Report Type: Meeting Date: 4/19/2011

Summary Title: SAP Enterprise Resource Planning Assessment

Title: Post-Implementation SAP Enterprise Resource Planning (ERP) Assessment

From: City Manager

Lead Department: Utilities

Recommendation
Staff recommends that the Finance Committee recommend to the City Council approval of release of the previously-budgeted 2011 funds for SAP-related Capital Improvement Projects (CIP). Per Council’s request, staff is providing the “Post-Implementation SAP Enterprise Resource Planning (ERP) System Assessment”.

Executive Summary
Council requested that staff prepare an assessment of the SAP system before releasing the 2011 CIP funding for SAP improvements. Staff completed the tasks described below and requests that Council release the SAP CIP funding for the 2011 fiscal year.

The City of Palo Alto (City) recently participated in a benchmark survey conducted by the SAP Value Engineering Group. The survey focused on benchmarking SAP operation performance with similar industry peers. Over 240 organizations participated in the survey, of which 22 were Utilities-related and 15 were in the public sector. When compared with similar organizations, initial results indicate City staff is supporting a more complex SAP system landscape efficiently from both an operations and financial perspective.

To steer SAP investment direction as well as to provide overall guidance of SAP implementation, the City established a SAP Program Management Office (PMO) and a Steering Committee. These teams are comprised of staff from the Administrative Services, Utilities and Public Works departments. They review key operations indices and prioritize projects within budget and resource constraints.

The City issued a request for proposal (RFP) for a review of its SAP software installation. The primary goals of the assessment are to evaluate the value that was delivered to the City through the implementation of the software, compared to other ERP system costs, and to identify recognized industry best practices. The assessment will also describe process improvements achieved through the implementation of SAP, identify risks to the continued operation of the system, and provide recommendations on how to mitigate the risks.
Background
On July 19, 2010, Council approved a three year software consulting services contract with Sierra Infosys Inc. in the amount of $250,000 per year ($750,000 over three years) for the support and maintenance of the SAP Utilities and Financial systems, on an as needed basis. Along with the approval, Council required that staff return with a study session on SAP cost benchmarking, cost benefit analyses on SAP related projects, and long-term strategic plan.

Discussion
In July 2002, the City selected SAP as its ERP system to address the challenge of disparate business systems in the City. The SAP system replaced the City’s aging financial, personnel and payroll systems and allowed the City to implement new functionality such as project management, work order and service order systems. In May 2009, the City completed an upgrade of the SAP system to ERP Central Component (ECC 6.0) and the implementation of the SAP Utilities Module called SAP’s Industry Specific Solution for Utilities Customer Care and Services (IS-U CCS). The IS-U CCS module replaced the Utilities Department’s 10 year-old Customer Information System that was designed to create and manage customer accounts, generate bills for the City’s seven utility services, and collect customer revenue. The IS-U CCS software is used to process over 30,000 utility accounts, generate approximately 370,000 utility bills and invoice an estimated $220.8 million annually. In January 2010, the City activated the on-line e-bill and payment feature, My Utilities Account (MUA), for all utility accounts. To date, the City’s SAP system installation and upgrade costs total approximately $15 million. The City’s annual cost to maintain SAP is approximately $3.0 million, which is comprised of staffing ($2.2M), hardware and software licensing ($0.5M), and consulting ($0.25M).

Between September and December 2010, the City participated in a Total Cost of Ownership survey to exchange benchmark metrics and best practices across various organizations that use SAP. There were 40 questions geared towards key performance indicators and another 39 based on best practices. Overall, the results of the survey showed that the City has a highly complex system, provides similar IT efficiency levels, and invests less on SAP technology than other organizations.

The City has five separate SAP server systems whereas the industry average is below two. Five production systems are required at the City in order to support the required business functionality, complexity that is driven by the addition of the City’s utilities. The City maintains an ERP system which supports the core functions including accounting, finance, human resources, service orders, projects, and utility billing, Customer Relationship Management (CRM) for Utilities Customer Service to provide services for customers, Business Intelligence (BI) for internal and external reporting, Utility Customer E-Services (UCES) for online utility customers to view and pay electronic bills, and Employee Self-Service/Manager Self-Service (ESS/MSS) for staff to enter time, request time off, and view personal information. In addition, for each production instance the City manages two additional clients for development and quality assurance testing to maintain security and data integrity.
For IT efficiency, staff spends approximately 4.9 staff hours per each SAP incident, which is slightly above the 4.4 hours average. An incident can vary by hours to days, depending on the complexity of the issue. As stated previously, the City has a more complex system due to the number of production systems it supports for the City and its seven utilities. The IT Helpdesk also supports SAP and closes approximately 40% of the work orders, which is above the benchmark average of 32.5%. Based on benchmark results, the City’s IT and SAP staff are supporting the system in an effective manner.

The City invests about 21.3% or $2.8 million of its total IT budget in SAP, which is below the survey average of 34.3%. The SAP support cost per active user is $3,962 which is 12% below the average. The City has been able to keep costs relatively low in comparison to other organizations by avoiding program customizations and implementing standardized solutions to support City’s business strategies.

<table>
<thead>
<tr>
<th>Category</th>
<th>Metric</th>
<th>City</th>
<th>Avg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity</td>
<td>Number of Production Systems</td>
<td>5.0</td>
<td>1.65</td>
</tr>
<tr>
<td></td>
<td>% of Critical Interfaces</td>
<td>64.4</td>
<td>49.2</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Total Labor Hours per SAP Incident</td>
<td>4.9</td>
<td>4.4</td>
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<tr>
<td></td>
<td>% of Incidents Resolved by Help Desk</td>
<td>40.0</td>
<td>32.5</td>
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<tr>
<td>IT Investments</td>
<td>SAP Budget as % of Total IT Budget</td>
<td>21.3</td>
<td>34.3</td>
</tr>
<tr>
<td></td>
<td>SAP Support Cost per User</td>
<td>3,962</td>
<td>4,447</td>
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To provide guidance on SAP Governance and Control, the SAP Program Management Office (PMO), consisting of Assistant Directors and managers from Administrative Services, Utilities, Public Works and IT, and the SAP Steering Committee comprising the Directors from Utilities, Public Works, Human Resources and IT were put into place in September 2009. The PMO office management team meets weekly to discuss project status and subjects related to operations while the Steering Committee meets on a bi-monthly basis to review key operations indices, project priorities, and resource and budget status. As a result of the SAP investment planning process, where business drivers and enabling IT/SAP technologies are aligned, the PMO developed a five-year roadmap from 2009 to 2013 to provide short-, medium-, and long-term views of SAP Investment. Each investment will be associated with key business drivers and enabling IT technology. These investment roadmaps are to guide the deployment of enabling information technology to reduce risk and ensure maximum return on SAP investments.

In the five-year roadmap, the SAP Steering Committee and PMO prioritized projects in order to achieve maximum return on SAP investments with limited resources in an increasingly complex and changing technological environment. The PMO has identified a multitude of business drivers including Council priorities, customer service, regulatory compliance, operating costs reduction, improvements in service delivery and efficiency, and revenue enhancements. One of the challenges in aligning business goals with enabling information technology is finding the optimal balance between IT costs and business benefit, which involves identifying the business
impact of every IT solution and understanding the complete life-cycle issues. In the roadmap there is an alignment of business drivers and enabling technologies with the scheduled projects.

In October 2009, staff committed to have a post-implementation review of the SAP system. The City issued a Request for Proposal (RFP) in February 2011 for a post-implementation review of the SAP system to provide a high level analysis of the overall investment in ERP technology and its benefit to the City. The scope of work will include a comparison of the costs of ERP system implementations and maintenance in other organizations of similar scope, size, and complexity; an assessment of the system’s ability to support key business processes; a comparison of City's business processes to industry best practices; identification of ongoing risks in the system, and recommendations on how to mitigate risks and potential improvements. The RFP closed on March 15, 2011. A summary of RFP responses follow:

ICA Consulting $48,720
Phoenix Business Consulting $77,000
Government Finance Officers Association Consulting $59,880
Pacific Technologies Incorporated $49,935
Plante Moran $98,000
KPMG $337,340
Pandit View Software No total Cost Provided
SAP Techie $45,000

Staff is seeking direction to continue that total cost estimates for the assessment are higher than expected.

SAP related - Capital Improvement Projects (CIP)

There are six CIPs in FY 2011 that provide funding to enhance the City’s SAP system. Each CIP performs a specific function and provides a value and benefit. The following is a high level scope of each FY 2011 project and includes general estimated costs, benefits, and timelines. Although budgeted CIP amounts for FY 2011 remain unchanged, please note that certain CIP funding requirements are expected to carry forward to FY 2012, as a continuance request to complete the projects:

1. **TE-07000 - Enterprise Application Infrastructure Upgrade** –$75,000
   - **Scope:**
     - Additional hardware storage is required to ensure the backup of the Customer Relationship Management (CRM) web application server, which ensures Utilities Customer Service interface (i.e. processing customer move-ins) is properly developed.
     - New, dedicated back-up servers are required for both the CRM and UCES (Utilities Customer Electronic Services) systems.
   - **Benefits:**
     - Ensures business continuity of mission critical systems
Ensures promptness of recovery (if required)

- **Completion:** End of FY 2011
- **Funding Requirement:** $75,000

2. **TE-10000 - Enterprise Collection Software - $32,000**

   - **Scope:**
     - Implement non-utility related Accounts Receivable and Collection processes in the SAP system.
     - Automated tracking of late and unpaid receivables
     - Automatic creation of delinquent (Dunning) and late fee notices
       - Create additional notices and types (i.e. 30, 60, and 90 days)
     - Reporting – additional Collection reports to be created

   - **Benefits:**
     - Automation of the Collection process which increases staff productivity
     - Reduces non-utility AR aging
     - Improves reporting capabilities

   - **Completion:** Beginning of FY 2012
   - **Funding Requirement:** $79,000 in FY 2010 and $32,000 in FY 2011

3. **TE-10001 - Utilities Customer Billing Continuous Improvements - $350,000**

   - **Scope:**
     - SAP system enhancements related to legislative and regulatory mandates.
       - Assembly Bills 531 and 1103 – Non-Residential Building Energy Data Consumption - Environmental Protection Agency (EPA) Benchmarking.
       - Senate Bill 120 - Requires that Utilities offer the utilities account currently paid by the landlord to the residential occupants, when service is scheduled to be disconnected for non-payment. Requires programming to capture tenant-occupied residential dwellings.
       - Print Ten-Day, 48-Hour and Disconnection Notices in specified languages required by the California Public Utilities Code.
     - Optimize critical Customer Service Rep business process screens
     - Enhancements to online services (My Utilities Account)
     - Improved data capture of customer payment arrangements
     - Automate tracking of consumption for high bill complaints
     - Increase the security of customer sensitive data
     - Automation of specific business processes

   - **Benefits:**
     - Fulfills legislative and regulatory requirements
     - Improvements to the CSR Screens – increases operational efficiency and productivity of business process (i.e. new account creation). Reduces customer hold and call times.
Continuous improvement of security of customer-sensitive data - increases the protection of customer-sensitive data through added masking, encryption, or authorizations.

Enhancements to My Utilities Account - increased ease of usability, decrease number of user clicks, and add functionality.

Continue to automate specific business processes - reduce manual processes to increase efficiency.

- **Completion:** FY2011 and FY2012
- **Funding Requirements:** FY 2011 - $350,000. Due to a shift in SAP priorities and staff's ability to perform regulatory related enhancements, a large percentage of the $350,000 is not expected to be utilized in FY 2011. Staff is anticipating the need for a continuance of FY 2011 funding into FY 2012, which is reflected by a reduction in the original FY2012 budget from $367,000 to $150,000. This is a reduction in the amount of $217,000.

4. **TE-11003** - Recurring Credit Card Payments - $150,000
   - **Scope:**
     - SAP system and My Utilities Account web application enhancements are required to provide online customers with the ability to set up the recurring payment of their Utilities invoice using a Credit Card. (Currently, only offering recurring ACH or auto debit from the customer’s bank account.)
   - **Benefits:**
     - Encourages the use of online e-services, which reduces operational expenses
     - Increase in Customer satisfaction
     - Increase in Customer convenience
   - **Completion:** mid-FY 2012 (estimate)
   - **Funding Requirements:** FY 2011 - $150,000. A request for continuance of FY 2011 funding into FY 2012 is expected with no additional funding requested for FY 2012.

5. **TE-11004** - Utilities Customer Bill Redesign - $750,000  
   (formerly: “Utility Bill Information Enhancements”)
   - **Scope:**
     - Utilities bill printing software (current third-party vendor support is from Pitney Bowes) and SAP system changes are required to perform a complete overhaul of the current Utilities invoice design and format.
   - **Benefits:**
     - Display information to encourage conservation of usage
     - New graphs and helpful consumption comparisons
     - Rate information
     - Water and Energy Efficiency Program Participation
Improved transparency of the invoices for each of the seven regular utilities services, plus added detail for “miscellaneous” charges.

- Display of customer Deposit amounts held by CPAU
- Display of “On-Bill Financing” loan and payment amounts
- Display of customer “Payment Arrangement” terms, invoices and payments
- Additional billing information in tabular form
  - Improved meter data, average daily and monthly consumption, usage analysis, greenhouse gas equivalents, and Palo Alto temperature data (heating and cooling degree days)

- Enhances the Customer’s satisfaction and experience

**Completion:** end of FY2012 (estimate)

**Funding Requirements:** In order to focus on higher priority SAP maintenance items, this project was postponed to begin in late FY 2011. Please note that a large portion of the budgeted $750,000 is not expected to be utilized in FY 2011. However, the remaining balance at the end of fiscal year is expected to carry over into FY 2012. The continuance will be in addition to the $150,000 requested for FY 2012. Business requirements gathering will occur in FY 2011 with the Blue Printing phase starting in July 2012.

6. **TE-11005 - Implementation of New Utility Rate Structures - $100,000**
   (formerly: “Implementation of New Utility Rates”)
   - **Scope:**
     - SAP system changes required to accommodate new Utilities rate structures including Residential Time-of-Use, Electric Vehicles, and potential tier adjustments to existing rate schedules. This may include new configuration development, testing of the calculation algorithm, and changes to the invoice.
   - **Benefits:**
     - Ability to implement new rates as required in SAP
     - Enables customers to view new rate details on the invoice
     - Transparency of information
   - **Completion Date:** FY 2012 (estimate)
   - **Funding Requirements:** FY 2011 - $100,000. Due to the postponement of the Utilities Smart Grid project, funding requirements for FY 2012 have been reduced by $900,000.

A comprehensive view of estimated funding for each SAP-related CIP in FY 2011 and beyond is provided in the table below. Dollar amounts in parentheses indicate an adjustment to reflect a reduction in the original funding amount (in $000’s):
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<td>TE-07000</td>
<td>Infrastructure Improve</td>
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<td>TE-11004</td>
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<td>TE-11005</td>
<td>New Utility Rate Struct.</td>
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<td><strong>Total</strong></td>
<td></td>
<td><strong>$1,457</strong></td>
<td><strong>$400</strong></td>
<td><strong>$250</strong></td>
<td><strong>$250</strong></td>
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**Timeline**
The RFP closed on March 15, 2011. City received 8 proposals for the RFP. The consultant will develop and present for City approval a complete project work plan, including a description of major tasks and subtasks, along with a proposed timeline for completing the milestones.

**Resource Impact**
Funding for all SAP-related CIP projects in the amount of $1,457,000 was placed on hold in FY 2011 except for work involving legal requirements until an assessment was completed. Staff requests authorization to release FY 2011 funding for the six CIP projects described in this report. In the FY 2012 budget process, staff plans to request an additional $400,000 for continuance of three Utility-related projects.

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City Manager Approval: James Keene, City Manager