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# Production Assessment of Marin County's SAP ERP System



Phoenix Business Consulting

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## **Introduction**

Phoenix Business Consulting is a firm specializing in SAP R/3 implementation services, including SAP project management, reengineering, technical support and maintenance. We have extensive experience in managing large, complex SAP projects for leading corporations and institutions with a strong focus in Public Sector. Phoenix Business Consulting has done extensive SAP implementation work at over 50 Public Sector projects including Erie County, Durham County, Multnomah County and Tarrant County.

Marin County has asked us to render an opinion on the SAP implementation at Marin County and to provide a sequenced plan to fix problems identified in the system. Phoenix Business Consulting staff has been working onsite, and remotely, to complete the review from January 11, 2010 to May 31, 2010. The review is ongoing and we are presenting an initial report on our findings to date.

As our review is ongoing, we will continue to modify our report as new information becomes available.

## **Approach**

Our approach has been to:

- 1) Review the requirements
- 2) Understand the areas where the SAP system as implemented does not currently meet the requirements
- 3) Provide an estimate to fix the issues identified. This includes the time estimated to complete the project, resources required and the cost to complete the project.
- 4) Provide a sequenced project plan to fix the problems identified.

In performing our work, we relied upon, and considered, the numerous documents that were provided to us as well as the interviews we conducted with Marin County SAP Support staff and business users. We have also performed an initial review of the SAP system configuration to confirm our findings and assist in the development of solutions.

This report and the attachments provided do not encompass a comprehensive solution review.

The areas we have reviewed to date are:

- General Ledger
- Grants Management
- Purchasing

- FM Budget
- Cash/Treasury
- Accounts Receivable
- Project Systems
- Accounts Payable
- Fixed Assets
- PM Work Orders
- Inventory
- Payroll/Banking
- Debt Management
- Human Resources
- Payroll
- Benefits
- Position Budget Control
- Learning Solution
- Employee Self Service
- Manager Self Service
- Performance Management
- Recruitment
- Labor Management
- Risk Management

We have not reviewed Controlling, Budget Preparation, Business Information Warehouse or any other areas of SAP that are not explicitly listed above.

### **Summary of Findings**

Phoenix Business Consulting has completed the first draft of the SAP System's review of Marin County. A summary of our findings is detailed below:

- The SAP system, as configured, has not met the original objectives of the SAP implementation project as defined in the Implementation Services Agreement with Deloitte Consulting dated March 29, 2005.
- Users have expressed unhappiness with the method in which the current SAP system functions and have expressed that the system, as configured, does not meet their requirements.
- Our findings indicate a large number of areas where the design needs to be modified, the SAP system reconfigured and reports created. The number of problems identified exceeds the amount of issues we would normally expect in a system that has been live for the length of time of that of the Marin County system.

- The configuration in many areas is incomplete and needs to be configured or reconfigured.
- Marin County's report requirements are not being met in the current SAP system implementation. Additional reports need to be implemented to meet Marin County's needs.
- The configuration of the SAP system in many areas was set up incorrectly during the original SAP implementation (organization structure, General Ledger accounts, Fixed Assets, Grants Management, Payroll accounting, etc.).
- Some of the configuration is performed in a manner that is not recommended and does not follow best business practices.
- System configuration and business processes are not sufficiently documented.
- Basic financial reports cannot be produced out of the SAP system.
- The SAP system was not adequately tested prior to Go-Live. Had the system been completely tested, many of the errors in the system would have been identified and resolved prior to Go-Live. For example, the ability to produce accurate Financial Statements should have been validated prior to completion of the project.
- SAP Solution Manager was not properly utilized during the initial installation. SAP recommends using Solution Manager as a project management and documentation tool. The functionality available within Solution Manager should have been used more extensively at Marin County.
- As initially designed, the SAP System is overly complicated, thus requiring excessive effort to maintain and operate on a day-to-day basis.
- There was insufficient knowledge transfer during the initial SAP project implementation increasing the difficulty of the Marin County staff to support the number of changes required to fix and maintain the SAP system.
- The Marin County SAP support staff is very knowledgeable. We have not performed a detailed analysis of the capabilities, job responsibilities and the requirements for staffing for ongoing support. However, our initial finding is that the current staffing needs to be supplemented to continue the support of the SAP system.

The Marin County SAP support staff is fully engaged in supporting the current SAP system. The additional fixes/configuration recommended in this report will require a large time commitment on the part of the Marin County SAP support staff and Marin County end users. In addition, new modules/functionality will be implemented which will require additional resource staffing on a permanent basis in the Marin County team

to support the new modules/functionality. As more functionality is activated within SAP, it requires more production support from the Marin County staff. We would recommend that Marin County adds the following staff members to the team:

- Increase BI staffing by 1 FTE
- Increase ABAP staffing by 2 FTE
- Increase Basis staffing by 1 FTE
- Increase Security staffing by 1 FTE
- Increase Logistics staffing by 1 FTE
- Increase FM Budget staffing by 1 FTE

Although there are areas where the SAP system needs to be reconfigured, repaired and redesigned, we do believe that the majority of the errors can be corrected to the satisfaction of the majority of the end users and Marin County management.

### **General Ledger**

The General Ledger account mappings need to be revisited. Marin County reports their Financial Statements by functional activities that cannot be derived based on the existing values of the Funds Management (FM) account assignment objects. Marin County has not been able to produce a set of Financial Statements since they went live with SAP.

In order to produce an accurate set of Financial Statements for the County, a Consultant needs to work with Marin County in determining the requirements for financial reporting and map the G/L accounts and Commitment Items into appropriate groupings for reporting. This might require a redesign of the General Ledger accounts and mappings to produce the required reports.

Additional validations need to be implemented in SAP to prevent erroneous entries from posting into the G/L (for example, the fund balances account in 3\* range is posted by the end users). The method in which document splitting is performed in the SAP system needs to be further reviewed and modified. The two Depreciation areas are wrongly configured in Asset Accounting making it difficult to report on Modified accrual basis. The Month-end and Year-end close process needs to be extensively documented.

The General Ledger issues should be addressed first as part of the Marin County assessment.

### **Grants Management**

The SAP Grants Management configuration at Marin County is incomplete and requires significant effort to implement; for example, cost-sharing rules, overhead rules, integration with SD module for various types of billing, multi-year budgeting, etc.

In addition to the configuration required, there is existing data already posted before GM split rules were configured in the system that will have to be cleaned up. Additional issues include the fact that GM budgeting is not integrated to FM budget and the year-end configuration is incomplete. Marin County also requires Grantor configuration to be implemented in the SAP system. Grants Management reports need to be developed as the current Marin County SAP system has not been fully developed to provide these reports to meet Marin County's requirements.

### **Purchasing**

There is a significant amount of work to be done in the configuration of the Purchasing module. We identified a large number of business process improvements and break/fixes that were required in areas such as vendor files, transaction processing, requisition processing, bid and quote processing, contract administration, purchase order management, receiving, workflow, vendor self-service and query/reporting where the system does not meet the Purchasing requirements and each of these individual items requires functional and technical consultants to develop solutions. One example of an issue identified is as follows: During the entry of the Purchase requisition, the commitments do not take into account the sale tax, thereby causing errors when Purchase orders are created. An overhaul of Workflow and Notification process is required for approval purposes and sending the faxes and notifications.

In addition, a number of enhancements need to be implemented to meet Marin County's requirements. Examples of enhancements that will take significant work effort include the requirement Marin County has which allows vendors to set up their own data and the facility to query vendor master tables. This will require configuration of the portal-enabled vendor self-service and the development of a customized workflow. The standard SAP workflow mapped to the organizational structure may not meet the County's requirements; it will require customization. Sending faxes, emails and other notifications to the vendors during the automatic registration requires additional configuration and customization.

There are a number of custom reports that need to be developed; for example, classification of the Vendor master data with user-defined fields (which is required for tracking and reporting).

### **FM Budget**

Marin County requires the functionality to be able to budget by position and provide reports on budgeting by position in the SAP system. This is a critical area for Marin County since a majority of its costs are related to personnel costs and this requirement was not properly addressed in the original implementation. To address this issue it will require the implementation of either Position Budget Control (PBC) in SAP or similar functionality through the creation of ABAP reports. We have provided estimates for the Budget Preparation System but have not performed a detailed review of all the requirements.

There are a number of different budgeting options currently in SAP including a new Public Sector Budget Formulation (PBF) product from SAP. The pros and cons of these options needs to be further discussed with the County.

Position Control information is also required for budgeting by the County. The functionality is available in SAP and the hours to configure the functionality are included separately in the sections in Human Resources, Payroll and Position Budget Control. Position Control will allow Marin County to budget personnel costs by forecasting projected personnel expenditures, create commitments in FM for the projected personnel costs, and automatically reduce the commitments when actual expenditures are posted. Position Control budget information can also provide improved reporting and can be extracted into BW for reporting and budgeting.

In the Funds Management module, Marin County needs to review and fix the configuration in areas such as Availability Control and Multi-Year budgeting. The Budget control is not properly integrated with Project systems plan/budget data, the workflow process needs to be modified and the Month-End and Year-End close process needs to be improved, particularly the carry forward of Fund balances.

There are a number of different planning options in SAP, including Integrated Planning (IP) and Business Planning and Simulation (BPS). The County plans its budget using the Business Planning and Simulation (BPS) functionality of SAP's Business Warehouse (BW). After finalizing the budget plan numbers, the information is downloaded into an Excel spreadsheet and uploaded into the Funds Management Budget Control System (BCS) within SAP. Budget transfers and other adjustments are performed directly in the Funds Management module after the fiscal year budget is loaded. This causes a difference in the budget numbers between BW and the SAP ERP system. The SAP ERP system information has to be retracted into BW to keep them in sync.

In addition, there is no integration between the Project System (PS) module and Grants Management (GM) module to the FM-BCS module in SAP. The County is contemplating the use of the integrated planning functionality. The preliminary budget numbers finalized in Project Systems and Grants Management will be mapped to the FM-BCS budget numbers. Any changes in Project Systems and Grant Management should be automatically reflected in FM-BCS. We have added additional time for the FM consultant and GM consultant to provide a solution in our detailed calculation of the hours required to meet the requirements.

### **Cash/Treasury**

Some of the Cash/Treasury business processes at Marin County should be reconfigured and improved. For example, in order to reflect the Bank transfers from one account to other accounts and create the financial documents, configuration called "Repetitive codes" needs to be set up in the Marin County system that will help to automatically post the financial document. Additionally, workflows need to be modified to improve the process. One-on-one training



sessions with a consultant will also help to improve the Cash/Treasury business process since the users need assistance on how to reconcile the Bank statements.

### **Accounts Receivable**

The cash receipts are in most cases are credited to the revenue account including the advances / drawdowns from sponsors. Some areas of configuration in the Accounts Receivable need to be added to the Marin County system. Examples are configuration for special G/L indicators in SAP and the ability to write off small discrepancies. Basic reports, such as an Aging analysis, need to be created for Marin County.

### **Project Systems**

The Project Systems' configuration is currently not meeting the needs of Marin County, as it is configured only to use it as a costing object rather than for project management. Significant work needs to be done in such areas as integrating the Project Systems module with Planning/Budgeting and Funds Management. The Marin County system currently checks against plan when it should really be configured to do an Availability Control Check against the Budget in Funds Management.

There are many such Project Systems business processes that have not been completely configured and will require significant work. For example:

- The County has a lot of requirements in Project Costing that require overhead cost allocations to be applied to projects/grants;
- The County wants to track costs with a particular activity or type of service;
- The ability to interface with MS Project and schedule and download to Microsoft Project;
- Budget availability for the Project System is not properly integrated;
- As the Project System is not fully configured, the user-defined parameters have to be defined for reporting and queries;
- Overhead calculation based on user-defined parameters, Billing and settlement require additional configuration and customization; and
- The standard SAP Costing overhead calculation does not meet Marin County's requirements. The County requires the flexibility to define the overhead rates and to charge it to Projects based on conditions which will require customization and development of a customized table.

These are just a few samples of the requirements in the Project Systems area that will require significant effort from functional and technical consultants to incorporate into the current Marin County configuration.

There have been a number of report requirements identified, including reports to reconcile cost and revenue in projects. Project Systems is currently being used as a substitute for Grants Management and the business process should be changed to use the functionality in the modules as it was intended.

### **Accounts Payable**

The E-payable system with Bank of America is under development. Marin County is having problems with check printing when the printer stops in between check payments. Withholding tax is not properly configured. Marin County's reporting requirements are not fully met in the Accounts Payable area and new reports need to be developed.

### **Fixed Assets**

It appears from our initial review that the two Depreciation areas were incorrectly configured in the Marin County System. Depreciation Area 01 is used for the Full accrual accounting instead of the Modified accrual. The Depreciation Area 20 is used for Modified accrual instead of Full accrual. In addition, the GL accounts for posting depreciation is not correctly set up which is causing an incorrect posting of depreciation entries. The Marin County SAP system has not been able to post correct entries from the date the Marin County system went live.

A more detailed review of the Fixed Assets system needs to be performed and the configuration modified to meet SAP best business practices. This may require Marin County to fix master data and transactional data as well as system configuration.

Additionally, Marin County requires some user-defined fields for reporting and evaluation. . There is also a requirement for additional customized reporting.

### **Plant Maintenance Work Orders**

Marin County has implemented a portion of the Plant Maintenance module of SAP for the Department of Public Works for specific functionality that the department needs. There is a requirement to expand the use of Plant Maintenance to other Marin County departments. The expansion to other departments will require additional configuration to be performed to the Plant Maintenance module in the areas of work orders, preventative maintenance, facilities maintenance, resources and infrastructure management.

The expanded use of Plant Maintenance functionality will allow Marin County to forecast and plan the expenditures/costs. Marin County also requires workflow and notifications for all Plant Maintenance scheduled activities, tasks and sub-tasks which can be configured within the Plant Maintenance module.

There is also a requirement for additional customized reporting (late work orders, work order efficiency, etc.) from the Plant Maintenance module.

### **Inventory**

Marin County uses the moving-average price method for inventory valuation. The Marin County SAP system is not including the sales tax based on jurisdiction code for their Purchase Requisitions and Purchase Orders. This is one of the major issues for the County, as they have to manually intervene to adjust the tax component of the items purchased for the budget consumption and commitment.

The County wants to map the commodity codes with hierarchy to material groups. The County would benefit from improved reporting through customized reports.

### **Payroll / Banking**

The standard SAP report has Zero amount for voided checks. Marin County would like a customized report for the voided checks that show the voided amount.

### **Debt Management**

Debt is currently managed manually. Since Marin County reports on multiple accounting methods, on the Cash, Modified and Full accrual basis of accounting, each and every activity of the Debt management has to post the required GL entries under the three different basis of accounting. SAP has standard functionality in the 'Treasury Manager' sub-module that caters to the requirements of the County. Marin County may need some customized reports in the Debt Management area.

### **Human Resources (Personnel Administration and Organization Management)**

There are a number of areas in the HR configuration that need to be redesigned and reconfigured. There are also numerous reporting requirements. Below is a sample of these requirements.

The current configuration of the Marin County system doesn't allow the County to track important attributes of jobs; examples would include attributes such as probation hours, BU/FG

attributes, etc. Marin County needs to redesign the system to effectively track these attributes, which are mainly used in time evaluation, payroll processing and HR reporting.

Marin County must also correct the employee work hours' data as the current work schedules are not accurately reflecting the assigned hours for majority of the employee population. In addition, there is a need to consider the impact of data from additional assignments in IT554 on the primary assignment, such as computing the total pay, and creation of holder relationship for the position assigned via IT554. Currently, this requires a manual workaround, which can be replaced with an automated process.

Another issue in the Marin County SAP system is that it is not possible to capture the Time in Job details, which plays a major role in business processes for Step increases, Performance Evaluation, RIF, etc. Reports must be built to get this data, based on the time data from the time management.

Additional improvements can be made through workflow. Existing workflows are not using the org structure. The current org structure must be realigned to better suit the workflow needs to avoid any major customizations in the future.

By introducing dynamic actions, Marin County can maintain some internal data controls to be used in time processing. This will help the County in time evaluation processing and reporting. The current system doesn't have the configuration in place to track the qualifications and licensing requirements on jobs, positions and employees. Marin County can start using this feature by configuring the Qualifications catalogue. This will greatly help the County to track the employees' qualifications. It assists managers in recommending the necessary training courses to their employees for obtaining the missing qualifications to perform their job responsibilities. Also, they can identify the required qualifications to keep employees on their development plan and improvement plan tracks.

Business process improvements can be made by empowering the managers and departments to initiate and approve the employee data changes by introducing the Personnel change requests module, which promotes self-service aspect of the HCM.

Currently, the majority of the County's reporting involves tedious processing of combining data from multiple reports outside of the system. This can be resolved by developing a new HR custom FLEX report, to report on any employee-related information.

The current SAP HR system can also be leveraged to meet some of the following critical requirements of the county:

- Ability to view budgeted vs. actual personnel expenses at any time. Assigning the licenses and certification details, automatic notifications upon reaching the Extra hire hour limits, job hours spent, automatic generation of termination check-list documents,

- Assigning the Licenses and Certifications details to the job in SAP can be accomplished by making use of the license and qualifications functionality.

There is a requirement for Arrears, Claims, Third-party Remittance, and FSET reporting.

### **Time and Payroll**

A number of areas in the Time configuration can be improved upon. Currently, the County captures the employee's working time, and exception time in the employee's time sheet. However, the time entry process lacks sufficient validations at the point of entry and it is left up to the approving managers to verify the time for accuracy. By enforcing validations at the point of entry, the County can reduce the number of errors in the system, the amount of reliance on approving managers to verify accuracy, thus reducing the cycle time.

Another major concern is that employee master data does not accurately represent the actual work schedule rule or work hours. This is an on-going issue since the initial Go-Live, as not all work schedule rules were designed and configured in SAP during the implementation. This means that the majority of the population is assigned with a generic 24-hour work schedule rule, which is incorrect. In order to effectively use the time management module in SAP, it is critical to have the accurate work schedule rules assigned to the employees. It is difficult for the absence quota accruals to be accurate, if employees' assignment hours are not accurate. Any inaccuracies in absence quota balances are directly tied to incorrect payments since it may cause either an over deduction or an under deduction of absence quotas. Assigning an employee to a 24-hour schedule allows employees to record more than 8 hours of absence. This may not accurately reflect the true absence of the employee. All these issues reinforce the need to look at the method in which the work schedule rules have been designed and revise the configuration to meet the needs of the County.

There are some issues with quota accruals when a job change is involved. The absence accrual rules need fixes to address issues when employees are moving to different jobs. Currently, the quota payouts are not automatic at yearend or upon employee separation from the County. We can come up with rules so that the system will automatically calculate the quota payouts as per the business rules. Severance/Termination Pay can be performed through the Time Evaluation rules. IT0416 is a manual option. Based on the requirements given, the configuration for this area is available in SAP.

In the current system employees are burdened with calculating and entering their overtime (except for fire fighters). By configuring the overtime rules in the schema, we can automate overtime calculation to simplify the time entry process. We can automate the hours for shift differentials as well, which are currently being entered manually.

Additional items that require attention include the ability to accurately track the employee time counters such as probation hours, job hours, extra hire hours, etc. These hours are important for seniority and for step advancement.

The County is currently using IT0554 to represent additional assignments the employee is holding, in addition to the primary assignment. Because of this, the County may have to add some additional validations/enhancements such as associating the entered time with the cost center assignment from IT554 and routing the entered time for those assignments to the appropriate supervisors for approval. The County needs to make sure that the employees are getting credit for hours from their additional assignments in quota accruals and in calculating the service years, job hours, etc. The County can enhance the time sheet to track the hours based and project according to their needs.

In payroll, we can build process model functionality offered by the standard SAP to combine multiple individual steps to build logical processes, such as ability to replace a lost check in one step. This will greatly improve process efficiency.

The current SAP Payroll/Time system can be leveraged to meet some of the following critical requirements of the County:

- The SAP system can be modified to meet other critical requirements, such as the ability to report project-based working times, ability for the time approval based on cost center and project hierarchy, catastrophic Leave process, workflow-based time approval, and the requirement for the Travel Excess Per Diem.
- For the requirement of Direct Pay for Benefits, where the net pay is less than zero, a process can be designed to arrange for the recovery of the benefits contributions from the employees to handle the negative net pay.
- Marin County also wants the ability to query and report from any field within the payroll module and for any time period. This requirement can be met, to some extent, using the standard reporting as well as through the use of the Query Manager tool.

For the requirement “Direct Pay for Benefits,” a Payroll rule can to be inserted that would total all Benefits deduction for each employee and compare it with the net pay. If the net pay is positive (>zero), nothing will be done. If the difference is less than zero, then it will add back all Benefits deduction to the employee. In this case, we can trigger a wage type reporter and list the employees for whom the Benefit deductions are not being made. After that there is a manual process to arrange for the recovery of the non-deductions.

## **Benefits**

There are a number of areas in the Benefits section where we identified that the current requirement is not being met by SAP; these include configuration items, correspondence letters

which require creating SAPScript forms design and configuration in SAP, user exits and workflow.

Some of the items identified include:

- Configuration of the Family Medical Leave Workbench (FMLW) in SAP to meet Marin County's Family Medical Leave requirements
- SAPScript forms to meet the requirement to produce confirmation letters indicating the employee's current participation levels in all benefit plans
- Workflow and correspondence letters for termination of coverage for non-spouse dependents for either age or educational status
- Maintaining proof of continuing dependent coverage in SAP
- COBRA configuration in SAP to produce HIPAA benefits certificates including plan, coverage, dependent coverage, and social security number, dates, etc. (all the info required by feds)
- Open enrollment configuration (for example, to notify employees of benefit eligibility dates) and produce letters, emails and other notifications announcing open enrollment
- Benefit Eligibility configuration to accommodate linking retirement plans to the Bargaining Fringe group, etc.

Above is just a small sample of the requirements in the Benefits area. The configuration to resolve some of the requirements will involve configuration in the Benefits area as well as Payroll and Time. Some of the items, such as the ability to select benefits online through a Portal, will require SAP's Portal configuration. We have added 70 days of functional and technical consulting time to the ability to select benefits online in the Portal. However, this requirement can become a massive effort that requires extensive work and annual maintenance depending on the details behind the requirement.

### **Position Budget Control**

We reviewed the requirements for Position Budget Control from both the HR/Payroll requirements and the Finance/Funds Management/Budgeting requirements since the functionality is closely integrated with both HR/Payroll and Finance/Budgeting.

Currently, Position Budget Control functionality is not implemented in the County's SAP system. The personnel planning and position budgeting is carried out manually outside of the SAP system, which requires the County's business users to manually run reports in the SAP HR and Finance applications and merge the data via spreadsheets and other planning tools.

The Position Budget Control (PBC) process is cumbersome, and may not provide an accurate analysis for “What-if” scenarios. Using SAP’s Personnel Cost Planning and Simulation (PCP) functionality and Position Budget Control (PBC) functionality, the County can accurately perform full cost salary analysis for the budget according to the County’s requirements. Using this functionality the data used for full cost salary analysis is readily available in the HR, Benefits and payroll modules, and it will allow for real time integration to the SAP Personnel Cost planning and Budget modules. SAP’s PCP component will enable the County to execute operational personnel cost planning by planning the employees’ wages and salaries, employee benefit costs, and further education and training costs. It can simulate different planning scenarios that are based on various assumptions and analyze the effects they have on the County. Personnel Cost Planning and Simulation supports strategic personnel management and the overall strategy of the County.

You can execute cost planning runs for individual organizational units, parts of an organizational structure, or for the entire organizational structure. The functionality’s integration with SAP’s Business Information Warehouse (BW) will enable the County to monitor the plan continuously and execute detailed reports.

### **Learning Solution:**

Marin County is currently using the SAP Training management solution for internal training activities. However, for any external courses the employees are attending, the tracking is being handled manually by the training administrators by setting up the courses and then registering employees on the backend. The external vendor course offering can be integrated with the Learning Solution course catalogue by implementing/upgrading to the SAP Enterprise Learning, which is SAP's premier tool for the Learning Solution. It is possible to offer WEB-based training and virtual classroom training using the Enterprise Learning Solution.

By using the Enterprise Learning Solution, managers can recommend (via MSS) the mandatory courses for the employees as part of their training plan during performance appraisals. These mandatory courses are then visible to the employee in the learning portal, to enable the employee to book or pre-book those courses.

Marin County can also make use of the profile matchup feature to propose the desired courses for the employee to match the qualification profiles of position or the employee’s development plan. Currently, the County has already purchased the software for Enterprise Learning, but the solution has not been implemented.

The other area that has the potential for improvement is the correspondence activity in the Learning Solution. Currently, all email notifications regarding course bookings, course cancellations, booking cancellations, etc. is being handled by a custom workflow solution, which is resource consuming and is not flexible. This can be improved by switching to the standard



request-based correspondence. The standard SAP solution offers flexibility by allowing the administrators to change the letter contents and provides the ability to add attachments to emails.

The current SAP system set up allows the employees to enroll in courses without requiring the supervisor approval. The reason for this is because the current organization structure is not accurately reflecting the line manager relationship for some departments. This requires revisiting of the org structure maintenance process in SAP Organization Management as some of the processes such as reassigning the position to a different department in the case of employee transfer, are resulting in incorrect assignments of the organization structure. The approval process can be enforced on special courses only, if required.

The current practice at the County is to track the individual attendees from each external agency under one external attendee ID. This doesn't provide a clear picture of individual attendees that are enrolled / attended the courses. This can be improved by mapping external agencies to companies in the Learning Solution and then by setting up the individual attendees as external attendees. By doing it in this manner, these attendees can be assigned to the companies that they represent. This allows a clearer picture of external attendance tracking for the County-conducted training courses. Finally, the security can be improved by restricting the training administrators to the departments they are responsible for handling the training tasks.

### **Employee Self Service (ESS) and Manager Self Service (MSS)**

Currently, the County is using very limited functionality of SAP's Employee Self Service for changing the address, emergency contact information, and displaying of some personal data. It can leverage the enhanced and complete functionality offered in the latest releases of ESS and MSS modules to push the self-service activities to employees and managers. This also forms the foundation for the self-service in Performance Management, E-Recruitment, Learning Solutions, and personnel change requests.

ESS helps employees to record the working times and absences online, using user-friendly web interfaces. The single sign-on feature improves the usability of the system. The current process involves having employees login to the system and manually select their name from the list for the time entry. Also, they can view and print the time sheets conveniently from ESS I-view. Managers can perform the following activities online for their employees using the MSS: Administering Employee HR Data, Approve Employee Time and Attendance, Manage Recruiting and Employee Career Planning, Manage Employee Development and Succession Planning, Manage Enterprise Learning Strategies.

### **Performance Management**

Performance Management functionality is not currently implemented in the County's SAP system. Employee performance management with the SAP Human Capital Management can assist Marin County to effectively plan, assess, optimize, and analyze the performance of the

Marin County workforce. Using this tool, Marin County can set individual objectives by cascading the enterprise strategy; they can assess and manage performance through feedback, development, and appraisals, and reward the employees accordingly. The solution supports many different types of assessments, including 360-degree and self-assessments. Performance Management in SAP allows measurable comparisons, supports performance-based compensation, and promotes personnel development that is in line with Marin County's objectives. The solution is highly adaptable, allowing the system to tailor both the content of the performance feedback documents and processes to the needs of the organization. Workflows streamline the process, and reports help to measure and optimize the processes. Objectives can be monitored using key figures and appropriate benchmarking.

In Performance Planning, line managers can easily create team goals and cascade these goals to their direct reports. Individual objectives agreed upon between employees and managers along with appropriate dates and timelines for meeting the objectives are easily entered into the software. Integration between the SAP Enterprise Learning environment and the employee development features of SAP's Human Capital Management system will allow Marin County to monitor an employee's individual training and development progress throughout the year.

### **Recruitment**

Recruitment functionality is not implemented in the County's SAP system. SAP Recruiting in the mySAP Human Capital Management module offers numerous features. It provides talent relationship management functionality to enable proactive sourcing. The software is a comprehensive solution for recruiting both internal employees and external candidates. It includes a global pool of candidates to enable access to the best talent regardless of location. The software encompasses screening and selection tools to quickly help work through large numbers of applicants and includes robust applicant tracking functions to ensure the proper organization and documentation of recruiting practices. It provides business intelligence through the use of SAP Query and the SAP Business Information Warehouse.

### **Labor Relations**

Labor Relations requires building a custom infotype as part of the Employee Master Data. The Infotype will capture information such as disciplinary information, grievances, ADA accommodations, and the Classification Appeal Process. It will require a technical resource for 1 month to create the Infotype and build reports.

As the data entered under labor relations is subject to confidentiality, authorization can be controlled at the infotype level. Authorization management is structured so that only employees with the appropriate authorization can access this data. This protects the data from unauthorized access.

## **Risk Management:**

SAP has some features that the County is looking for in the area of Risk Management under the “Occupational Health” section of SAP’s Environmental Health and Safety (EHS) component. This component supports general employee occupational healthcare in the County, as well as the planning and execution of special health surveillance protocols.

The ‘Medical Service’ component allows the County to enter and manage all the necessary examination data, such as diagnoses, examination results, and work restrictions for health reasons. It allows the importing of the results of medical tests from external systems. Users can access and edit all the data on the case history of a person, as well as the data on consultations and follow-up activities (medical measures).

The ‘Injury/Illness Log’ component enables the County to enter and manage data in the SAP system for any inter-company medical treatment. This includes first aid in the event of accidents or minor injuries, and treatment of old injuries. As the data entered and processed for occupational health is often subject to medical confidentiality, the authorization concept used in the Occupational Health component is of particular importance. Authorization management is structured so that only the employees with the appropriate authorization can access medical data. This protects the data that is subject to medical confidentiality from unauthorized access. As not all of the County’s requirements are supported in the ‘Occupational Health’ component, there may have to be some degree of customization in other areas of SAP, such as SAP HR and Payroll to meet all the County’s requirements.

### **High-level Project Plan Based on Current Marin County Resources:**

Outlined below is a sample plan of one method in which Marin County could implement some of the functionality outlined in this document. This Plan assumes each mini-project has a full time Marin County resource and there are resources to run some of the mini-project concurrently. This does not include the resource requirements from the infrastructure, basis, security and BI teams.

Given the Marin County resource constraints, the County will have to spread out the mini-projects over a longer time frame. It is critical to have Marin County resources fully dedicated to the project, as the consultants need the Marin County resource to provide the consultants with the detailed requirements, work with the consultants in developing the fixes (to ensure appropriate knowledge transfer) and test/document the process. Best business practices require a high level of input from the Marin County resources to ensure the system will be set up to meet their requirements.

We have made many assumptions in coming up with the sample project plan below. One assumption is that the project would start at the beginning of June. Another assumption is that the County has sufficient resources to work on multiple projects concurrently. Given Marin County's resource constraints, we also assume that Marin County will have to prioritize all the break fixes and enhancements and only embark on those projects that have the highest priority.

We have assumed that the G/L, Financial Reporting, HR, Project Systems, FM Budget, Grants Management, Time/Payroll, Benefits, Inventory, Purchasing, Plant Maintenance, Cash, A/P, A/R, Banking (with Payroll integration), and Position Budget Control are the main priorities for Marin County. Last to be performed would be Debt Management, Learning Solution, Employee Self Service, Manager Self Service, Performance Management, Recruitment, Labor Management, and Risk Management. The plan will be modified once further discussions are held with Marin County as to what they believe are their requirements with the highest priority.

Marin County will need to staff at least 1 full-time SAP resource to each mini-project for the duration of the project, plus have other part-time Power Users dedicated to the project.

Given the limitations of Marin County staffing, we can embark on only 3 mini-projects at the same time: a Finance project, a Logistics project and a Human Capital Management (HCM) project.

For the Finance project, we would recommend that Marin County embark on the General Ledger fixes first, since the General Ledger is a base for SAP system and changes to the General Ledger affect other areas of SAP. The General Ledger and resulting financial reporting issues are critical issues to be fixed in the Marin County SAP system. FM/GM issues and the associated budgeting and planning issues should be addressed next.

An HCM project looking at the HR issues in Personnel Management and Personnel Administration components can start concurrently to the G/L project. Once the HR issues are resolved, payroll/time issues can be addressed. Position Budget Control, which is integrated with both HR/Payroll and FM should be addressed once the G/L, FM/GM planning issues and HR/Payroll issues have been resolved. We understand that lack of Position Budget Control functionality is a key pain point at Marin County and we could fast track this mini-project sooner, by prioritizing and addressing the key integration points in the Finance and HCM areas. The schedule of Position Budget Control could be fast tracked after more detailed discussions and planning with the Marin County SAP Support team. For discussion purposes we have put in the Position Budget Control with a start date of Feb. 2012, overlapping it with the Benefits mini-project.

A third mini-project involving Logistics could start at the same time as the G/L and HCM projects. For the Logistics mini-project, we would start with Project Systems first, since the Project Systems configuration will affect the budgeting component of the FM/GM project. Once the Project Systems project is completed, Marin County could address its Purchasing and Plant Maintenance implementations.



Assuming that Marin County implements every module, examples of Marin County staffing requirements are:

Area	Marin County Staffing Requirement
General Ledger/Financial Reporting	1 Full-Time resource for 6 months, plus part-time from Power Users
Human Resources	1 Full-Time resource for 9 months, plus part-time from Power Users
Project Systems	1 Full-Time resource for 9 months, plus part-time from Power Users
FM Budget/Grants Management	1 Full-Time resource for 9 months, plus part-time from Power Users
Time and Payroll	1 Full-Time resource for 13 months, plus part-time from Power Users
Inventory/Purchasing	1 Full-Time resource for 12 months, plus part-time from Power Users
Cash, A/P, A/R, Banking (with Payroll)	1 Full-Time resource for 5 months, plus part-time from Power Users
Plant Maintenance	1 Full-Time resource for 9 months, plus part-time from Power Users
Learning Solution	1 Full-Time resource for 4 months, plus part-time from Power Users
Risk Management	1 Full-Time resource for 4 months, plus part-time from Power Users
Labor Relations	1 Full-Time resource for 1 months, plus part-time from Power Users
ESS/MSS	1 Full-Time resource for 6 months, plus part-time from Power Users
Performance Management	1 Full-Time resource for 6 months, plus part-time from Power Users
Recruitment	1 Full-Time resource for 6 months, plus part-time from Power Users
Benefits	1 Full-Time resource for 9 months, plus part-time from Power Users
Position Budget Control	1 Full-Time resource for 6 months, plus part-time from Power Users
ABAP	2 Full-Time resources dedicated for 30 months if all the modules are to be implemented to work in conjunction with the consultants.
Basis and Security	2 Part-Time resources (25-50%) for the duration of the project
Project Management	Marin County resource for a minimum 50% to 100% FTE dedicated to managing the project throughout the course of the project.

Assumptions made Project Plan:

1. Each of the sections above is a mini-project and there will be a functional consultant working in each of the major areas defined above for the duration of the project. There will be a pool of ABAP resources working across the mini-projects as required.
2. The proposed Project Plan assumes sufficient Marin County resources to assist the consultants. If there are resource constraints among the Marin County staff, the timelines can be adjusted to reflect those resource constraints.

3. The proposed Project Plan dates are based on our understanding of the requirements and our analysis to date. As additional information is obtained, the dates may change.
4. The start and end dates of the mini-projects can be adjusted to reflect the priorities of Marin County.
5. The timelines assume that the requirements will be gathered by the Marin County staff and provided to the consultants.
6. Each of the mini-projects will require a full time Marin County resource. Based on our plan with unlimited resources above, we would require 5 Marin County resources on April 2010 (one for General Ledger/Financial Reporting, Human Resources, Project Systems, FM Budget/GM and Payroll). The Marin County dedicated resource would be available for requirements gathering, test script preparation for integration, user acceptance testing, user documentation, process definition and documentation, knowledge transfer, and go-live support, among other activities. If Marin County resources were not available to work with the consultants, the plan would have to be modified. A final timeline can be worked out in conjunction with Marin County during the project preparation phase of the project.



**Summary of Hours/cost to fix the problems identified – Phoenix Business Consulting**

**Repairs to Existing Modules Implemented at Marin County**

Identified below are our estimates to perform the repairs on existing modules implemented at Marin County.

Area	Number of Functional Hours	Rate per Hour	Number of Developer Hours	Rate per Hour	Total Cost
General Ledger	1000	\$175	300	\$125	<b>\$212,500</b>
Grants Management	1060	\$175	240	\$125	<b>\$215,500</b>
Purchasing	1410	\$175	1660	\$125	<b>\$454,250</b>
FM Budget	340	\$175	240	\$125	<b>\$89,500</b>
Cash/Treasury	170	\$175	60	\$125	<b>\$37,250</b>
Accounts Receivable	90	\$175	50	\$125	<b>\$22,000</b>
Project Systems	1380	\$175	790	\$125	<b>\$340,250</b>
Accounts Payable	440	\$175	310	\$125	<b>\$115,750</b>
Fixed Assets	710	\$175	320	\$125	<b>\$164,250</b>
Inventory	600	\$175	410	\$125	<b>\$156,250</b>
Payroll/Banking	70	\$175	100	\$125	<b>\$24,750</b>
Human Resources	1150	\$175	1120	\$125	<b>\$341,250</b>
Time & Payroll	1980	\$175	200	\$125	<b>\$371,500</b>
Benefits	1500	\$175	1500	\$125	<b>\$450,000</b>
Documentation and Training	200	\$175	200	\$125	<b>\$60,000</b>
Project Management	2000	\$200			<b>\$400,000</b>
<b>Totals</b>	<b>14,100</b>		<b>7,500</b>		<b>\$3,483,000</b>

**Enhancements**

Outlined below are the estimates to perform enhancements to the Marin County System. Some of the modules have been implemented (for example Plant Maintenance, ESS) at Marin County but only on a limited basis. Some of the functionality is completely new to Marin County (for example, MSS, Position Budget Control or Risk Management).

Many of the items identified in the table as enhancements were in the Scope of Work for the original implementation of SAP but were not implemented. We have not done a detailed analysis of which specific items were in the original implementation scope of work.

Area	Number of Functional Hours	Rate per Hour	Number of Developer Hours	Rate per Hour	Total Cost
Plant Maintenance	1100	\$175	690	\$125	<b>\$278,750</b>
Debt Management	800	\$175	250	\$125	<b>\$171,250</b>
Position Budget Control	1000	\$175	300	\$125	<b>\$ 212,500</b>
Learning Solutions	607	\$175	280	\$125	<b>\$141,225</b>
ESS & MSS	867	\$175	320	\$125	<b>\$191,725</b>
Performance Management	867	\$175	450	\$125	<b>\$207,975</b>
Recruitment	867	\$175	320	\$125	<b>\$191,725</b>
Labor Relations	80	\$175	160	\$125	<b>\$34,000</b>
Risk Management	560	\$175	320	\$125	<b>\$138,000</b>
Documentation and Training	400	\$175	400	\$125	<b>\$120,000</b>
Project Management	1200	\$200			<b>\$240,000</b>
<b>Totals</b>	<b>8,348</b>		<b>3,490</b>		<b>\$ 1,927,150</b>

Assumptions made on Cost Estimates:

- 1) The requirements will be clearly identified and documented by Marin County staff.
- 2) Marin County staff will work with the consulting team and provide assistance in integration and user acceptance testing and documenting the solutions. Estimates do not include time for User Acceptance and Integration testing by the consultants.
- 3) Estimates do not include end user documentation and end user training.
- 4) The estimates below are only for the items identified in the spreadsheets provided by Marin County staff. If additional requirements are identified the estimates will increase. Some reporting requirements have not been included in the estimates since the requirements had not been defined during the course of our review.
- 5) Estimates assume Senior SAP consulting resources with significant experience in Public Sector projects will perform the work.
- 6) We assume no delays due to resource constraints from the Marin County SAP support staff.
- 7) The estimates include knowledge transfer from the Consultants to the Marin County staff in the Support Team and County Resources sitting in the Department and dedicated knowledge transfer sessions during and after the User Acceptance Test and after the Go-Live of the system fixes.
- 8) The consultants will perform the unit testing and rely on Marin County to perform the Integration and User Acceptance Testing. Fixing any issues found during that testing period is covered under the estimates for consulting hours.
- 9) Estimates do not include any Basis resources, BW or Security consultants. We assume that Marin County will provide the necessary resources for Basis, Security and BW. The County's infrastructure team and Basis Team will handle all the required hardware & systems setup, installation and integration.
- 10) The technical consultant costs include the cost of developing ABAP reports, user exits, building workflows, programs, and enhancements. Our solutions have not anticipated creating any modifications to source code or repairs.
- 11) Estimates do not include production support after the mini-projects go live. We assume that there will be sufficient knowledge transfer for the Marin County staff member to maintain the production system.
- 12) Technical hours noted include ABAP development (user exits, BADI's, custom reports, custom programs, etc.), building workflows and other technical requirements.

Functional hour estimates include business process design, requirements definition, testing and configuration.

- 13) We have only estimated hours for a Project Manager for 1 year if the Project Manager works full-time in that role. However, the job duties can be performed by a Functional Consultant who can not only perform Project Management tasks but also fix functional issues. In this scenario, we can have Project Management for the duration of the project.
- 14) The required portal business content installation will be handled by the portal administrator (Resource from the Marin County).
- 15) No data clean up and data conversion activities are accounted for in estimating the timelines.
- 16) Users will be responsible for setting up the required data in production.
- 17) Any knowledge transfer activities involve an additional 5 days training for each new module, except for Labor Relations. Labor Relations doesn't need any additional time for Knowledge Transfer.
- 18) Marin County staff will perform End User training on the new modules.

### **Prerequisites**

There is a prerequisite to implement Enhancement pack 4.0 for the HCM module. The necessary extensions need to be activated for Learning Solution, E-Recruitment, Objective Settings and Appraisal, ESS and MSS. This is required because most of the functionality that Marin County is requesting in Performance Management, Learning, E-Recruitment, ESS and MSS is available with HCM enhancement pack 4. Otherwise, the functionality from the latest versions of these modules cannot be leveraged to the full possible extent.

Implementation of Benefits module will be required to enable the Benefits enrollment from ESS.

Implementation of the Qualification catalogue and assignment of the appropriate qualifications to employees, positions, jobs, and courses is required to meet some requirements in performance management, learning solution and E-Recruitment. The requirement to build qualifications catalogue is covered under HR requirements.

Implementation of Personnel Change Requests is required for enabling the managers to initiate personnel actions with workflow routing to HR for approval.

The County's org structure needs to accurately represent the reporting relationships. This is a pre-requisite for the workflow and required to allow managers to retrieve their respective teams in performing the activities in MSS, E-Recruitment, Training, and Appraisals.

## **System Requirements**

We do not foresee any requirements for a parallel system landscape for development of the fixes to the Marin County system. A parallel system landscape will increase the complexity and cost of the project. The current Quality Assurance (QA) environment can be used for the User Acceptance and Integration testing. During the course of the project we recommend limiting the number of changes to the development system and thorough testing of transports to reduce the risk of unexpected functionality going into production. We may run parallel testing for payroll and finance and will require the creation of a QA client with a copy of the Production system data. The system environment details will be detailed during the project planning phase.

## **System Upgrades**

Marin County is currently on ECC 6.0. Although SAP will continue to release enhancement packs, we do not see any requirement for Marin County to perform any system upgrades for the next 2 years. Marin County should analyze the new features/functionality provided in the enhancement packs as part of their road map. Depending on the functional improvements in the enhancement packs, Phoenix Business Consulting can assist Marin County in its evaluation on whether or not to implement the enhancement pack. Each enhancement pack applied will require effort in testing and may have an impact on the project timeline.

We would recommend applying support packs on a regular basis (for example, every 6 months, in April and December). The support packs are required to keep the system in legal compliance for payroll and to fix known problems in the SAP system. It is critical for payroll processing to apply the year-end support pack. Support packs will require effort in regression testing and are expected to be performed during the course of this proposed project.

## **Conclusion**

Based on our preliminary, there are serious process and functionality issues and significant deficiencies with the design and implementation of the SAP system at Marin County. The SAP configuration in many areas needs to be revisited and reconfigured. Business processes need to be redesigned and new reports created. The new configuration and business process will have to be tested extensively by the County before being implemented. The change in configuration and business process will result in additional training for end users.

We believe the issues can be resolved to the satisfaction of the County but resolution of the functionality gaps in the Marin County system will require significant resources from outside consultants and Marin County staff.

There is an extensive list of repairs, fixes and enhancements that need to be performed to satisfy all of Marin County's requirements. Given the Marin County resource constraints, it may not be possible to implement all the functionality identified within the next 3 years. We have provided cost estimates for each area separately so that the County can prioritize which mini-project the County needs to embark on first.

We have provided a sample timeline for discussion purposes. Marin County should review each of the areas and decide, based on the importance to Marin County, which mini-project should be started first. We would recommend addressing the General Ledger and Financial Reporting issues first, and then addressing the other modules that are currently implemented but which require break fixes. New modules should be implemented last once the system is stabilized.

**Appendix 1 – Estimated Cost of Implementation using Big 4/SAP America Rates**

Due to our lower cost structure, Phoenix Business Consulting’s rates are lower than rates from the Big 4 firms or SAP America. Billing rates vary widely depending on the firm and the experience of the resources. Below are conservative estimates of what Marin County could reasonably expect to pay for the same number of hours by one of the Big 4 firms or SAP America for the same level of expertise. Big 4/SAP usually charge for travel expenses as actually incurred on top of the rate or the expenses are imbedded in the rate. We have included estimated travel expenses.

**Repairs to Existing Modules Implemented at Marin County – Big 4/SAP America Rates**

Area	Number of Functional Hours	Rate per Hour	Number of Developer Hours	Rate per Hour	Total Cost
General Ledger	1000	\$200-\$300	300	\$150-\$200	<b>\$245,000 - \$360,000</b>
Grants Management	1060	\$200-\$300	240	\$150-\$200	<b>\$248,000 - \$366,000</b>
Purchasing	1410	\$200-\$300	1660	\$150-\$200	<b>\$531,000 - \$755,000</b>
FM Budget	340	\$200-\$300	240	\$150-\$200	<b>\$104,000 - \$150,000</b>
Cash/Treasury	170	\$200-\$300	60	\$150-\$200	<b>\$43,000 - \$63,000</b>
Accounts Receivable	90	\$200-\$300	50	\$150-\$200	<b>\$25,500 - \$37,000</b>
Project Systems	1380	\$200-\$300	790	\$150-\$200	<b>\$394,500 - \$572,000</b>
Accounts Payable	440	\$200-\$300	310	\$150-\$200	<b>\$134,500 - \$194,000</b>
Fixed Assets	710	\$200-\$300	320	\$150-\$200	<b>\$190,000 - \$277,000</b>
Inventory	600	\$200-\$300	410	\$150-\$200	<b>\$181,500 - \$262,000</b>
Payroll/Banking	70	\$200-\$300	100	\$150-\$200	<b>\$29,000 - \$41,000</b>
Human Resources	1150	\$200-\$300	1120	\$150-\$200	<b>\$398,000 - \$569,000</b>
Time & Payroll	1980	\$200-\$300	200	\$150-\$200	<b>\$426,000 - \$634,000</b>
Benefits	1500	\$200-\$300	1500	\$150-\$200	<b>\$525,000 - \$750,000</b>

Documentation and Training	200	\$200-\$300	200	\$150-\$200	<b>\$70,000 - \$100,000</b>
Project Management	2000	\$250-\$400			<b>\$500,000 - \$800,000</b>
Estimated Expenses					<b>\$537,500</b>
Totals	14,100		7,500		<b>\$4,582,500 - \$6,468,500</b>

**Enhancements – Big 4/SAP America Rates**

Area	Number of Functional Hours	Rate per Hour	Number of Developer Hours	Rate per Hour	Total Cost
Plant Maintenance	1100	\$200-\$300	690	\$150-\$200	<b>\$323,500- \$468,000</b>
Debt Management	800	\$200-\$300	250	\$150-\$200	<b>\$197,500 - \$290,000</b>
Position Budget Control	1000	\$200-\$300	300	\$150-\$200	<b>\$245,000 - \$360,000</b>
Learning Solutions	607	\$200-\$300	280	\$150-\$200	<b>\$163,400 – 238,100</b>
ESS & MSS	867	\$200-\$300	320	\$150-\$200	<b>\$221,400 - \$324,100</b>
Performance Management	867	\$200-\$300	450	\$150-\$200	<b>\$240,900 - \$350,100</b>
Recruitment	867	\$200-\$300	320	\$150-\$200	<b>\$221,400 – 324,100</b>
Labor Relations	80	\$200-\$300	160	\$150-\$200	<b>\$40,000 - \$56,000</b>
Risk Management	560	\$200-\$300	320	\$150-\$200	<b>\$160,000 – \$232,000</b>
Documentation and Training	400	\$200-\$300	400	\$150-\$200	<b>\$140,000 - \$200,000</b>
Project Management	1200	\$250-\$400			<b>\$300,000 - \$480,000</b>
Estimated Expenses					<b>\$276,450</b>
Totals	8,348		3,490		<b>\$ 2,529,550 – \$3,598,850</b>



## **Appendix 2: Areas Where SAP Will Not Meet Mandatory Requirements**

During our review of Marin County's mandatory requirements we did not find a significant number of areas where SAP will not meet the mandatory requirements if configured properly. Although some of the requirements will require configuration, custom reports, custom programs, user exits, BADI's, workflows and other enhancement techniques supported by SAP, we expect that no core code modifications will be required. We would recommend against making any core code modifications. Based on our preliminary review, below are the areas where we have identified that SAP may not meet Marin County's mandatory requirements. We will work with Marin County to determine solutions for these requirements during the course of the project:

- Requirement TM # 8.6 - Ability to pay out accruals at different rates according to additional appointments. Can multiple positions have multiple accrual rates?

*In SAP we can accrue quotas at different rates based on the job of the assignment from IT554, however, the quota payout has to happen on the remaining balance. Based on our initial assessment, it may not be possible to split the remaining balance as a payout to 2 different assignments. In summary, the payout cannot be done based on Marin County's requirements. This is a preliminary evaluation and we will work with Marin County during the course of the project to close the gap.*

- The requirements in the following items in HR and Payroll are not clearly specified. In these areas, SAP supports these processes using standard SAP functionality that will have to be more closely evaluated to determine if there is a gap:

TM # 3.09 Military Leave  
TM # 3.11 Leave with Pay  
TM # 7.14 Refund Payment for FMLA  
TM # 7.18 Temporary Promotion Pay  
TM # 7.21 Temp Promotion - Non FLSA

- We haven't completely analyzed the Personnel Cost Planning and Position Budget Control requirements, however, based on our high level review, we did not find any mandatory requirements that could not be met.
- Requirement PJ # 53 - Ability to validate charges against project master files to determine if budget is available.

*Plan data is for controlling after a document is created. The budget data is for used for Availability Control checks before document creation. The best scenario should be to integrate plan data with budget.*

- Requirement AP # 44 - Ability to have line-item approval on invoices.

*Create multiple vendor invoices for each of the expense items instead of one Invoice line item with multiple expense accounts*

- Requirement BUD 3.00 - Ability to accommodate multi-year budget planning.

*SAP allows planning in projects and Grants Management for multiple years, but not in Funds Management. SAP allows multi-year budget functionality but the implications of using this functionality would have to be analyzed. Budget Planning can be performed in BI but budget checking and availability control must be done in SAP in the PS, FM or GM modules. Switching from annual to multi-year budgeting could cause additional complexity in the SAP system.*

- Requirement BUD 14.00 – Ability to track performance against program-based and activity-based budgets.

*Performance tracking against actual dollar values can be reported. The quality tracking is outside the scope of Budget Control System in SAP. Performance tracking can be performed in BI but will require qualitative and quantitative data to be staged within BI from internal sources (SAP) or external sources (external systems or flat files).*

- Requirement BUD 15.00 – Ability to track budget goals and objectives and accomplishment based on user-defined statistical indicators.

*Performance tracking against actual dollar values can be reported. The quality tracking is outside the scope of Budget Control System in SAP. Budget goals and objectives can be accomplished based on user-defined statistical indicators in BI but will require qualitative and quantitative data to be staged within BI from internal sources (SAP) or external sources (external systems or flat files).*

- Requirement BUD 16.00 – Ability to track efforts and accomplishments within departments.

*Performance tracking against actual dollar values can be reported. The quality tracking is outside the scope of Budget Control System in SAP. The ability to track efforts and accomplishments within departments can be done in BI but will require qualitative and quantitative data to be staged within BI from internal sources (SAP) or external sources (external systems or flat files).*

- Requirement BUD 27.00 – Ability to track budget priorities.

*Performance tracking against actual dollar values can be reported. The quality tracking is outside the scope of Budget Control System in SAP. The ability to track budget*

*priorities can be done in BI but will require qualitative and quantitative data to be staged within BI from internal sources (SAP) or external sources (external systems or flat files).*

- Requirement GL 60.00 – Ability to close by Fund Group or Fund.

*Requires further analysis of Marin County's exact requirements.*

- Requirement GL 81.00 – Ability to have Journal entries with more than 999 lines.

*Not allowed by SAP. Other options can be discussed.*

- *Personnel Cost Planning and Simulation* does not use SAP Business Workflow
- *Automatic scheduling of interviews and examinations to candidates in recruitment*
- *Ability to allow candidates to have more than one application for the same requisition*

*Please note that as some of the requirements received were at a very high level, we may not know the feasibility of all the requirements until the start of the design and development phase of the project.*