHS that they could incur millions in non-reimbursement and / or compliance penalties
- Five State Auditor General multi-year audit findings stating that Pima County had no or inadequate:
    - Password Management (to include use of strong passwords)
    - Logical Access Controls
    - Change Management Controls
    - Physical Data / Computing Center Controls
    - Disaster Recovery Environment / Plan ( including PHS environment out-of-compliance with the AHCCCS contract)
- Data Storage environment under licensed

Beyond end-of-life could be found in the following examples:

- Data Center with 25+year old cooling; 40+ year old electrical; 10+year old capacity limited Universal Power Supply (UPS)
- Downtown phone system 20+ years old without a redundant backup and located in the basement of the Old Courthouse
- Application systems operating on unsupported hardware and software with some systems lacking their source code

In the beginning of FY 2010, ITD was also requested to complete the consolidation of Department specific IT staff. This effort resulted in additional risks and end-of-life items being discovered. One specific risk was the discovery that the majority of IT staff consolidated from Departments lacked many of the requisite IT skillsets to be proficient in their new roles. Based on this, the County Administrator approved a plan to redefine all ITD position descriptions and to have all ITD employees compete for new roles. In addition, ITD contracted an IT eLearning environment (http://intranet.pima.gov/isd/learning.html) for use by all IT personnel throughout the County to develop their technical, project management and business analysis skill sets. Development plans were put in place for all IT Department employees to initiate employee growth. The major component of the Department competitive process was concluded in late 2011, and was fully completed in FY 13. As a result, we have discovered that the Tucson area has a limited pool of qualified IT Business System Analyst/ Project Manager candidates as we continue our efforts to fill vacant positions, due to increasing the number of Business System Analyst/Project Manager positions from 24 in FY 09 to 57 in FY 11.

**Phase I – Eliminate Risks and Out-of-Compliance Issues**

Initial efforts focused on end-of-life and out-of-compliance remediation. By December 2010, all out-of-compliance issues had been remediated with the exception of the AHCCCS Pending Transactions, now fully remediated with the close out of the PHS

business as of 3rd qtr. FY 13. Our next task at hand was to shrink the Data Center footprint (through Server Virtualization tools – tools which allow one physical server to look like multiple servers (virtual servers)). By shrinking the number of physical servers we could address power and cooling capacity limits highlighted as a key concern by Facilities Management, as well as eliminate end-of-life server issues which required an increase in capital expenditures. This virtualization environment would also enable an affordable disaster recovery environment to avoid any future State Auditor General audit findings. Our stated goals were:

- Reduce the number of physical servers required to operate Pima County application systems residing in the Data Center to:
  - Minimize future capital dollars required to replace physical servers (life cycle replacement and server growth tied to application system growth)
  - Move application systems off end-of-life hardware and onto virtualized servers at little incremental cost
  - Reduce ongoing electricity and cooling requirements
  - Provide Data Center space to allow the Courts and Row Officer computing centers to be collocated into the County Data Center (required for the Facilities Director to progress his energy reduction program)
- Implement a Disaster Recovery environment for non-mainframe critical application systems:
  - Minimize the number of physical servers to be purchased and deployed at a Disaster Recovery facility
  - Operate all test environments at the Disaster Recovery facility to be easily converted to the Production environment in the event of a disaster
  - To snap/stream data from the Production Data Center to the Disaster Recovery facility in real time, as required
  - Eliminate tape storage as the primary backup media (target data backup on virtualized storage at the Disaster Recovery facility guaranteeing a faster production recovery window during a disaster)

Through the above efforts, Pima County has accomplished all goals and:

- Saved:
  - Greater than $15 million in capital required for new physical servers
  - Minimally $70 thousand annually in Data Center electricity costs
- Commissioned a Disaster Recovery facility
- Consolidated its mainframe processing into the State's Data Center mitigating risk of mainframe operation failure as Pima County employees retired with critical mainframe skill sets. This consolidation also mitigated the State Auditor General Disaster Recovery audit finding
- Collocated the Superior/Justice Court and the School Superintendent's Office computing centers into the Data Center. The Treasurer's and Assessor's Office chose not to relocate, but subsequently setup recovery facilities within this Data Center area. We offered this same capability to the Recorder's Office and space remains in the Courts area to accommodate Juvenile and Clerk of the Court if they chose to collocate in the future.

## Phase II – Standardize, Enhance Security and Deploy Application Systems

With the newly implemented flexible/lower cost/redundant Data Center environment, Pima County had the foundation to accelerate deployment of critical business automation requirements/enhanced security, and achieve additional standardization opportunities.

### Standardization

Standardization of key technology areas was critical to deliver IT process efficiencies and to reduce ongoing personnel expenses (the 17% reduction noted above). From these efforts, the following opportunities were implemented:

- A single file directory/print services environment reducing effort to manage employee security rights to various shared directory areas (Active Directory), as well as effort to repair frequent outages in this area
- A computing hardware/software/accessories online catalog (e.g., PCs, keyboards, etc.) for Department employees use in placing orders for these products
- A process to order, image and deploy PCs in bulk for a Department reducing annual effort to replace Department PCs
- An online Service/Help Desk environment for County employees to submit Incidents/Requests for service and to view the status of their requests on-line
- An automated process to deploy and update software on County PCs without visiting a physical site
- A common collaboration platform (SharePoint) in use by multiple Departments at this time
- A common eDMS platform in the early stage of implementation allowing Departments to meet State Librarian document retention requirements through use of electronic documents (will eliminate manual paper storage in the future)
- eRate within the County Library District resulting in annual savings of $270 thousand for Internet and Library network access throughout the County

This 17% reduction in ITD's general fund personnel expenses also funded the Enterprise Agreements (EA) with VMware (Server virtualization), Microsoft (Data Center software), and the NetApp Data storage environment without an increase in the general fund base budget. In addition, $830,000 was allocated from these annual savings to fund annual Data Center and other lifecycle replacement investments. Without this funding, Phase I and Phase II could not have been fully accomplished, and equipment/software no longer on vendor support/ maintenance would not have a reliable funding source to be replaced in future years.

### Security

With the evolution of the Internet, threats and risks require continuous review. Key Pima County security risks discovered and subsequently remediated were:

- Websites and File Transfer (FTP) environments with publically exposed (exposed on the Internet) Administrator IDs and Passwords
- Public facing websites and applications operating in the same network security area as internal county business applications
- Limited employee awareness of risks associated with use of simple passwords, divulging passwords and external spoofing (e.g., County employees sharing their email passwords with a spammer)

The following security enhancements were then completed to eliminate these risks:

- Implementation of mandatory strong passwords and a 60 day password window for all employees reporting within the County Administrator's direct management control
- Employee education on why it is important to protect logon credentials and the County's IT environment
- Encryption of all website and FTP Administrator IDs and Passwords
- Implementation of a new Demilitarized Zone (DMZ) segregating all public facing applications into a secured network area, separate and distinct from the Pima County internal network environment, limiting any potential penetration from the public facing area to the internal network area
- Implementation of Intrusion Detection/Prevention software to identify any suspicious penetration from the Internet into the Pima County DMZ and/ or Internal network
- Securing of wireless networks throughout the County (non-Library) to eliminate the risk of Pima County being blacklisted on the Internet due to illegal activities occurring on a County network (e.g., sharing of copyrighted electronic media)
- Implementation of a standard security badge access and security video monitoring environment for extension to current and future Pima County facilities (e.g., RWRD Treatment Facilities)

**Application Systems**

With the consolidation, the IT Department implemented Customer Segment Relationship & Application teams (Community & Economic Development, Justice & Law, Medical & Heath, Public Works, Support Services (e.g., Finance, HR, etc). The IT Customer Segment teams are contained in Attachment B or on the IT Intranet site http://intranet.pima.gov/isd/. Each team's mission is to work closely with each Deputy County Administrator and Department Directors/ Management teams to define an overall FY business plan and associated technology requirements to achieve the business plan. These plans have improved year after year and in FY 13, a County Administrator Technology Council was formed to monitor progress of each plan's technology efforts, and establish priorities based on budgetary and human resource constraints.

The former decentralized County IT structure had yielded a large number of limited applications primarily deployed in support of Divisional activities. Since

the majority of County business processes are cross-Departmental, information had to be entered into multiple applications. These redundant entries of data lead to inaccurate information being provided to management, inefficiencies in overall process cycle time and incremental employee effort. The overall goal of these ITD Customer Segment teams was to develop associated business technology initiatives that would eliminate as many Divisional applications as possible over time by implementing Departmental or cross-Departmental application platforms to enhance employee efficiency and associated data quality. Accomplishments over this timeframe which include substantial Library infrastructure upgrades are noted below:

- Community Development & Neighborhood Conservation Brownfield Assessment system
- Community Services Education & Training:
  - Vouchering, Summer Youth and Online Registration system
  - Health Professional Opportunity Grant system
- County:
  - Admin East 10th/11th floor Duress system
  - Bond audit project and major GIS support
  - Exchange 2010 upgrade
  - Enterprise License agreement with ESRI to supply GIS software to County Departments. County departments only have to pay maintenance costs providing great savings to the County as a whole
  - Virtualization of the GIS systems environment
  - PECOC – implement and startup technology in support of PECOC and commission PECOC as the County's ITD Disaster Recovery site
  - Six year contract signed with Pictometry to supply high resolution oblique and orthophoto imagery for public safety, property assessment and project planning use
  - SharePoint Collaboration environment implemented
  - Standardized IT Project Management Methodology
  - Voice over IP Phone System
- Development Services:
  - Online Building Plan Submission/Review system with credit card payment
  - Subdivision Image Redaction
- Elections Electronic Campaign Finance Reporting and Online Filing system
- Facilities Management Energy/Utility Consumption Tracking system with electronic data interchange with TEP, TRICO and Southwest Gas
- Financial:
  - Property Tax Assembly system
  - Property Tax Roll Correction system
  - Online Employee Time & Attendance system (eTAF)
  - PimaCore Financial/Procurement system

- Fleet Management:
  - Fleet Maintenance system with online Motor Pool reservations
  - Fleet GPS Tracking system
- Medical and Health:
  - Animal Care and Tracking System
  - Animal Care Online Licensing
  - PHS/Nursing Home Divestitures
  - PHS AHCCS remediation and business closeout
- Indigent Defense Case Management system
- Kino Stadium Online Scheduling Event system
- Library District:
  - Broadband Technology Opportunity Program
  - Electronic Catalog system upgrade
  - Electronic Library PC Reservation and Print Cash Payment system
  - Ongoing personal computer replacements at all 27 Libraries on Windows 7 and Office 2010 (1400 Library PCs)
  - Ongoing support of Library moves for renovation and Oro Valley consolidation
- Office of Emergency Management & Homeland Security multi-agency (TUASI) Incident Management system
- Regional Waste Water Reclamation:
  - Capacity Planning system
  - Integration of RWRD's pipe network inspection video with GIS
  - Laboratory Information System
  - SCADA system Infrastructure deployment
- Transportation:
  - Work Order system upgrade and GIS data cleanup to meet Federal Mandates
  - Reengineering of the Pavement Management database

As can be seen, much effort has been placed on implementing new applications in support of County automation needs. Through the annual Business Technology Planning and County Administrator Technology Council, other automation initiatives are planned for implementation in late FY 13, FY 14 and beyond, with the following key initiatives in-process or to be initiated:

- Community Services Education & Training unified Participant Tracking System
- County:
  - Continued rollout of the Electronic Document Management system (eDMS) to Departments
  - Human Resources and/or Payroll system
  - PCWIN
  - PimaCore Reporting
  - Unified and constituent friendly Website
  - Video/Audio Streaming and BOS Agenda Management system
  - Windows 7/Office 2010 upgrade

- Health Department:
  - Health and Food Safety system providing online Business Institution access (FY 15 if funding available)
  - Electronic Health Records system (eHR)
- Library
  - Smartphone application to search for books available at the Library
  - New Library public facing Website with expanded search and Millennium (card catalog system) replacement
- Public Works:
  - Land & Permit Management system providing online constituent access

A list of all FY 14 projects presented and prioritized in the County Administrator's Technology Council are contained in Attachment C.

2. **Should outsourcing be used over time as a cost effective approach to address difficulties in filling positions**

Outsourcing within the technology world comes in various forms. For example:

1. Business Applications Deployment Outsourcing:
   a. Outsourcing the actual software development or maintenance of software in a specific business area
      i. Including business analysis and process engineering
      ii. Excluding business analysis and process engineering
   b. Purchasing or leasing application software instead of developing software in-house and:
      i. Operating on the internal (Pima County's) infrastructure, or
      ii. Operating on the vendor's infrastructure (Software as a Service (SaaS))
2. Technical Infrastructure Outsourcing:
   a. Outsourcing a portion of the technical infrastructure commissioning, operation or maintenance
      i. Operating on the internal (Pima County's) infrastructure, or
      ii. Operating on the vendor's infrastructure (Cloud Services)

The most common forms of outsourcing are 1.a.ii, 1.b.i, and 2.a.i.

**Model 1: Business Applications Deployment Outsourcing**

Major corporations like General Motors and Xerox outsourced per 1.a.i in the 1990s, but have since transitioned back to an in-house Application Services environment. The goal of deploying business applications is to dramatically innovate or reengineer business processes within or across Departments and Customers. Having knowledge of current business operations and the opportunities and cultural challenges to innovate or reengineer these processes is a critical success factor in successful design and deployment of business applications. Outsourcing model 1.a.i assumes it is not critical to develop knowledge of current business operations by being onsite at the customer

location. Both GM and Xerox discovered that having outsourcers without intimate knowledge of departmental business operations and its employees resulted in failed implementations or implementations with higher cost and a lower return on investment. Both GM and Xerox still use outsourcing, but have reverted key Application Service areas back in-house. GM sold EDS, while Xerox terminated portions of its outsourcing agreement. Pima County's approach has recognized that skilled IT Project Managers and Business Systems Analysts must be deployed to support specific Customer Segments (e.g., Public Works – See Relationship & Application Services organization charts in Attachment B or on the IT Intranet at http://intranet.pima.gov/isd/). ITD employees in these roles are required to develop knowledge of their customer's operations, culture and staff to assist in developing customer business plans and associated technology initiatives. This is a proven approach to maximize the value of deployed technology initiatives.

At this time Pima County ITD has transitioned to purchasing software (Model 1.b) instead of developing it in-house (unless the software is not available for purchase). We have deployed applications on Pima County's infrastructure, e.g., Indigent Defense Case Management system, PACC Animal Control system, Fleet Management system (1.b.i), as well as leveraged vendor infrastructures (1.b.ii, SaaS). For example, the PACC Online Animal Licensing application operates on the vendor's infrastructure. In addition, we are currently looking at SaaS as a potential solution for replacing our aging, mainframe payroll system. Our goal has been to purchase software that meets 80 plus percent of Pima County needs. This has allowed us to minimize the number of application development staff (programming personnel) and reorient these positions towards business analysis skills and roles. Unfortunately many developers have no interest in developing skills in or performing business systems analysis which requires constant interaction with customer personnel.

**Model 2: Technical Infrastructure Outsourcing**

Similarly in the 1990s, corporations were also outsourcing management of their Data Centers and networks. For large corporations with many Data Centers worldwide, outsourcing and consolidation to fewer Data Centers with fewer staff reaped economic benefits. Once consolidation was completed Corporations either remained with the outsourcer or in-sourced the newer technologies leaving the legacy technologies with the outsourcer. Similarly, Pima County outsourced its legacy technology by leveraging outsource model 2.a.ii. We outsourced the mainframe portion of our Data Center to a third party (Arizona Department of Administration). In 2010, all mainframe applications systems were moved onto ADOA's mainframe environment and the Pima County mainframe was decommissioned. The non-mainframe Data Center and entire technical network is managed, maintained and commissioned by Pima County employees. We do purchase telecom network services through Cox, Century Link, Simply Bits and other vendors providing Pima County locations with network access to our Data Center. We also use contractors to perform network cable installs within and into our buildings eliminating this expertise and effort from our ITD workforce.

Amazon, Microsoft, Google and other vendors are now beginning to offer "Cloud Services". That is for example, move your company's application system off of your

infrastructure and onto an Amazon infrastructure. This is a young, but maturing market place to be considered in a few years. At this time, data security and guaranteed service levels (uptime) with vendor penalties for non-performance are not the norm. Over the next year we will be investigating potential use of these services to supplement the similar technical infrastructure that ITD has deployed over the last few years. The County's challenge is to have the Courts and ROW Officers begin to leverage ITD's technical infrastructure instead of developing their own at incremental costs to the County. For example, the new DMZ (secured zone between the Internet and Pima County's technical infrastructure) recently deployed by ITD can be leveraged by these Offices. At this time, only the Superintendent of Schools has leveraged this environment, with Superior Court taking a serious look at this time.

In summary, Pima County leverages the most common forms of outsourcing 1.a.ii, 1.b.i, 1.b.ii, 2.a.i. In addition we are investigating use of 2.a.ii. We have no plans based on industry experience to outsource our project management, business analysis or implementation startup services since in the end we are accountable to ensure the final technology product is implemented per the needs of Pima County Departments.

## 3. Overview of open positions and approaches/challenges in filling these positions

### Department Overview

The Information Technology Department provides all technology services to achieve BOS and County Administration directed needs. The Department is segmented into two primary teams: Technical Infrastructure Management and Relationship & Applications Services with organization charts in Attachment B. The Technical Infrastructure Management team under Anthony Casella deploys, upgrades and maintains Pima County's communications network (voice, data, video, internet, public safety wireless radio) as well as computing resources (personal computers, smartphones, Data Center servers and data storage) in use across the County. A Network Operations Center is staffed 7x24x365 to identify potential infrastructure issues through use of proactive monitoring tools and to respond to customer requests for service (through the IT Service Catalog http://servicedesk.pima.gov/footprints). Overall this team's goal is to ensure 7x24x365 availability of these IT resources for use by Pima County employees (excluding scheduled preventative maintenance downtime). The County has two Data Centers with the primary Data Center residing in the Downtown Admin West building at this time, and the Disaster Recovery Data Center residing in the Pima Emergency Communications and Operations Center on 22nd street. The Relationship & Applications Services team manages the design, development/configuration, project management/implementation and ongoing maintenance of business applications used by Departments to provide services to County constituents (e.g., building permits), or to provide internal county departmental services (e.g., Payroll). The team is divided into the following Customer Segment teams: *Community & Economic Development*; *Medical and Justice*; *Public Works*; *Shared Content Platforms* (i.e., eDMS, Geographical Information, Web Content); *Support Services* (e.g., BOS, County Administration, Finance, Human Resources). Chuck Decker, Brigid Gray, Laura Johnston and Jack Lloyd manage these Customer Segment teams. ROW Officers have their own small IT organizations to provide Applications and Technical Infrastructure Services to their

respective Departments (e.g., Treasurer).

A robust IT Project Management Methodology to limit the risks of deploying any new technology has been developed and implemented over the last two years to be used on any technology investment. The methodology and job aids are located at http://sharepoint.pima.gov/sites/itd/PM/Home/Home.aspx. Annual Planning occurs within the IT Department to identify required infrastructure technology initiatives to meet ongoing County needs. These initiatives are defined in an annual IT Business Plan (http://intranet.pima.gov/isd/documents/FY12_13ITDBusinessPlan.pdf).
In addition, annual business plans are developed with each Customer Segment and consolidated into an overall Customer Segment Technology Investment plan. Customer Segment Steering Committees manage the implementation of these plans throughout the budget year with priorities established by the County Administrator's Technology Council. All Steering Committees leverage a SharePoint Collaboration site with access restricted to Steering Committee members and designated guests.

IT positions required to operate an entire IT Department can be classified into the following general roles:

1. Applications:
    a. Relationship Manager - Project Managers very experienced in Business Analysis and Project Management/Implementation
    b. Business System Analyst - Analysts who define all business process requirements and ensure systems implemented meet these requirements
    c. Application Developer – Developers that spec, write and develop program code which create the data stored or reported from the system
    d. Database Administrators (DBA) – DBAs connect, manage and maintain the databases and application modules that reside on servers
2. Technical Infrastructure
    a. Service Analysts – Employees that are the first level of support to address issues identified by Pima County employees in the daily operation of the IT environment. Accountable to escalate to a second and third level of support as required to resolve an issue.
    b. Technical Analysts – Employees who manage the PCs/Audio-Visual/ Phone/Radio and other mobile computing/communications hardware and software throughout the County
    c. Computing Engineers – Senior employees that install, configure and manage the servers, storage and communications software (e.g., email, file directory services, etc) that operate on servers
    d. Communications Engineers – Senior employees that manage the hardware and associated software that connects the data centers, county buildings, personal computers and phone system environment together for access to all IT services and the Internet (hardwired and wireless networks)

It should be noted that entry level positions exist for each key IT support area. Employees are developed and advance in their career as opportunities are available and they successfully compete through the County's competitive process. The IT position descriptions and associated job ladder are contained in Attachment H.

**Performance Management**

Employees are a Department's most valuable asset. Development of these assets is a primary requirement of any Department management team. In 2008, the majority of the IT position descriptions were years out of date and provided no career development path for IT employees (whether in the IT Department or a ROW Officer/Courts technical team). All position descriptions used by ITD were rewritten, reclassified and approved by the Board of Supervisors on July 6, 2010 for use by the IT Department. Since then ROW Officer technical personnel have also been able to use some of these position descriptions. These descriptions were developed from an entry level technician and built upon each other to allow employees to develop specific technical or analysis/project management skills and be rewarded for this growth over time through promotional opportunities. This was a key tenant implemented to retain employees who develop themselves over time.

Each year, every IT employee has their performance appraised, a performance plan put in place, and objectives established which identify how the employee will assist ITD in achieving the IT and Customer Segment Technology Business Plans (e.g., the County's Technology Business Plan). In this way, all employees are accountable to deliver the County's Technology Business Plan. Employees meet with their direct Supervisor or Manager at least once a month to discuss progress against the performance plan and objectives so when their annual appraisal is reviewed there are no surprises. This process has been in place since FY 10 and is depicted in Attachment D.

As part of this performance management process, ITD also implemented a Reward and Recognition program in FY 10. The entire management team is aware that "Rewarding employees for their exceptional work is critical for keeping them motivated to continue to do their best." Rewarding employees is an integral part of the ITD culture. Following are the reward and recognition methods used within ITD.

Rewards for a job well done: Employee or management provide a Thank You note or Personal Letter to the employee who went above and beyond in a situation

Project Team Rewards: At completion of a successful project, team members receive a Circle of Excellence Award certificate. These awards are publicly presented during an IT quarterly forum or a special meeting scheduled for the occasion.

Annual Outstanding Contributor Award: Each ITD team at the end of the calendar year selects an employee who has consistently exhibited ITD values throughout the year. These are publically awarded at the ITD Year End Holiday celebration.

These awards and further information are in Attachment E.

**Internal Development of Employees**

Through the above performance management process which provides online access to the IT eLearning environment (http://intranet.pima.gov/isd/learning.html) and reward/ recognition process, a culture of performance with reward and recognition is in place and

operating successfully. One must remember that the consolidation and reorganization of the IT Department was primarily completed in mid-2011. This reorganization increased Application Services personnel from 24 in FY 09 to 57 in FY 11 and repositioned application developer roles to business analysis roles. Many existing IT county employees have since progressed into these roles, thru diligent mentoring of their management. As can be seen from the table below, we have promoted 25 county employees since June 2011. It also should be noted that the majority of all qualified IT Department employees received promotions during the reorganization into the new IT position descriptions and these promotions are not included in the table below.

**Relationship and Application Services**

| Filled by | Grade | Class Code | Class Title |
|---|---|---|---|
| Kearns | 65 | 4757 | ITD-Relationship Manager |
| Gaines | 65 | 4757 | ITD-Relationship Manager |
| Fergione | 63 | 4745 | IT-Applications Analyst |
| Woods | 63 | 4745 | IT-Applications Analyst |
| McDougall | 63 | 4745 | IT-Applications Analyst |
| Sauer | 63 | 4745 | IT-Applications Analyst |
| Boler | 60 | 4741 | IT-Applications Analyst |
| Bell | 60 | 4741 | IT-Applications Developer - Senior |
| Diaz | 60 | 4741 | IT-Applications Developer - Senior |
| Swanson | 60 | 4741 | IT - Applications Developer - Senior |

**Technical Infrastructure Management**

| Filled by | Grade | Class Code | Class Title |
|---|---|---|---|
| Dean | 58 | 4717 | IT-Technical Support Analyst - Senior |
| Tomei | 58 | 4717 | IT-Technical Support Analyst - Senior |
| Iadevaia | 58 | 4717 | IT-Technical Support Analyst - Senior |
| Nadler | 56 | 4716 | IT-Technical Support Analyst |
| Gallardo | 56 | 4716 | IT-Technical Support Analyst |
| Ball | 56 | 4716 | IT-Technical Support Analyst |
| Couture | 56 | 4716 | IT-Technical Support Analyst |
| Tomei | 56 | 4716 | IT-Technical Support Analyst |
| Manke | 56 | 4716 | IT-Technical Support Analyst |
| Hunt | 68 | 4709 | ITD-Security & Compliance Architect |
| Prodell | 48 | 4701 | IT-Service Support Specialist |
| Scalzo | 48 | 4701 | IT-Service Support Specialist |
| Garcia | 48 | 4701 | IT-Service Support Specialist |
| Sosa | 48 | 4701 | IT-Service Support Specialist |
| Searcy | 48 | 4701 | IT-Service Support Specialist |

All of ITD's open positions are also advertised competitively both within the County and to the external world. County employees' outside of the IT Department applying for these open positions has been limited and we receive many external applications from people that have some experience in IT, but lack the required skills for non-entry level

positions (Attachment F, March 27, 2013 memo from Colin Smith). At this time we have the following job openings:

**Relationship & Application Services**

| FLSA / Status | HR Grade | HR Class | HR Official Title | Area |
|---|---|---|---|---|
| E | 52 | 1456 | GIS Analyst | Shared Content Platforms |
| E | 60 | 4741 | IT-Applications Developer - Senior | Support Services |
| E | 60 | 4741 | IT-Applications Developer - Senior | Community & Economic Development |
| E | 60 | 4741 | IT-Applications Developer - Senior | Support Services |
| E | 63 | 4745 | IT-Applications Analyst | Support Services |
| E | 63 | 4745 | IT-Applications Analyst | Support Services |
| E | 63 | 4745 | IT Applications Analyst | Public Works |
| E | 63 | 4745 | IT-Applications Analyst | Public Works |
| E | 63 | 4745 | IT-Applications Analyst | Health & Medical |
| E | 63 | 4743 | IT-Applications Engineer | Database & Systems Administration |
| E | 65 | 4757 | ITD - Relationship Manager | Public Works |

**Technical Infrastructure Management**

| FLSA / Status | HR Grade | HR Class | HR Official Title | Area |
|---|---|---|---|---|
| E | 56 | 4716 | IT-Technical Support Analyst | Computing Center Services |
| E | 56 | 4716 | IT-Technical Support Analyst | PC/WN |
| E | 58 | 4717 | IT-Technical Support Analyst - Senior | PC/WN |
| E | 60 | 4719 | IT-Technical Support Engineer | Computing Center Services |

As noted, our challenge has been in the Relationship & Application Services area. We have been successful to-date recruiting in the Technical Infrastructure Management area. Copies of all ITD job advertisements which cover the above open positions are contained in Attachment G.

## Compensation

In October 2012 and again in January 2013, Human Resources was requested to evaluate classification grades associated with IT to determine if they were competitive in the Tucson marketplace (see Attachment F). As of March 27th we have received a list of positions and salary ranges that exist in some other Counties and Cities. What is missing from this data provided by HR, are those entities Pima County will actually compete with for IT talent. It should be noted that Pima County is not competing with the smaller counties in Arizona. As a large employer in Arizona, we compete with Maricopa, City of Phoenix and employers similar in size in Maricopa and Pima County. In Tucson we are competing with Raytheon, Ventana Medical Systems, Intuit, U of A, Pima Community College, etc. In discussions with both the University of Arizona and Pima Community College CIOs, they stated their greatest risk at this time is the ability to recruit and retain IT staffers due to lack of a local industry pool of IT talent, and ability to attract talent to the Tucson marketplace due to competitive compensation issues. At this time, ITD will review this data provided by HR for comparable employers and analyze

their positions and salaries to Pima County position and salaries.

In January 2013, we performed an analysis of ITD's turnover rate which highlighted that the turnover issue is primarily in the Relationship & Application Services area with 50% of that turnover coming from the team that supports the Finance/Procurement/HR customer environment. This turnover in the Relationship & Application Services area is not surprising based on an Information Week 2012 Salary Survey which states Business Analysis skills are in short supply in the USA. As stated in this survey "Earning $95,000 on average, business analyst' compensation is up 9% since 2010; they now make 5% more than the median total IT pay, compared with 2% more in 2010". The Information Week survey defines compensation as total cash compensation (direct cash payments) received in the last 12 months. Pima County's most senior business analyst position (Application Analyst) has a range from $61,420 to $90,329. We fully understand that this salary survey is an aggregate across the USA and that local job markets exist. We also understand that our ranges are somewhat competitive at the top range. What we need to fully understand is where the minimum of the range should be and if some adjustment to the top range needs to occur. We reached out to a local recruiter and a national contract firm with a local presence and both confirmed that the minimum entry point was not competitive in the Tucson marketplace and that near midpoint was a better salary entry point. We hope to have assistance from HR in determining this information. This 2012 Salary Survey also notes that IT staffers remain with a company when they have marketplace competitive compensation, employment stability, and a flexible work schedule. Employees seek new job opportunities to gain higher compensation, more interesting work and personal fulfillment, and to find an enhanced company culture. All IT classifications and salary ranges are in Attachment H.

**Summary:**

In the last four years, Pima County has implemented a major change program within its Information Technology environment. The IT Department was centralized and transitioned to a Customer Service delivery model focused on enabling County business process transformation and innovation. ITD works with County Departments to understand their mission, operating strategies and how technology can assist Departments in achieving their strategies. ITD has implemented a technical infrastructure environment which is lower in cost, more flexible, reliable and redundant from an operational and disaster recovery perspective. The future requires that this solid foundation be maintained and leveraged to implement new automation to enable direct online constituent interaction with the County.

We feel we have adequately addressed the outsourcing of technical resources based on the current stage of the marketplace and technical evolution and cost constraints of Pima County. We recognized early on that Pima County IT required professional position descriptions with career advancement opportunity. This employee development process was implemented and funded for all IT employees in Pima County with full support and engagement by IT management. We also recognized that through professional development of our employees, they become more marketable. We implemented our Rewards and Recognition program and reinforced to our staff that they should apply for new positions based on their personal

readiness. Our IT Department is committed to achieving our Vision and Mission (Attachment I). Our team strives to continuously improve as we follow our Core Values:

- Personal Integrity - We conduct our professional duties with the utmost standards of ethics, transparency, professionalism, and respect for our customers and partners.
- Collaboration - We embrace diverse internal teams and promote external partnerships to the benefit of our customers.
- "Can Do" Attitude - We approach every work day with a sense of urgency and a desire to find innovative solutions to our County's challenges.
- Accountability – We set aggressive goals for customer satisfaction and continuously measure and report on our progress in promptly meeting or exceeding expectations.
- Customer Focus - We deliver the highest quality, cost-efficient and most responsive services possible to our customers.

It is important to note that Information Technology has become a major industry in the world and all corporations and governments require talented and skilled IT personnel to leverage this technology. The Information Technology profession is very mobile. IT professional skills can be applied in any governmental entity or business environment. This makes the IT industry an exciting place to work, but also a competitive one for attracting talent to your corporation and governmental entity. Tucson lacks a large local industry pool of IT talent as experienced by CIOs within the Tucson area. We in fact are competing against each other for this local pool of talent. That is why we believe the use of skilled contract employees who are looking for longer term employment is a solid way of finding and attracting talent to Pima County and into the local talent pool. I have been discussing with other local CIOs how our institutions can assist each other over time to address this challenge. At this time though, Pima County's challenge is to compensate our professionals competitively, provide them interesting work and personal fulfillment on the job, and instill/maintain a customer service oriented culture within the IT Department. What we cannot do is modify other Department behaviors or cultures within the County which may affect ITD's ability to achieve the above, or immediately affect the local industry IT talent pool.

The Board of Supervisors should also be aware that I meet regularly with the other State of Arizona County IT Directors. Through these meetings we share our achievements and challenges. The SACCNet project sponsored by the County Supervisors Association is managed by the County CIOs. Through these frequent meetings, these Counties have seen the internal technical capability that Pima County has, and one county is interested in having Pima County host some of their backup systems within our data center. We also have a local Fire District interested in hosting their 911 CAD system within a Pima County data center. We will continue to partner with and assist our sister Counties whenever it makes sense for us and them.

Pima County's new Emergency Operations Center contains our current Disaster Recovery data center. Having this capability is something that most Counties lack, but require as they continue to automate overall operations. We have partnered with the Sheriff's Department to leverage this new data center and will upgrade all ITD technicians who require entry into this facility to ACJIS certification over the next few months. Involta, a company that builds and leases out space in multi-tenant data centers (http://www.involta.com/Home.aspx) will have a grand opening of a Tucson data center in April. We provided them a tour of Pima County's Disaster Recovery facility and their management commented on what a well thought out facility we had.

We plan to continue an ongoing dialogue with Involta over time to discuss various cloud and server hosting options. It should be noted that this PECOC Disaster Recovery facility contains the PCWIN Master Radio Control environment as well as the primary Sheriff 911 CAD environment. As noted previously we have two data centers in Pima County, not fully leveraged by the Courts or ROW Officers. This is the opportunity to leverage these data centers, as well as the technical infrastructure currently deployed in Pima County by ITD and to reduce duplicative costs in these areas.

I hope this provides the information requested by the Board of Supervisors. If not, please let me know if you or the Board of Supervisors has any further questions or concerns and I will be glad to address.

LHB/mk

Attachments (A – I)

Contract Number: CT-IT-12*86-02
Effective Date : 5-1-13
Term Date : 4-30-14
Cost : $120,000.-
Revenue :
Total : NTE:
Action
Renewal By :
Term : 4-30-14
Reviewed by: JL

# BOARD OF SUPERVISORS AGENDA ITEM SUMMARY

*Requested Board Meeting Date: April ~~7~~ 9, 2013*

***ITEM SUMMARY, JUSTIFICATION &/or SPECIAL CONSIDERATIONS:***

*This Amendment to the contract with GRUPO-SMS USA LLC provides continued support for Pima County's PimaCore and Tax Assembly Financial systems. The vendor has been providing specialized programmers/consultants under this contract to enhance the capabilities of these two mission critical programs because the Information Technology Department does not have the necessary resources to perform the required services for these programs. Furthermore, a competitive bid process ultimately would not produce another vendor with the requisite technical and specific Pima County expertise/knowledge or comparable costs to successfully perform the required services.*

*CONTRACT NUMBER (If applicable): CT-IT-12000000000000000086*
*(fka #07-14-G-143969-0511)*

***STAFF RECOMMENDATION(S):***

*The Information Technology Department recommends that the Pima County Board of Supervisors adopt and the Chairman sign the Amendment to the contract with GRUPO-SMS USA LLC.*

*CORPORATE HEADQUARTERS: California*



Procure Dept 03/05/13 PM01:08

To: CoB - 4-4-13
Agenda - 4-9-13
Addendum (2)

**CLERK OF BOARD USE ONLY: BOS MTG. _____**

**ITEM NO. _____**

**PIMA COUNTY COST:** 120,000.00 **and/or REVENUE TO PIMA COUNTY:$**

**FUNDING SOURCE(S):** General Fund
(i.e. General Fund, State Grant Fund, Federal Fund, Stadium D. Fund, etc.)

**Advertised Public Hearing:**

| | YES | X | NO |
|---|---|---|---|

**Board of Supervisors District:**

| 1 | | 2 | | 3 | | 4 | | 5 | | All | X |
|---|---|---|---|---|---|---|---|---|---|---|---|

**IMPACT:**

**IF APPROVED:**

Pima County will continue to employ the expertise, skill and knowledge of GRUPO-SMS USA LLC, a specialized developer who has played a key role in the PimaCore and Tax Assembly programs which are mission critical financial systems.

**IF DENIED:**

Pima County will not have the necessary expertise, skill and knowledge of GRUPO-SMS USA LLC to effectively integrate the PimaCore and Tax Assembly programs, which are mission critical financial systems.

DEPARTMENT NAME: Information Technology

CONTACT PERSON: Julie K. McWilliams TELEPHONE NO.: 724-8066

| | |
|---|---|
| **PIMA COUNTY DEPARTMENT OF INFORMATION TECHNOLOGY**<br><br>**PROJECT: Tax Assembly System/Health and Medical Consulting Service Consulting Services, IT Department Use Only**<br><br>**CONTRACTOR: GRUPO-SMS USA, LLC.**<br><br>**CONTRACT NO.: CT-IT-12000000000000000086**<br>(former contract #07-14-G-143969-0511)<br><br>**CONTRACT AMENDMENT NO.: Two (#02)** | CONTRACT<br>NO. CT-IT-12000000000000000086<br>AMENDMENT NO. 02<br>This number must appear on all invoices, correspondence and documents pertaining to this contract. |

**ORIG. CONTRACT TERM:** 05/01/2011 - 04/30/2012
**TERMINATION DATE PRIOR AMENDMENT:** 04/30/2013
**TERMINATION THIS AMENDMENT:** 04/30/2014

| | |
|---|---|
| **ORIG. CONTRACT AMOUNT:** | $100,000.00 |
| **PRIOR AMENDMENTS:** | $120,000.00 |
| **AMOUNT THIS AMENDMENT:** | $120,000.00 |
| **REVISED CONTRACT AMOUNT:** | $340,000.00 |

## CONTRACT AMENDMENT

WHEREAS, COUNTY and CONTRACTOR entered into a Contract for services as referenced above; and

WHEREAS, CONTRACTOR and COUNTY pursuant to Article I – Term, have agreed to extend the Contract term for a period of one year; and

WHEREAS, CONTRACTOR and COUNTY have agreed to increase the contract amount to allow payment for the continued provision of professional consulting services during the extended term of the contract.

WHEREAS, the Scope of Services has evolved over the course of the contract.

NOW, THEREFORE, it is agreed as follows:

**CHANGE**: ARTICLE I – TERM AND EXTENSION/RENEWAL/CHANGES:

From: "...shall terminate on April 30, 2013..."

To: "...shall terminate on April 30, 2014..."

**CHANGE**: ARTICLE III – COMPENSATION AND PAYMENT:

From: "...not to exceed two hundred and twenty thousand dollars ($220,000.00)."

To: "...not to exceed three hundred and forty thousand dollars ($340,000.00)."

The effective date of this Amendment shall be the 1st day of May, 2013.

(THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK)

All other provisions of the Contract, not specifically changed by this Amendment, shall remain in effect and be binding upon the parties.

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IN WITNESS THEREOF, the parties have affixed their signatures to this Amendment on the dates written below.

**APPROVED:**

Ramon Valadez

Chair, Board of Supervisors

APR 09 2013

Date

**CONTRACTOR:**

Signature

Justin Winder / President

Name and Title (Please Print)

2/22/13

Date

**ATTEST**

Robin Brigode

Clerk of Board

APR 09 2013

Date

**APPROVED AS TO CONTENT**

Anthony Cesella for

Lionel H. Bittner, Chief Information Officer

3/4/13

Date

**APPROVED AS TO FORM:**

Tobin Rosen, Deputy County Attorney

2/15/13

Date