COUNTY OF LOS ANGELES
DEPARTMENT OF AUDITOR-CONTROLLER

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April 24, 2007

CORRECTED DATE

TO: Supervisor Zev Yaroslasky, Chairman
Supervisor Gloria Molina
Supervisor Yvonne B. Burke
Supervisor Don Knabe
Supervisor Michael D. Antonovich

FROM: J. Tyler McCauley
Auditor-Controller

SUBJECT: **Independent Review of eHR Subproject**

Attached is blueConsulting's report on the eHR Subproject. This report is referred to in my Board Letter, dated May 1, 2007, requesting Board approval of a contract amendment with CGI-AMS, Inc. for software and implementation services to enhance the County's financial and human resources applications, but was never transmitted to Board members. A copy of the report was previously provided to your staff.

JTM:DR

Attachment

c: Chief Administrative Officer
Executive Officer, Board of Supervisors
Public Information Officer
County Counsel

Analysis of eHR

FINAL REPORT

March 2007

blue
CONSULTING a clear perspective

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I. Executive Summary

A. Background

In July 2005 the County implemented eCAPS, a web-based upgrade to the County's existing financial system, Countywide Accounting and Purchasing System (CAPS), as the first step in a comprehensive replacement of the County's legacy information systems. The County hired CGI-AMS (CGI Group, Inc.-American Management Systems) to provide the system software and to implement the system upgrade in cooperation with County staff. The County's existing CAPS system was an AMS product, entitling the County to the upgraded CGI-AMS software.[1] Phase I of eCAPS involved upgrade of the County's general ledger, accounts payable, accounts receivable, and cost/project/grant accounting.

Phase II of eCAPS was authorized by the Board of Supervisors in April 2005, as a contract amendment to Phase I. The purpose of Phase II was to continue the implementation of other financial modules of eCAPS such as Budget Preparation and Materials Management (procurement, capital assets, and inventory), and complete the human resource module design phase. Also included in Phase II was implementation of Time Collection, a CGI-AMS module that allows the County to replace the Department of Health Services' (DHS) obsolete punch card time collection system. The Time Collection module was to be tested at DHS and then rolled out to all County Departments over time. Finally, as part of Phase II, CGI-AMS was to determine the changes needed for the replacement of the Department of Public Works' (DPW) Financial Accounting System (FAS) with eCAPS.

As originally planned, Phase III would complete certain aspects of the financial functionality of eCAPS and implement the remaining human resource modules, referred to as eHR. In addition, Phase III would complete the migration of DPW's FAS to eCAPS, move eCAPS to a Linux operating system, and upgrade CGI-AMS' eCAPS maintenance and support. Finally, the County wanted to roll-out the Time Collection module to Departments beyond the DHS, where it had been tested at Rancho Los Amigos National Rehabilitation Center.

As a result of the Board of Supervisors' request for an independent review of eHR, Phase III was split into two parts, referred in this report to Phase IIIa and Phase IIIb. Phase IIIa was approved by the Board of Supervisors on December 19, 2006, and encompasses the replacement of DPW's FAS application, rollout of time collection to DCFS, Shared Services and other Departments, and expanded maintenance support. Approval of Phase IIIb (eHR) was deferred pending the results of the review of eHR.

The contract cost for Phases I though IIIa and the projected cost of Phase IIIb are provided below.

[1] CGI Group, Inc., a Canadian information technology and business process services firm, acquired American Management Systems in 2004. AMS was a Virginia-based IT Services firm focusing on government customers.

Exhibit 1: Summary of Implementation Phases and Costs (eCAPS and eHR)
(Dollars in Millions)

	Phase I	Phase II	Phase IIIa	Phase IIIb
Modules	GL, AP, AR, Project and Grants Mgmt, Reporting	Budget Prep, Materials Management, DHS Time Collection, eHR Envision, FAS Replacement Design	FAS Replacement, Time Collection Rollout	Payroll, Personnel Administration, Position Control, Recruitment and Applicant Tracking
Financials				
CGI-AMS Base Amount (incl. 3rd party licenses)	$8.9	$22.0	$6.5	
Human Resources				
CGI-AMS Base Amount (incl. 3rd party licenses)		$7.5	$4.0	$69.4
Contingency and Maintenance				
Contingency	$0.7	$4.5	$1.8	$3.2
Maintenance	4.2	3.3	3.7	1.7
Subtotal	**$4.9**	**$7.8**	**$5.5**	**$4.9**
Total				
Total Cost	**$13.8**	**$37.3**	**$16.0**	**$74.3**
Board Approval Date	April 6, 2004	April 19, 2005	December 19, 2006	Not yet submitted to Board

Note 1: Does not include other County costs such as reporting software license fee, ISD equipment costs or Departmental costs.

Source: CGI-AMS Contract including subsequent amendments, and associated Board Letters.

B. Engagement Scope

In January 2007, at the request of the Board of Supervisors, blueCONSULTING, INC. was retained by the Los Angeles County Auditor-Controller to evaluate the remaining eHR aspects of the proposed eCAPS Phase III project (Phase IIIb). The engagement was intended to address the following questions:

1. Given the status of Phase II, are there any reasons to delay the eHR aspects of Phase III?
2. Are the costs of CGI for eHR competitive for the requested work?
3. Should the County stay with the same application for eHR or competitively bid with other firms for the eHR work? What are the advantages and disadvantages of implementing a

single enterprise resource planning (ERP) solution versus a multiple product/best-of-breed approach?

4. Does the County need to replace its payroll systems in the near future? Do the Auditor-Controller's reasons for suggesting this be done as soon as possible have merit in terms of minimizing risk of system failures?
5. Are the benefits of implementing the personnel aspects of Phase III significant?
6. Are there options to implement Phase III eHR module(s) at different times? If so, what are benefits and risks with each option considered? Are the costs and recommended implementation plans for eHR, as presented by the Auditor-Controller, reasonable?
7. Are there any negotiation approaches or suggested revisions in the contract amendment terms that blueCONSULTING can recommend to contribute to a more cost-effective and successful solution?

blueCONSULTING was not asked to review the cost-effectiveness of the ERP project, or to review the process that the County used in the selection of CGI-AMS. Additionally, blueCONSULTING was not asked to review the future governance or ownership of the project within the County organization, although we suggest later in this report that further clarification of those issues is necessary. Finally, although we were asked to identify potential negotiation approaches or revisions, we were not asked to negotiate on behalf of the County for any specific contractual language or pricing of the various aspects of the project.

C. Summary of Results

The County is not unique in its reasons for implementing ERP systems. States and County governments are finding themselves in a similar position with regards to old technology. System updating is essential for the following reasons:

- System/Version Obsolescence – the vendor no longer supports existing systems.
- System Modifications – in-house programmers whose skills are hard sought maintain systems. Future modifications to the system may not be possible.
- Lack of System Integration – a lack of integration between systems resulting in redundant data or unsynchronized data.
- Elimination of Systems – a reduction in shadow and duplicate stand alone systems.
- Change in Business Operations – The existing system is inflexible and does not accommodate changes in operations.
- Quality Control – Information needs to be accessed in a way that provides for adequate safeguards.

The County must replace its legacy payroll systems: the Countywide Payroll System (CWPAY) and the Countywide Timekeeping and Payroll Personnel System (CWTAPPS). CWPAY in particular is over 26 years old, is not adequately documented and uses an old architecture that is not supported. Most County senior managers agree that the risk of system failure is high. County payroll processing is complicated by the existence of almost 60 separate bargaining unit Memoranda of Understanding (MOUs), each with specific payroll and human resource

requirements that change with each new negotiation. The County also maintains a number of other homegrown human resource legacy systems utilized by Departments that are at risk and for which maintenance will increasingly become an issue. The replacement of these systems offers the County the opportunity to add additional functionality: position control, talent management and employee self service.

blueCONSULTING recommends that the County proceed with the implementation of eHR as currently planned, but makes a number of recommendations for improvements to ensure successful implementation. Although the County encountered problems during the implementation of eCAPS Phase I and II, these problems are typical of any large-scale systems implementation. The potential loss of functionality, increase in costs, and loss of focus should the County elect to delay the project in order to evaluate selection of an alternate vendor, are significant. Our recommendation is based on the following:

- The County's careful consideration of alternatives when assessing the feasibility of system replacement and the decision-making process which resulted in the selection of an ERP approach.
- The current state of the County's legacy systems and the number and cost of existing Department-specific systems, as well as Department requests for new systems.
- Improved control, coordination, integration and information which will result from implementation of an ERP.
- The County's past working relationship with CGI-AMS the benefit of which is evidenced in CGI-AMS' willingness to work with the County, the number of County-requested modifications that are being include as baseline modifications to Advantage 3.8 (no cost). Also, as the County represents a significant government client for CGI-AMS, it is incumbent upon CGI-AMS to ensure successful delivery.
- Initial and subsequent fit-gap analyses which determined that the Advantage product was an appropriate fit for the County's business requirements.
- The competitiveness of CGI's costs.

Conclusion Summary by Question

Since our project was to specifically address a series of questions, those questions and our conclusions for each are shown below.

Question 1: Given the status of Phase II, are there any reasons to delay the eHR aspects of Phase III?

Conclusion: Although the County encountered problems during the Phase I and Phase 2 implementation, they were typical of any large scale systems implementation. Our review identified no specific issues from the prior phases which would warrant delay in eHR implementation; however, additional improvements in the County's project management approach are possible to ensure successful eHR implementation.

- Although reporting problems have improved and there are many reports now available to the Departments, the Departments may be unaware of eCAPS current reporting and data

extract capabilities. Additional discussion of reporting needs and reporting tutorials with impacted departments is warranted.

- A more formal process for identifying and communicating Departmental issues is required, including development of two-way communication channels with the Department liaisons.

- Time collection, which is based on a very different process and level of accountability within the County, should be further reviewed and the County should further evaluate the potential options for a hybrid time collection methodology involving payroll clerks where appropriate.

Question 2: Are the costs of CGI for eHR competitive for the requested work?

Conclusion: Although a true assessment of the competitiveness of the eHR cost proposal cannot be determined without a competitive bid solicitation, CGI-AMS' projected cost for eHR implementation appears competitive, based on limited information available in four areas.

- CGI-AMS has agreed to incorporate about half of the County requested software modifications into its baseline product. This reduces the number of hours for County customizations and results in cost savings for the County.

- The rate charged by CGI-AMS to the County is lower than known competitors and is competitive with or lower than CGI-AMS rates charged to other clients. Additionally, the rate is capped through 2012.

- CGI-AMS is providing the County with a perpetual license to Advantage HRM at no cost. Only relatively minor third party license fees are charged. As a result, the eHR license fees are lower than software license fees proposed by other vendors.

- The County has chosen the highest, most comprehensive, level of maintenance support available and, even with that level of support, the costs are lower than other competitors.

Question 3: Should the County stay with the same application for eHR or competitively bid with other firms for the eHR work? What are the advantages and disadvantages of implementing a single enterprise resource planning (ERP) solution versus a multiple product/best-of-breed approach?

Conclusion: Our analysis identified no significant factors from a cost or functionality standpoint that would warrant a change in the county's chosen ERP implementation approach and there is no guarantee that a competitive bid process would result in a different contractor or a reduced cost.

- Although there are pros and cons of utilizing an ERP versus best-of-breed approach, there is no industry standard, and the determination is typically made based on the needs of the client. The County undertook careful consideration of this issue, and determined that the

integration benefits from an ERP, best met it needs in terms of functionality, cost and control.

- Selection of CGI was based on a fit-gap analysis, and a comparison of Advantage's functionality compared to other vendor products.

- Although technically feasible, there is no guarantee that changing contractors would reduce costs or improve functionality, and changing course at this point in time would have numerous potential negative effects on the implementation of ERP within the County.

Question 4: Does the County need to replace its payroll systems in the near future? Do the Auditor-Controller's reasons for suggesting this be done as soon as possible have merit in terms of minimizing risk of system failures?

Conclusion: The County needs to replace its payroll systems in the near future; the risk of system failure is real.

- The primary payroll systems, CWPAY and CWTAPPS are 27 and 17 years old, respectively, and are difficult to maintain.

- Substantial future MOU changes will be difficult to accommodate using these systems.

Question 5: Are the benefits of implementing the personnel aspects of Phase III significant?

Conclusion: There are significant benefits to implementing the personnel aspects of Phase III. Not only are the current functions of the legacy systems being replaced, but the County will also obtain system capabilities that do not currently exist, including position control and employee self service.

Question 6: Are there options to implement Phase III eHR module(s) at different times? If so, are benefits and risks with each option considered? Are the costs and recommended implementation plans for eHR, as presented by the Auditor-Controller, reasonable?

Conclusion: Although there are options to implement Phase III eHR differently from the current recommended approach, the costs and implementation plans currently presented by the Auditor-Controller are reasonable.

- The County's plan to implement the five payroll-related modules first is reasonable in light of the state of CWPAY.

- While the remaining three modules could be eliminated or delayed, they provide desired control and functionality and represent only an incremental addition to the base system costs.

- Current plans to expand the timing for implementing eHR are reasonable.

Question 7: Are there any negotiation approaches or suggested revisions in the contract amendment terms that blueCONSULTING can recommend to contribute to a more cost-effective and successful solution?

Conclusion: While there are never any guarantees of ERP project implementation success, we believe the County has done much to assure a positive outcome. Nonetheless, blueCONSULTING offers a number of suggestions that may increase the cost-effectiveness or success of the project.

- Negotiate a lower cap on the allowable escalation rate for the eCAPS software maintenance fee between 2010 and 2012.
- Negotiate future software maintenance options starting in 2012.
- Consider utilizing county staff, if available, to reduce future implementation costs for minor software upgrades.
- Perform additional review of County customizations.
- Conduct greater outreach and Department level communications.
- Review the charter and expectations of the liaison network.
- Establish a working User Committee of fiscal and administrative deputies to discuss continuing eCAPS and eHR implementation issues and to ensure Departmental ownership of new system processes.
- Identify a future governance and organization reporting structure.

II. eCAPS/eHR Project Background

A. Needs Assessment

In the late 1990s, faced with aging systems and numerous Departmental systems requests, the County undertook a comprehensive evaluation of options for the replacement of its legacy systems and the potential benefits from implementation of an enterprise resource planning (ERP) approach. ERP commonly refers to an integrated information system that serves all departments within an enterprise. It attempts to integrate all departments and functions (i.e., human resources, finance, and inventory control) into one system. Enterprise systems are designed to enable the integration of processes and sharing of information to achieve efficiency, accuracy, economy and, ultimately, effectiveness in service delivery.[2] ERP systems embody the philosophy that even large complex decentralized organizations should be managed as a coherent "enterprise" with common business practices in order to minimize inefficiency and duplication.

ERP systems share several features that make them attractive:

- Most major financial and non-financial applications are included and interrelated.
- Use of a single, shared database which increases data reliability and avoids proliferation of sub-systems that differ or can't communicate with each other.
- A flexible data structure (i.e., relational database technology) which allows for real-time processing and powerful reporting capabilities.
- Drill-down capability for tracing a transaction and disaggregating data to the detailed level.
- Versatile reporting which can be tailored to meet user needs.
- Customizability.
- Timely information (i.e., real time access to financial data).
- Built-in proven business practices as logical work flows are already embedded in the system.
- Standardized operating procedures which can reduce inefficiencies and duplication.
- Reduced paperwork as most data is stored electronically, and can be printed as needed.[3]

Although there are a number of potential benefits resulting from ERP implementation, the driver behind the County's consideration of system alternatives was the age of its existing systems, its difficulty in supporting these systems, and the proliferation of requests by individual Departments for ERP-type solutions to address Departmental needs. Departmental solutions may address the various administrative requirements of the requesting Department (i.e., financials and

[2] Government Finance Officers Association (GFOA), Consulting Report 2000-38 to Los Angeles County, May 2000, p. 5.
[3] GFOA, p. 7.

human resources); however, they do not provide for an integrated solution across all Departments or address the need to replace the countywide legacy systems.

In addition to its own internal review, the County retained Deloitte to evaluate its legacy systems and unmet business requirements, and make recommendations on the feasibility of deploying an ERP solution. Deloitte reviewed the four major countywide systems: Countywide Payroll (CWPAY), Countywide Accounting and Purchasing System (CAPS), Countywide Timekeeping and Payroll Personnel System (CWTAPPS), and Countywide Acquisition Management Information System (CAMIS), and found them to be inefficient and approaching obsolescence. These systems are discussed briefly below.

Exhibit 2: Countywide Legacy Systems

System	Description	Function(s)	Date	Technical Specifications
CAPS	Financial System	General ledger, accounts payable and budget control	1988	AMS product, no longer supported. COBOL.
CWPAY	Payroll	Processes payroll: gross-to-net calculation, bank interfaces, warrant pricing	1980	Table-driven batch process. Runs on an IBM mainframe. COBOL, MARKIV and FOCUS. File structures include segmented sequential, VSAM and flat files.
CWTAPPS	Timekeeping/ Personnel	Gross pay and rate calculations, job history, personnel transactions. Summary reporting of time and leave accrual	1990	Online system. Runs on an IBM mainframe. Natural programming language and COBOL. ADABAS relational database.
CAMIS	Purchasing	Purchasing	1998	

Source: Deloitte Presentation, CGI-AMS eHR Design Document.

In addition, Deloitte found that the County also operated over 300 feeder, back-end and stand alone Departmental systems, and at least five shadow accounting systems that mirrored the Auditor-Controller's financial system (CAPS). Deloitte evaluated a number of alternatives, including the continued maintenance of existing systems, and found that adoption of a countywide strategic ERP solution for all systems offered the most significant benefits.[4]

Using the results of the Deloitte study, the CIO prepared a five-year cost projection for ERP implementation of $226.6 million. Other alternatives were found to be more costly as shown in the following exhibit.

[4] Alternatives included: maintaining the status quo; adding a data warehouse; replacing the countywide legacy systems; and, implementing a countywide ERP system.

Exhibit 3: CIO Projected ERP Costs versus Alternatives
(Dollars in Millions)

Alternatives	5-Year Total
Scenario 1: Maintaining Existing Legacy Systems	$271.5
Scenario 2: Selective Replacement of Existing Legacy Systems	$334.6
Scenario 3: Strategic ERP Implementation	$226.6 [Note 1]

Note 1: Includes $171.0 million for the new ERP system investment and $55.6 million in other systems maintenance during the implementation timeframe.

Source: Los Angeles County Chief Information Office, ERP Business Case Series: ERP Business Case Overview, July 2000, p.14.

In February 2000, the County issued a Request for Information (RFI) for the provision of an ERP solution to further assess the feasibility of ERP implementation and determine whether vendors would be able to meet the County's functional requirements. Eight vendors submitted information, six of which were considered responsive. The Government Finance Officers Association (GFOA) was engaged to conduct an independent review of the RFI responses to further examine the feasibility of ERP for Los Angeles County. GFOA evaluated the vendor responses and examined such issues as: the potential fit of the software products; costs of ERP implementation; and implementation methods and risks, including how the system might be deployed. The May 2000 GFOA report presented a business case for ERP, reporting 28 separate benefits of an ERP system. GFOA's review of vendor responses indicated that the current ERP systems met over 90 percent of the County's needs through commercial off-the-shelf (COTS) functionality.

Based on the results of these steps, the CIO concluded that "[i]mplementing a countywide ERP software system <u>is the only option</u> that provides the needed functionality, minimizes the expenditure of funds, increases internal support efficiency and perpetuates the governance balance within the County."[5] County staff recommended to the Board that the County proceed with an ERP solution, which would achieve the following:

- Elimination of non-integrated (stovepipe) legacy applications (i.e., CAPS, CWTAPPS, CWPAY) and duplicate/disparate Departmental systems.
- Improved data access and information accuracy.
- Standardized workflow and the adoption of best practices.
- Reduced data redundancy across Departmental environments.
- Uniformity of business practices.[6]

[5] CIO "ERP Business Case Overview", July 2000, p. 20
[6] August 24, 2001, Board Deputy Presentation. Pages not numbered.

County staff recommended that the County issue an RFP for a comprehensive ERP solution, but only commit to implementing the financial component of the software. This would facilitate replacement of the County's CAPS system which was recognized to be the most critical system replacement and provide the Board, CAO and the Departments with maximum flexibility with respect to future steps.

B. ERP RFP

In February 2002, the County issued a request for proposal (RFP) for a countywide ERP solution referred to as the Los Angeles County Administrative System (LACAS). Vendors were required to provide a complete, integrated solution encompassing financials and human resources. Bids were to include costs for the provision of all software, but for the implementation of financials only. Vendors were not to provide a bid for the implementation of payroll or other human resource functions or modules. The County received and evaluated five responses. The two highest scoring entities were invited to participate in software demonstrations comprising 4 days.[7] Two vendors, including AMS, were eliminated for not providing a bid proposal containing a complete solution. AMS failed to offer a comprehensive solution, as it provided no cost information for the human resources software. Accenture/PeopleSoft was selected as the winning bidder. The County entered into negotiations with Accenture/PeopleSoft; however, as a result of a number of factors, the County subsequently decided not to proceed with the competitive acquisition process, and the RFP was cancelled in December 2003.

C. CGI-AMS Implementation

Following cancellation of the LACAS RFP, CGI-AMS was retained to upgrade the County's financials. With the Board's approval on April 24, 2004, the County began implementation of an ERP solution, under a phased, incremental approach based on a sole source procurement.

Phase I (Financials)

In April 2004, following the merger of CGI and AMS, the County entered into an agreement with CGI-AMS for the upgrade of the County CAPS financial system (AMS product) to Advantage 3.3 (eCAPS), AMS' fully supported, web-based upgrade at a contract maximum cost of $13.8 million including maintenance and a contingency added by the County. Because the County was an existing customer, it was entitled to the software upgrade at no cost (no licensing fee). A cost breakdown for Phase I (financials) is provided below. The exhibit provides CGI-AMS contract costs. It does not include other County costs.

[7] Los Angeles County Administrative System (LACAS) briefing, dated September 26, 2002.

Exhibit 4: Phase I – Financials Contract Cost Breakdown
(Dollars in Thousands)

	CGI-AMS	County Contingency	Board Approved Contract Cost
Perpetual License of Financial Suite (Advantage 3.3)	$ -		$ -
Third Party Software License (e.g., Adobe, Business Objects, Data Junction)	565.0		565.0
Implementation of Financial Management Base System (GL, AP, AR), Project and Grants Management, and Countywide reporting (InfoAdvantage Server bundle)	8,300.0	700.0	9,000.0
Base Maintenance (5 years, starting 90 days after go-live)	4,250.0		4,250.0
Total Phase I Contract (Core Financials)	**$ 13,115.0**	**$ 700.0**	**$ 13,815.0**

Source: April 6, 2004 Board Letter.

Phase I (financials) was implemented on July 1, 2005 on schedule and on budget, and included an upgrade to Advantage 3.4.

Phase II

On April 19, 2005, the Board approved a $37.3 million amendment to the CGI-AMS Services and License Agreement (SLA) to provide for the implementation of materials management, budget preparation, DHS time collection pilot, the design phase for replacement of DPW's financial system (FAS) with eCAPS, and the design of eHR. The Amendment included additional contingency and maintenance costs associated with the implementation of the eHR software necessary for time collection. Phase II cost details are provided below.

Exhibit 5: Phase II Contract Cost Breakdown
(Dollars in Thousands)

	CGI-AMS	County Contingency	Board Approved Contract Cost
Perpetual License of Advantage 3 Human Resources Management (HRM)	$ -		$ -
Third Party Software License (e.g., MicroFocus, IBM WebSphere)	538.8		538.8
Design and Implementation			
Budget Prep	4,595.0		4,595.0
Materials Management (Procurement)	9,846.3		9,846.3
Materials Management (Inventory)	3,587.2		3,587.2
Materials Management (Fixed Asset)	3,132.5		3,132.5

	CGI-AMS	County Contingency	Board Approved Contract Cost
Time Collection (DHS)	3,955.0		3,955.0
Design			
HRM Implementation Analysis (Envision)	2,995.0		2,995.0
Legacy System Replacement (DPW FAS, A-C interest allocation)	818.9		818.9
Contingency		4,500.0	4,500.0
Base Maintenance (HRM starting 90 days after implementation of time collection at DHS)	3,323.0		3,323.0
Subtotal Amendment I (Phase II)	**$ 32,791.6**	**$ 4,500.0**	**$ 37,291.6**

Source: April 19, 2005 Board Letter.

In January 2006, the Budget Prep module was rolled out at the CAO and is being used for the current budget process. To date twenty-two (22) County Departments including the Auditor-Controller, Health Services, Public Social Services, Public Works and the Sheriff's Office have implemented Budget Prep. Rollout to twenty-one (21) additional Departments is projected by the end of 2007. According to the CIO's September 14, 2006 report on eCAPS success factors, eCAPS is processing approximately one million documents per month and during FY 2005-06 more than four million accounting transactions were processed. Also, over 400,000 electronic fund transfers had been processed. The County successfully processed 22,000 1099 transactions in January 2006 and completed the final stage of its first year-end accounting close in eCAPS on August 26. The CIO memo also cites the following benefits attributed to eCAPS:

- Elimination of thousands of paper transactions, such as journal vouchers, deposit permits, and interdepartmental billing documents.
- Improved financial management of contracts through contract encumbrances and online monitoring of contracts, as well as improved accuracy of contract financial information by eliminating manual entry of self-reported information into the contracts management system.
- Enhanced fiscal controls using electronic workflow and approval processes that are aligned with and enforce the County's fiscal policies.
- Greater visibility to detailed line item financial data and budget status.[8]

Procurement was initially scheduled for initial implementation on November 2006. That date has now been deferred until March 2007 with subsequent Department rollout. Inventory has also been delayed. The DHS time collection pilot at Rancho has been completed, and time collection at the Office of Managed Care has been implemented; however, rollout at the hospitals has been deferred.

[8] September 14, 2006 CIO Memo to the Board Information Technology Deputies, "eCAPS Phase I Success Factors."

Phase IIIa

On December 19, 2006, the Board approved a $16.0 million second amendment to the CGI-AMS SLA to provide for the implementation of DPW's FAS replacement, the rollout of time collection to additional Departments, and expanded maintenance. The Amendment included additional contingency and maintenance costs. Phase IIIa contract cost details are provided below.

Exhibit 6: Phase IIIa Contract Cost Breakdown
(Dollars in Thousands)

	CGI-AMS	County Contingency	Board Approved Contract Cost
DPW FAS Replacement	$ 6,508.4		$ 6,508.4
Time Collection Rollout	4,000.0		4,000.0
Contingency		1,800.0	1,800.0
Expanded Maintenance (Platinum Support)	3,697.4		3,697.4
Subtotal Amendment II (Phase IIIa)	**$ 14,205.8**	**$ 1,800.0**	**$ 16,005.8**

Source: December 19, 2006 Board Letter.

Phase IIIb

Under the Phase IIIb proposal, CGI-AMS will implement its Advantage HRM Suite which consists of the following modules:

- Time and Attendance
- Payroll
- Payroll Accounting Management (PAM)
- Personnel Administration
- Benefits Administration
- Position Control
- Recruiting and Staffing
- Employee Self-Service.

CGI-AMS and the County have projected the costs associated with implementation of eHR, should the County elect to go forward, as provided below. These costs represent a $74.3 million proposed SLA amendment and do not include additional County costs such as ISD equipment and charges. The total projected eHR amendment amount is approximately 0.3 percent of the County's annual budget.

Exhibit 7: Phase IIIb Projected Contract Amendment Cost Breakdown
(Dollars in Thousands)

	CGI-AMS	County Contingency	Proposed Contract Amendment Cost
Third Party Software License (AMS Talent Management and other third party software)	$ 1,370.0		$ 1,370.0
Design/Implementation	68,030.7		68,030.7
Contingency		3,212.2	3,212.2
Expanded Maintenance (Platinum Support for eHR and Maintenance for Talent Management)	1,681.4		1,681.4
Total eHR [Note 1]	**$ 71,082.1**	**$ 3,212.2**	**$ 74,294.2**

Note 1: Differences due to rounding.

Source: December 19, 2006 Board Letters ($16 million and $90 million. $90 million was not submitted.)

The proposed implementation of eHR calls for a phased schedule with multiple go-lives. Payroll is scheduled for implementation in January 2010, with implementation of core human resources and position control in January 2012. Talent management is scheduled for implementation at DHR in the first quarter 2008 and all Departments by the end of 2008. This represents an extension of the schedule initially proposed by CGI-AMS, which was made at the County's request. The schedule extension increased the costs by $5.1 million, from $69.2 million to $74.3 million.

In addition to the CGI-AMS costs, the County will incur other one-time costs for equipment, ISD charges and facilities upgrades bringing the total one-time costs to $89.5 million. The County has also projected ongoing net County costs through 2012 of $10.6 million, bringing the total net County cost through FY 2011-12 to $100.1 million. A detailed cost breakdown is provided in Appendix 1. blueCONSULTING has not verified or audited the additional County costs.

D. County's eCAPS Project Management Structure

The eCAPS Project is being implemented under the guidance and direction of the of the Auditor-Controller and an eCAPS Advisory Committee which consists of the Auditor-Controller, the Chief Deputy of the Chief Administrative Office (CAO), the Director of the Internal Services Department (ISD), the Chief Information Officer (CIO) and the Director of DHR. The eCAPS Advisory Committee is responsible for monitoring and evaluating the overall project/subproject progress and advising the Auditor-Controller on activities affecting County business procedures and policies. Specific responsibilities include:

- Evaluating and deciding on proposed changes to Los Angeles County's financial and human resources business practices that relate to the implementation of the eCAPS system;
- Evaluating and recommending approval of any contract amendments, or change orders;
- Evaluating and recommending approval of the use of project contingency monies; and,

- Reviewing and recommending approval of changes in contractor deliverable due dates and go-live dates.

The Auditor-Controller chairs the eCAPS Advisory Committee meetings. Since the eCAPS Project involves enterprise systems, decisions are based on a consensus of the major County Departments whenever possible. One of the primary purposes of the Advisory Committee is to build consensus and to ensure the understanding and cooperation of the Department heads. Administration of the contract is under the control of the Auditor-Controller with review and input by the CIO and County Counsel.

The County has aligned the "ownership" of the various modules/subprojects with the business process owners. The Department with authority and responsibility for a specific functional area sets the County's business direction with input from the eCAPS Advisory Committee.

The County's eCAPS Project Manager, who has been in that position since the inception of the ERP development process, and the CGI-AMS Project Manager are responsible for overseeing all aspects of the eCAPS project. The County's eCAPS Project Manager is an Assistant Auditor-Controller who reports functionally to the Auditor-Controller.

Reporting to the Project Manager are eCAPS Project Teams, staffed with existing County personnel from several Departments, including Auditor-Controller, CAO, DHR, Department of Health Services (DHS), Department of Public Works (DPW), ISD, Sheriff's Office and others. The CIO is responsible for providing project oversight and assistance during the project.

In addition to the actual project team, each Department has identified a Department Liaison. The Department liaison as the single point of contact who:

- Ensures continued Departmental awareness of the eCAPS Project's activities and the impact the eCAPS Project will have on internal operations.
- Informs subject matter experts of eCAPS meeting schedules.
- Coordinates input required from Departments for each project team.
- Coordinates the identification of staff for training.
- Works with eCAPS Project staff to conduct readiness assessment of the Department's preparation to implement the new system.

III. blueCONSULTING Evaluation

A. Organization of this Chapter

This chapter provides blueCONSULTING's response to the seven questions it was asked to address:

1. Given the status of Phase II, are there any reasons to delay the eHR aspects of Phase III?
2. Are the costs of CGI for eHR competitive for the requested work?
3. Should the County stay with the same application for eHR or competitively bid with other firms for the eHR work? What are the advantages and disadvantages of implementing a single enterprise resource planning (ERP) solution versus a multiple product/best-of-breed approach?
4. Does the County need to replace its payroll systems in the near future? Do the Auditor-Controller's reasons for suggesting this be done as soon as possible have merit in terms of minimizing risk of system failures?
5. Are the benefits of implementing the personnel aspects of Phase III significant?
6. Are there options to implement Phase III eHR module(s) at different times? If so, what are benefits and risks with each option considered? Are the costs and recommended implementation plans for eHR, as presented by the Auditor-Controller, reasonable?
7. Are there any negotiation approaches or suggested revisions in the contract amendment terms that blueCONSULTING can recommend to contribute to a more cost-effective and successful solution?

In this Chapter we provide our response to, and a discussion of, each of these questions. Additional recommendations for Phase IIIb implementation are provided at the end of this chapter.

B. Response to County Questions

Question 1: Given the status of Phase II, are there any reasons to delay the eHR aspects of Phase III?

Conclusion:

Based on our analysis, there is no reason to delay implementation of eHR, and in fact, there are risks if the County chooses not to go forward with the project. While the County has experienced problems and delays in the implementation of certain aspects of eCAPS, these problems are fairly typical of ERP installations, and the risks of a delay in eHR implementation outweigh the potential risks of moving forward. We recommend a cautious approach and a continued reassessment of project approach and governance as the County moves forward and offer several suggestions for improvement that may assist in the eHR implementation.

Recognized success factors for any large-scale system implementation include: strong executive sponsorship, strong project management, a large network of Department liaisons who are responsible for communications with the individual Departments, and the identification of "lessons learned" from each phase of implementation which are reflected in the approach for subsequent phases. As described by the CIO:

> The probability of [an ERP's] success depends more on organizational, cultural and business practice issues than on technological or monetary issues. Private industry has used ERP systems for over 10 years. Federal agencies, several states and counties nationwide have used ERP systems for over 5 years. Successful implementations abound. There are also failures. Case studies show that failed ERP implementations are usually not software technology issues.[9]

Although there are risks associated with any large-scale systems implementation, there are also risks should the County stop or delay the implementation:

- Risk of legacy system failures and increased support costs.
- Loss of functionality: position control and employee self-service.
- Loss of the benefits of integration that precipitated the decision to implement an ERP.
- Additional bid costs if the County were to competitively bid eHR.
- Additional customization costs. There is no guarantee CGI-AMS would agree to all negotiated baseline modification under a revised schedule.
- Loss of contract personnel. A significant delay may result in redeployment of CGI-AMS resources.
- Loss of project personnel. Employees would return to their Departments.
- Loss of momentum. Many implementations fail because of loss of momentum or buy-in by management personnel. This is a real risk for the County. We believe a stoppage or substantial delay now could jeopardize full implementation of ERP within the County.

Careful planning, commitment and communication are critical to a successful implementation. The County is strongly committed to ERP implementation and for the most part has developed the necessary project management infrastructure and approach; however, additional improvement is possible to ensure successful eHR implementation. The following exhibit presents our assessment of the County's performance against key elements of a successful ERP implementation.

Exhibit 8: Key Success Factors for ERP Implementation

Selected Key Success Factors	blueCONSULTING's Evaluation of County ERP Process	Opportunity for Improvement (See also Question 7)
Strong executive sponsorship/Executive Steering Committee	●	

[9] Chief Information Office (CIO) "ERP Business Case Overview", July 2000, p. 18.

Selected Key Success Factors	blueCONSULTING's Evaluation of County ERP Process	Opportunity for Improvement (See also Question 7)
Long-term governance/staffing identified	◉	Additional project staffing may eventually be warranted.
Strong decision-making	●	
User Advisory Committee in place	◉	Past involvement; consider further use.
Strong project management from start to finish	●	
Involvement of stakeholders	●	
Train, train, train	◉	Further involvement of user Departments in reports.
Go beyond training - involve users in testing the design of the system to make sure it works for their jobs	●	
Ensure adequate staffing from all business areas and IT	●	
Be prepared for additional workload based on new ways of doing things	◉	Consider full time organizational staffing.
Maximize communications up, down and laterally	◉	Additional outreach and mandated meetings.
Test, test, test	●	
Identify metrics and measurement tools	◉	System performance metrics available; more focus on functional improvement.

● Good ◉ Average ○ Poor

Source: blueCONSULTING analysis.

Discussion:

blueCONSULTING reviewed the status of the eCAPS Phase I and II implementation, and interviewed County representatives from over 15 user Departments. blueCONSULTING believes that the problems the County has experienced with implementation of the eCAPS project are similar to the experience of other organizations **(see Appendix 2 Lessons Learned)** and that the risks of delaying further implementation outweigh the benefits to be obtained from delay. However, we also believe that now is the time to make some mid-course corrections to enhance the implementation of eHR and to ensure project success in the long term. Despite eCAPS implementation issues, the majority of the user Departments interviewed agree that the implementation of eCAPS has already been a benefit to the County and that most of the financial package is working appropriately.

Problems occurring during implementation of Phases I and II and areas of blueCONSULTING concern include:

- Implementation schedule staffing impact
- Availability and meaningfulness of reports
- Communication and support
- Time collection pilot and implementation to-date
- Training necessary for countywide rollout of time collection
- Future governance and ownership of the system

eCAPS Staffing and Implementation Schedule

The County implemented eCAPS using existing staff. The positions of Department personnel who were assigned to the various eCAPS implementation teams were not backfilled. This approach, along with the additional burden of identifying and implementing new business processes before and during the implementation of the financial and budget prep modules, increased the time required for successful implementation and caused substantial overtime, mostly unpaid.

Because of the burden on staffing, the Auditor-Controller elected to expand the implementation schedule for eHR by two years. This was an appropriate decision based on employee burnout and work load, and is supported by the individuals we interviewed. Several employees and Departmental management indicated that the strain on their employees was unacceptable and caused stress and burnout. Most of those same people have commented that they are much more comfortable with the expanded timeline for implementation of eHR. The extension sends a clear message that the needs of the employees are considered even during the detailed implementation of this system.

Reports

Today, there are numerous reports available to the Departments. For example, CGI-AMS was contracted to provide 87 accounting reports which are available. Additionally, numerous other reports are available to the Departments. Departments are able to obtain unique information through Cognos, although additional tutorials will be necessary to ensure adequate reporting. The County should make the tutorial and discussion of reporting a top item for review during the next round of Departmental outreach.

The County initially experienced significant problems with the development and implementation of eCAPS reports; reports were not available as promised and there were substantial questions regarding the accuracy of the information that was provided. Departments were also told that obtaining their own reports using the ad-hoc reporting functions of Cognos would be relatively easy. So far this has not been the case. The ad-hoc reporting function allows Departments to perform multi-dimensional analysis and obtain information through online application queries and file extracts. Several user Departments question whether they have the reports needed to

manage their functions, although they also acknowledge that they may not know what information is available or how to obtain it.

Advantage uses InfoAdvantage/Business Objects as its standard reporting tool. Through a competitive evaluation process, the County had previously (May 27, 2004) selected Cognos as the countywide standard for reporting. Given that products are competing solutions with similar capabilities, the County asked CGI-AMS if they would use Cognos as the reporting tool. Through a formal change notice, CGI-AMS agreed to develop all reports using Cognos. The training and computer resources required to effectively use the Cognos product were underestimated. This impacted report quality and the timely delivery of reports to the Departments in Phase I. The delays resulted in significant expenditures on Cognos consultants to provide assistance in the development of the technical architecture required to achieve the necessary performance for timely report development and delivery, and additional computer purchases.

The County also suffered in the development of reports using Cognos for similar reasons (i.e., lack of training) which suggests that both the County and CGI-AMS are responsible for the delays and the inaccuracy of reports, and a number of individuals interviewed questioned the County's continued reliance on Cognos for all reporting needs. The real issue is that there were reporting issues that caused a degree of Department dissatisfaction in Phase I. For the most part these issues have been resolved; however, in proceeding with eHR, the County needs to be sensitive to the reporting needs of the Departments to ensure a sustainable operating environment is available to support the large number of reports identified. In the end, it is the County's managerial responsibility to ensure that the Departments have the requisite information necessary to manage their operations.

blueCONSULTING is aware that Cognos is an industry leading product; however, blueCONSULTING did not evaluate the appropriateness of Cognos or any other reporting software in meeting the eCAPS business needs, nor did blueCONSULTING evaluate the specific causes of, or responsibility for, the reporting issues and delays.

Recommendation: Ensure that Departments have the appropriate information necessary to manage their operations and that the information is available in a timely manner. Hold additional training classes on reports. Many Department personnel indicate that they are not sure what is available and may not know what they are able to obtain.

Communication

Each Department has assigned liaisons who are responsible for communication with CGI-AMS and/or the eCAPS Project Team. Although the Auditor-Controller sent an email to all Department Heads requesting liaisons be assigned from each Department, those individuals may have changed or may not have adequate authority to deal with important issues. As specified in the memo from the Auditor-Controller, "The department liaison, identified as the single point of contact, is the key representative for your department who will:

- Ensure continued departmental awareness of the eCAPS Project's activities,

- Coordinate internal staff schedules to attend eCAPS design meetings as subject matter experts,
- Later in the project, coordinate the identification of staff for training,
- Work with eCAPS Project staff to conduct readiness assessment for the department's preparation to implement the new system."[10]

Although not specifically mentioned, blueCONSULTING believes the liaison should be required to communicate with the eCAPS Project Teams when Department personnel identify concerns or problems, so that they may be addressed in a timely manner. Many liaisons reported that liaison meetings were informational and not a discussion of Departmental issues. Greater two-way communication is required. Additionally, some liaisons have a formal process for problem identification and resolution while others do not. This leads to an inconsistent process and inconsistent information obtained for use by the liaisons and eCAPS Project Teams.

Recommendation: Although the liaison network is a good system, refresher training and clarification of the roles and responsibilities of the liaisons may be appropriate to ensure adequate communication of Department issues. A more formal and consistent process for identifying and documenting issues is also warranted.

Time Collection

Rancho Pilot

The time collection pilot was conducted at Rancho Los Amigos National Rehabilitation Hospital from June through September 2006. Although problems were encountered during the pilot, no "red flag" was raised until the County attempted to roll-out time collection at other Department of Health Services' facilities. Problems identified during the pilot were discussed with the liaison, but were not escalated, and Rancho was attempting to make the system work. The time collection system was working as designed, but did not interface with the nurses scheduling system, and presented a problem for the physicians who were struggling with a recent policy requiring that they "clock" in and out. To facilitate the "clocking in and out" process, the County was exploring the use of swipe cards for the physicians and other required personnel. Advantage HRM does not interface with swipe cards as Advantage treats the timecard as a single "document" and not individual days.

As a result of the interface issues, and a number of communication issues which were highlighted by the pilot, the time collection process has lost credibility with medical personnel, who believe the system may be adequate for an office environment, but is not appropriate for 24/7 medical facilities. Many private hospitals use time clock integration software and medical personnel were concerned that the County did not identify this perceived gap in Advantage's functionality before going live with the time collection pilot. The need for integration with the swipe card technology is a valid concern and one that will have to be adequately addressed prior to further implementation at the County's medical facilities. The County has hired a consultant to identify a standard set of time collection systems for the County that will interface with Advantage. This is a crucial step in gaining the support and buy-in of the medical personnel.

[10] April 8, 2004 Memorandum to All Department Heads from the Auditor Controller re: eCAPS Department Liaison.

OMC

The hospitals resisted further implementation of time collection until certain issued were resolved, so DHS began implementation in the Office of Managed Care (OMC), which has approximately 170 employees. Three pay periods were tested before going live, with feedback provided to the employees following each test period. A substantial amount of training and hand holding was conducted to ensure successful implementation at OMC. Each OMC employee received one two-hour classroom training session and approvers (supervisors) had an additional two-hour session. Additionally, three training personnel were available at OMC for about three days each week of the test pay periods. Training is critical to the successful implementation of time collection. A similar amount of training will likely be necessary for all Departments. For larger organizations, or those with more complex time reporting requirements, the level of required training may be even greater. Once the training has taken place and the system is in operation, there is a need for trained, on-site personnel to answer questions from employees.

blueCONSULTING interviewed employees from the Office of Managed Care regarding the time collection implementation. Concerns identified during these interviews include:

- The need to assign employees to the correct organizational unit.
- Ease-of-use and navigation.
- Coding of after-hour on-call.
- Accounting for MOU related continuing education for the nursing staff.
- Ability of managers to approve their own time card, which does not comply with the County's philosophy.

While some of these issues have been presented to the liaison who has passed the concerns on, there is a need for additional direct communication to ensure appropriate action.

blueCONSULTING reviewed the time collection modules and share some of the users' concerns regarding navigability: functions the user expects from a web-based look and feel such as a "back" button do not exist, the location of information is not intuitively obvious, certain activities require a seemingly excessive number of steps, the employees can only view four days at a time, and the process for scrolling through the days changes at the end of the pay period, resulting in the potential for input errors.

Change in Business Practice

The new time collection process represents a substantial change from the County's current business processes. In general, under the current practice employees fill out time cards indicating the hours worked versus not worked. This information is provided to a payroll clerk or clerks in their Department. The payroll clerks code the time and input it into CWTAPPS. Employees are responsible for ensuring time not worked has been correctly identified. Supervisors review and sign-off on the time cards. The clerks are responsible for ensuring the time has been accurately coded. Most Departments do not require a detailed categorization of time worked although some Departments, such as Public Works, require time to be charged to specific projects or functions.

Nevertheless, the basic responsibility for ensuring accurate transfer of this information has resided with the payroll clerks.

The new process shifts responsibility for coding and data entry from the payroll clerk to the employee. Employees must now ensure that the time worked and not worked is properly classified, coded and in compliance with County and MOU requirements. Each employee completes an electronic time sheet and signs-off on the time sheet electronically. The time sheet is then electronically submitted to the supervisor for on-line approval. This represents a substantial change in the County processes and forces accountability for accurate time classification to the employee/supervisor.

Given the amount of training and level of effort required to ensure successful implementation at OMC (with only 170 employees), and the proposed fundamental shift in business processes, blueCONSULTING is concerned about the success of a full scale time collection rollout. Our concern is not so much with the software, but rather the decision to require approximately 90,000 employees, many of which are field personnel, to correctly code and input their time electronically.

Recommendation: eCAPS project management personnel and CGI-AMS personnel should review DHS time collection concerns. Additionally, CGI-AMS should evaluate the user friendliness of the system and the current amount of training required for employees to use the system, in preparation for future enhancements. The County should assess the internal training requirements for full time collection implementation and continue to evaluate potential options for a hybrid approach using payroll clerks where appropriate.

Question 2: Are the costs of CGI-AMS for eHR competitive for the requested work?

Conclusion:

Although a true assessment of the competitiveness of the eHR cost proposal cannot be determined without a competitive bid solicitation, CGI-AMS' projected cost for eHR implementation appears competitive, based on limited information available in four areas.

- CGI-AMS has agreed to incorporate about half of the County requested software modifications into its baseline product. This reduces the number of hours for County customizations and results in cost savings for the County.

- The rate charged by CGI-AMS to the County is lower than known competitors and is competitive with or lower than CGI-AMS rates charged to other clients. Additionally, the rate is capped through 2012.

- CGI-AMS is providing the County with a perpetual license to Advantage HRM at no cost. Only relatively minor third party license fees are charged. As a result, the eHR license fees are lower than software license fees proposed by other vendors.

- The County has chosen the highest, most comprehensive, level of maintenance support available and, even with that level of support, the costs are lower than other competitors.

Discussion:

The competitiveness of CGI-AMS' cost proposal can be evaluated by comparing it to the expected charges from other vendors for a similar system. The cost of ERP implementations can vary considerably from one installation to the next based on a number of factors including: number and types of modules/functionality installed, number of users and size of the client, specific requirements of the client and need for customization, amount of work to be performed in-house versus by the installation contractor, and training requirements. As each client system and implementation is different, benchmark comparisons to other systems are difficult and can be misleading. The most direct comparison is through a client-specific competitive bid process; however, because the County never requested bids for implementation of the human resource modules as part of the LACAS process, a direct comparison of CGI-AMS' costs versus other prospective vendors is not possible. The County employs about 90,000 staff in 38 departments, each with its own unique set of business requirements, large transaction volumes, and a multitude of individual users. Most other installations are not comparable.

The cost of a software installation typically consists of the following components: implementation services (contractor rate times the number of hours), software license fees, training costs, travel costs, hardware costs (can be incurred by either the contractor or in the case of the County, by the client), contingency (either built into the contractor bid or separately managed as in the case of the County), and maintenance costs. In order to assess the general competitiveness of CGI-AMS' price we considered:

- Hourly rates and the number of hours to perform the work: implementation of software and customization.
- Software license fees
- Maintenance costs
- Comparison to initial cost projections
- Other ERP Installations

As discussed previously, the best indicator of competitiveness is a competitive bid process. Based on information provided by CGI-AMS, it was awarded projects in its last four major government system competitions.

Implementation Hours and Hourly Rates

The largest component of the outside cost of a system installation is the cost of implementation services. Implementation service costs are driven by the number of hours and the contractor's rate. Both elements must be weighed in assessing the potential competitiveness of a contractor's proposal. Comparative benchmarks on ERP installation hours are not readily available public information. Further, as the costs for HRM implementation services were not included as part of the LACAS proposal, no direct comparison of estimated hours for the County's proposed eHR

installation is available. Implementation services were not included for the HRM software components under LACAS because the County was not ready to proceed at that time with an HRM implementation, partly because the County's business requirements were not fully defined. Given the absence of publicly available information, our assessment of the appropriateness of the projected hours for eHR considered the following: CGI-AMS' proposed customization hours and the competitiveness of CGI-AMS' eCAPS proposal.

Hours

CGI-AMS has agreed to perform many hours of County-required eHR software customization work at no charge. The modifications will be made and incorporated in Advantage 3.8. Since CGI-AMS felt these modifications would be beneficial to other clients, CGI-AMS agreed to bear the cost for incorporation of these modifications, and include them in its baseline product. Only the hours for unique County customizations will be charged to the County. This reduces the number of installation hours and results in a costs savings for the County. It will also provide future savings, as fewer changes need to be made to implement software upgrades. The breakdown of baseline versus County customization hours is provided below:

Exhibit 9: Hours for eHR Modifications

Modification Type	Hours	Percent
Baseline (no cost) software customization work	52,739	49.9%
Unique L.A. County customization work (cost)	53,034	50.1%
Total Modification Hours	**105,773**	**100.0%**

Source: AMS HRM Design Document.

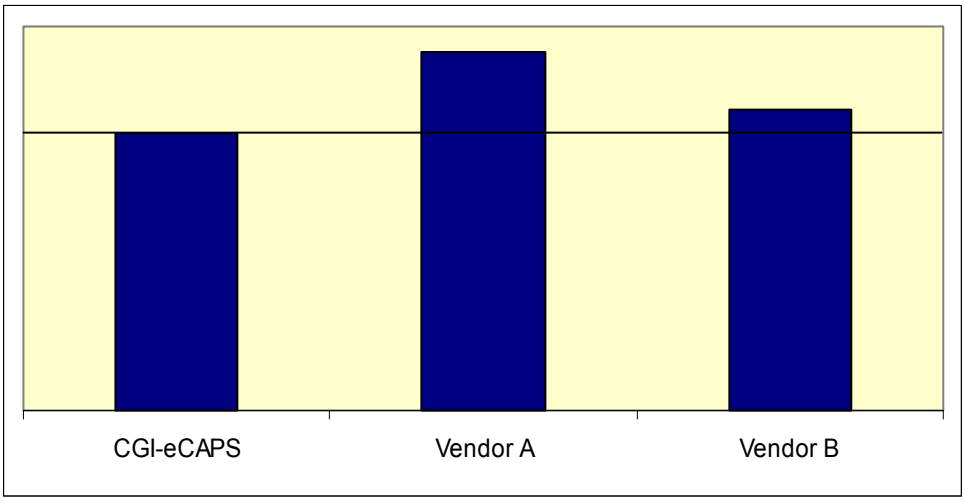
A comparison of the LACAS vendor proposals for eCAPS serves as an indicator of whether CGI-AMS' proposed hours have been competitive in the past. The hours and rates from the 2002 LACAS RFP vendor proposals are considered proprietary; however, we reviewed both sets of data and found that CGI-AMS' rates (discussed later in this section) and hours were lower than the proposals of the two LACAS RFP finalists. CGI-AMS' proposed hours for implementation services were almost half of one of the vendors proposed hours and thirty percent lower than the other.

Rates

blueCONSULTING compared CGI-AMS' hourly rate for eCAPS and eHR work to available benchmarks. CGI-AMS charges the County a blended rate (typical in the industry) for all eHR work which includes travel costs. Although a portion of the CGI-AMS team is local, many are not, and continuity of the project team provides a benefit to the County. CGI-AMS' blended rate for eHR is somewhat higher than eCAPS; however, the rate is fixed until 2012.

CGI-AMS' rates were compared to available information from two sources: other vendors as provided in response to the LACAS RFP and other CGI-AMS installations. In both cases, CGI-AMS was found to be competitive.

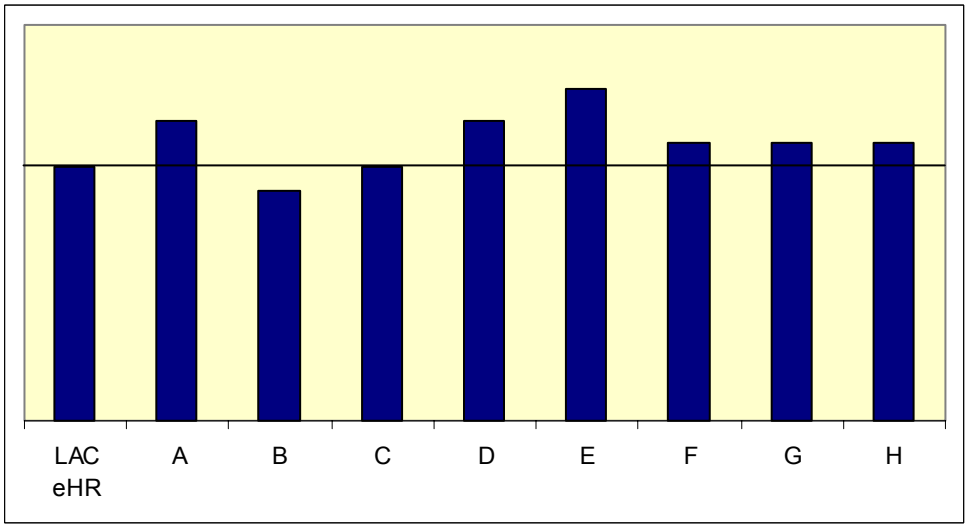
Exhibit 10: Comparison of LACAS Rates for eCAPS Implementation [See Notes]



Notes:

1) CGI-AMS' rate is inclusive of travel costs. Vendor A's and Vendor B's rates did not include travel costs. Travel was to be billed separately.
2) No scale is provided to protect confidentiality.

Exhibit 11: Comparison of CGI-AMS' eHR Rate to those of other CGI-AMS Installations [See Notes]



Notes:

1) CGI-AMS' rate to the County includes travel costs. Clients A-D represent rates which were inclusive of travel. The only data point lower than the rate charged to the County represents a client for which most of the CGI-AMS team was local.
2) For Clients E-G travel was an adder to the rate. For purposes of comparison, blueCONSULTING increased the rate by 10% to account for expected travel costs.
3) The rate for Client H, where the handling of travel was unknown, is approximately five years old.
4) No scale is provided to protect confidentiality.

Source: AMS Functionality Review, p. 14 of 23, blueCONSULTING survey.

Based on information obtained from CGI-AMS, the average rate of one of its competitors for a systems installation was 64 percent higher than CGI-AMS' rate to the County. blueCONSULTING's research identified rates for ERP installations by two other vendors, which were also higher than CGI-AMS' rate to the County. This comparative rate information is summarized below:

Exhibit 12: Comparison of CGI-AMS' eHR Rate to Other Vendor Rates

Vendor	Other Vendor Rates Compared to CGI-AMS	Notes
Vendor A	64% higher	
Vendor B	16% higher	2002 installation for a state in the Midwest
Vendor C	70% higher	2000 installation for a state in the East

Source: CGI-AMS information response and blueCONSULTING research.

Software License Fees

CGI-AMS' license for its Advantage eCAPS and eHR baseline software is a no-fee perpetual license. CGI-AMS is not charging the County a license fee for its Advantage suite of software as it is considered an upgrade to the County's existing system. CGI-AMS does include fees for third-party licenses it uses in its financial and eHR software modules. Third party license costs for all modules (i.e., financials, materials management and human resources) total $2.5 million; $1.4 of which is eHR specific.

In comparison, none of the three qualified bidders to the 2002 LACAS RFP proposed providing perpetual no-fee licenses for their software. In fact the software license fees proposed by the three qualified bidders averaged $13.5 million over the contract life. Thus, CGI-AMS' offer to provide a no-fee perpetual license for its Advantage software plus $2.5 million for third-party software represents a lower licensing proposal.

Maintenance Costs

The County has elected to purchase CGI-AMS' highest level of maintenance services, known as Platinum Support, at a contract cost of $11.3 million over a five year period. This provides support for the financials, materials management and the elements of eHR necessary for implementation of time collection. If the County proceeds with Phase IIIb, an additional $1.7 million will be required for Platinum Support on the remaining modules of eHR. Platinum Support provides the following:

- 24 hour per day, 7 day per week maintenance coverage.
- On-site staffing of two full-time positions.
- Complete support of all modifications to the baseline Advantage software and all County-specific non-baseline customizations.
- Integrated system testing for all new Advantage software releases to ensure that County-specific customizations function properly as upgrades are performed.

In comparison, the 2002 LACAS RFP resulted in vendor proposals for the three qualified finalists included software maintenance fees averaging $10.9 million for the 5-year contract term. After adjusting the CGI-AMS maintenance cost figures to make them comparable to the level of service proposed by the LACAS bidders (i.e., eliminating the Platinum premium and adjusting the number of service years provided), the comparative CGI-AMS maintenance cost is lower than the least costly LACAS finalist and far less than the average of the three finalists. Adding back the extra Platinum Support service brings CGI-AMS' costs closer to, but still lower than, the average cost for the LACAS finalists even though the platinum service is more comprehensive.

Projected Implementation Costs

With the addition of eHR, the County will have a fully developed ERP system. Using the contract costs for Phases I, II and IIIa, plus the proposed costs for Phase IIIb (eHR) the County has a fairly reliable estimate of maximum CGI-AMS cost for the full ERP suite. The maximum CGI-AMS cost is $141 million including contingency: $67 million under contract for Phases I through IIIa (including contingency), and $74 million for the remaining Phase IIIb eHR (including contingency).

blueCONSULTING compared this cost to the projected ERP cost estimates in several internal and external studies commissioned by the County leading up to the initial ERP decision. The ERP estimates from these studies provide only rough order of magnitude projections of cost because they were based on many assumptions about system functional requirements that were subsequently modified or better defined and may include a portion of the projected County costs. Nevertheless, the comparison is useful because it reflects the County's needs and represents a reasonable set of benchmarks in determining whether CGI-AMS' cost for the current ERP project is in line with original ERP projections.

As shown below current estimates of the CGI-AMS cost for the ERP system is about $30 million less than the lowest ERP cost projection made in the earlier studies:

Exhibit 13: Initial County ERP Cost Projections
(Dollars in Millions)

Source	Date of Study	ERP Cost Estimate
Deloitte Consulting Study	December 1999	$180
GFOA based on RFI	May 2000	192
Los Angeles County CIO [Note 1]	January 2000	171

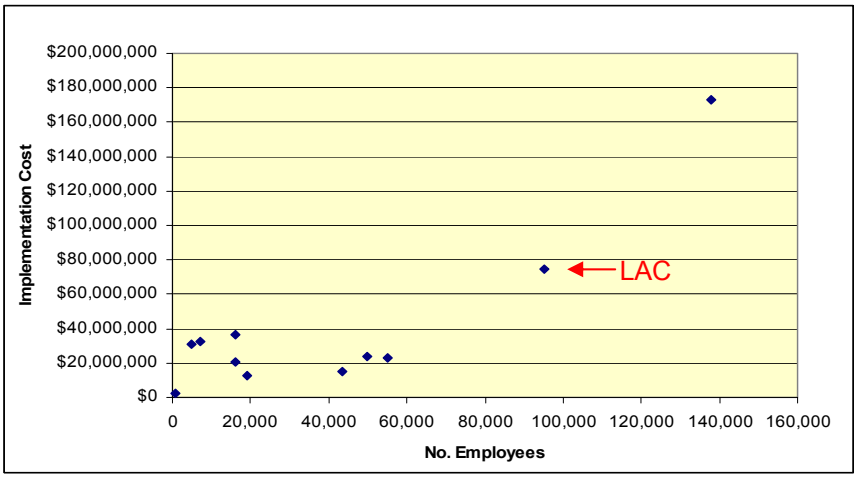
Note 1: Represents cost for ERP system only. CIO also projected $55.6 million in legacy system costs during the implementation period (see Exhibit 3).

Source: Deloitte Study, GFOA Report and July 2000 CIO Business Case.

Other ERP Installations

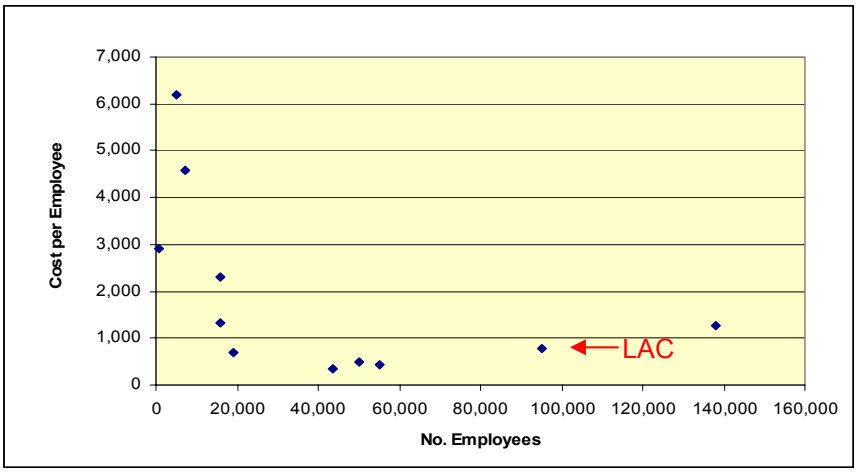
Results of blueCONSULTING's research suggest that for ERP-based human resource solutions, the County's cost per employee is low. While direct ERP cost comparisons are not appropriate for gauging the specific competitiveness of the County's projected CGI implementation cost, empirical cost data offers a comparative framework. blueCONSULTING acquired information regarding the human resource module implementation cost for eleven ERP implementations, widely varying across size, vertical markets, and private versus public entities. Some information was provided to blueCONSULTING in response to project data requests while other data came from published sources or directly from implementers. There is a high degree of imprecision stemming from isolating the human resource module costs (from a multi-module ERP implementation project) and from the sometimes blurred distinction in reported costs between vendor and internal resources. As such the data is somewhat anecdotal. Unfiltered data results are shown in the tables below:

Exhibit 14: ERP Human Resource Costs as Related to Organization Size



Source: blueCONSULTING research.

Exhibit 15: ERP Human Resource Cost Per Employee



Source: blueCONSULTING research.

Question 3: Should the County stay with the same application for eHR or competitively bid with other firms for the eHR work? What are the advantages and disadvantages of implementing a single enterprise resource planning (ERP) solution versus a multiple product/best-of-breed approach?

Conclusion:

Organizations planning for major systems change typically fully evaluate technology selection at the beginning of the decision-making process, and establish definitive criteria. These may result in ERP, best of breed, or hybrid strategies. Each has merit based on the client needs and requirements. It is unusual to select one of these approaches and subsequently evaluate the technical and economic feasibility of fundamentally changing strategy mid-project.

In evaluating options for the replacement of its legacy systems, the County undertook significant analyses of the pros and cons of ERP implementation as well as the potential risks and lessons learned from implementation in other jurisdictions. There is little precedence for changing vendors once the decision has been made to pursue an ERP strategy. In some instances, ERP installations start with core modules and then build out, based on vendor development and the success of initial module implementation. But, except for very anecdotal instances, the overwhelming rationale leading to changing out an ERP installation or incorporating a separate vendor application once ERP implementation is underway stems from changes in the client organization resulting from mergers and acquisition. Often an acquiring company will mandate consistency resulting in cessation and/or change in ERP vendor product installation.

Our analysis identified no significant changes or factors (from a cost or functionality standpoint) that would warrant a change in the County's chosen approach at this point in time. eCAPS Phases I and II are largely complete. Although theses Phases were not without issues and challenges, none appear to warrant a wholesale discontinuation of the intended plan. Nor is there any guarantee that a competitive bid process would result in the selection of a different vendor, as CGI-AMS' product was already determined to be a good fit for the County's need. Further, although it would be technically feasible to interface a different HR product with Advantage financials, it will have an effect on functionality and potential costs.

Assuming costs could be reduced from discontinuing the current Advantage eHR implementation and pursuing a competitive bid process, there are several factors that need to be considered as they will likely erode potential savings:

- **Procurement Costs**. The costs to competitively bid and contract with a new vendor can be substantial and include RFP preparation, bid solicitation, bid evaluation and stakeholder coordination.

- **Interface Costs**. Two core, mission critical applications (GL/financial and human resources) must necessarily share data to appropriately account for and post labor costs and provide for labor detail reporting. Labor budgeting and position management similarly must be well linked. Interfaces would have to be written to provide data transfer

across Advantage and a third party HRM tool.[11] Though these types of interfaces are common and typical of those in multi-vendor environments, they present an up-front cost to design, build and test, as well as an ongoing cost to maintain and revisit when new application releases are issued.

- **IT Maintenance and Support.** Use of two applications requires notable additional maintenance and support costs. Efforts required for ongoing maintenance and managing product releases essentially doubles with two vendors. Personnel requirements increase to support the additional work. New product releases can be taxing depending on the level of client specific modification. At a minimum, managing the release process for two vendors will present the County with resource demands.

Discussion:

In evaluating this area we considered:

- The County's initial selection of CGI-AMS.
- The pros and cons of best-of-breed versus ERP implementation.
- The County's internal analyses which resulted in the decision to implement an ERP.
- The technical feasibility of switching approaches (i.e., what is the feasibility and impact of selecting a separate vendor/product to provide human resource systems functionality, including, payroll, personnel administration, time entry, time reporting, labor detail records, pension and benefits tracking and others as defined?)
- The relative competitiveness of CGI-AMS' human resource product (see Question 2).
- Other factors such as the County's working relationship with CGI-AMS and any lessons learned from the implementation of Phase I and II (see Question 1).

Selection of CGI-AMS

The selection of CGI-AMS was based on a fit gap analysis, as opposed to a head-to-head comparison between competing vendors. Thus, it is impossible to know whether another product would or would not exceed the County's requirements; however, the market for human resource solutions, whether implemented as stand alone products or as part of an ERP is mature. Vendors and products that are suitable for larger organizations such as the County are limited. SAP, Oracle and PeopleSoft continue to be defined leaders in the large enterprise human resource management system market; however, many other vendors also offer competitive solutions in specific vertical and geographic markets. Government organizations share accounting standards and regulatory requirements that differ from those of private sector firms. They may also rely on common procedures and methodologies for carrying out business processes. By focusing on governmental ERP functionality, CGI-AMS has been able to take advantage of these commonalities and establish a competitive niche in the government market. CGI-AMS

[11] Interview, CGI, January 17, 2007

specializes more in government financial and HR systems than other large ERP system vendors, with more than half its revenues being derived from government system projects. CGI-AMS modules have been implemented in a number of cities and counties, both in and outside of California, and CGI-AMS has won its last four government bids. They have also implemented ERP systems in a number of states.

Although no formal product-to-product comparison was performed, CGI-AMS' ability to serve the County's needs was documented in an extensive evaluation. Based on that review and blueCONSULTING analysis, the selection of CGI-AMS appears reasonable, based on common market assessment criteria.

Exhibit 16: CGI-AMS Selection – blueCONSULTING Evaluative Criteria

Criteria (pertaining to vendor)	blueConsulting Evaluation of CGI-AMS Qualifications
Market Understanding	●
Market Strategy	◉
Innovation	◉
Product/Service	●
Overall Viability	◉
Customer Experience	Limited V.3 customer references No comparable scale full suite installations

● High Performing ◉ Moderate Performing ○ Poor Performing

ERP versus Best-of-Breed

ERP refers to an integrated set of systems built around a common database which address all the administrative processes of an organization. A modern, integrated ERP system based on an open system architecture offers improved security, standardization, interface capability, expansion, and support. ERP solutions are typically offered by a single software vendor which may partner with one or more firms to provide implementation services.

Best-of-breed refers to the best product of its type. Organizations often purchase software from different vendors in order to obtain the best-of-breed for each application area; for example, a human resources package from one vendor and an accounting package from another. While ERP vendors provide a wealth of applications for the enterprise and present their integrated system as the superior solution, every module may not be best-of-breed, as it is difficult to excel in every niche.

The relative merits of integrated ERP systems versus "best-of-breed" strategies is the subject of extensive IT literature. There is no definitive conclusion on this subject, stemming from the considerable diversity in needs across different entities. Additionally, changing external requirements may temporarily position one product or one vendor in a functionally preferred position. For example, current Fair Labor Standards Act (FLSA) requirements suggest certain stand-alone applications are more adept right now. However, because there are relatively few ERP vendors, the pervasiveness of these technologies is driving a gradual interchangeable

functionality between competing vendors. Our research did not identify any clear cut best-of-breed vendor for government human resource systems. To determine which vendor would provide the best fit for each of the County's required human resource modules would require a lengthy and costly competitive bid process involving the evaluation of each of the required element of the proposed human resource suite (i.e., payroll, personnel administration, position control, recruiting and staffing).

The extent to which state and local government entities have implemented an integrated, single vendor ERP versus the use of differing systems for financial and human resources varies widely, and may be based on the unique needs of the entity or the age and need for replacement of existing systems.[12] At the time of the CIO's review of ERP benefits and risks, industry reports indicated an increased trend toward ERP implementation in the government sector. Documentation provided by CGI-AMS indicates that, of those states that had both financial and human relations/payroll components, about 57 percent of the states use financial and human resource software provided by the same vendor and about 43 percent use software from different vendors.[13]

The Gartner Group found that replacing best-of-breed administrative applications with integrated solutions offers potential benefits but the actual scale of those benefits depends on several factors. Generally, there would be greater benefit if:

- The employee pay structure was complex.
- More employees worked on projects.
- Expense management was more widespread.
- Self-service was widely used.
- There was a wide range of end-user reports.
- The organization was multinational.

Unfortunately, the Gartner study did not quantify either the benefits gained through integration or those lost by replacing best-of-breed applications.[14]

Although there are risks and benefits to both approaches, Deloitte, GFOA and the County all found there to be significant benefits from a single vendor ERP approach, both in general and for the County. GFOA cited 28 separate benefits to Los Angeles County from an ERP. Should the County abandon the ERP approach, many of these benefits would be lost. Key benefits cited by GFOA and Deloitte are provided below:

[12] Analysis of State of Alaska, "Business Case: Statewide Administrative Systems Replacement Project", by MAXIMUS, undated, pp. IV-9 and IV-10.
[13] Analysis based on data in CGI Attachment 7, January 25, 2007.
[14] Gartner Group Report : G00138384, April 19, 2006.

Exhibit 17: Los Angeles County ERP Benefits

Replacement of Legacy Systems • Reduced risk related to support of legacy systems. • Arrest of the spiraling costs of maintaining and upgrading legacy systems. Reduces departmental costs for maintaining/upgrading/replacing systems. • Around the clock technical support. • Reduction of operational and service disruptions due to breakdown of current systems.
Integrated System • Provides for replacement of stand alone "home-grown" applications with a single integrated system. • Avoid fragmentation of countywide systems used by departments for common administrative purposes • Elimination of nation of "islands" of automation. • Promotes use of a single, common relational database.
Modern Architecture A modern ERP solution based on open architecture and maintained under a software maintenance contract (which shifts responsibility for application development and enhancements to the vendor) should be highly viable and sustainable over next ten or more years. • Provide for a scalable system that can easily accommodate future growth. • Easier upgrades for a product that is continuously improving. • Inherent Intranet, Internet, and Web capabilities. • Eased integration with other applications and emerging technology such as e-commerce & e-business. • Prepare for e-government operations and citizen service delivery. • Enablement of employee and vendor self-service capabilities through the Intranet/Internet.
Information Quality and Detail • Unifies information which is currently stored in many disparate systems. • Access to "real time" transaction data. Improved access to detailed, line item data. • Easy "drill-down" access to detailed history on each transaction. • Improved management information and reporting. • Vastly improved decision-making opportunities. • Improved project accounting and activity based costing capabilities.
Improved Business Processes • Incorporation of "out-of-the-box" best business practices. Introduces business processes which are tested and proven; such best practices can assist in improving productivity at the process level. • Enforcement of consistent processes and procedures.
Efficiency Improvements • Elimination of duplicative data entry. • Reduction of manual and paper-based processes. • Elimination of manual processes through the use of electronic document routing. • Improved staff productivity and resource management. • A standardized ERP user interface should reduce training needs.
Increased control, accountability and security • Improved accountability through field level audit trails. • Increased protection of critical data through field level security. • Detailed budget and position control.

Source: Deloitte Consulting, "Enterprise Resource Planning Feasibility Study" for the County of Los Angeles, (December 10, 1999), p. 117, GFOA, p. 13

CGI-AMS' proposed solution contains elements of both an ERP and best-of-breed approach. Financial and human resource modules are integrated and will operate under a single database and chart of accounts; however, CGI-AMS is willing to make certain modifications to its baseline

software at no cost to the County, and to consider alternative third-party vendors for item analysis if the County determines that other vendors provide a better fit for the County's needs.

Currently, CGI-AMS has a third-party business relationship with Brass Ring/QuestionMark, to provide item analysis as part of Advantage HRM. Under its agreement with Brass Ring, CGI-AMS is obligated to use Brass Ring's product unless it does not meet the client's needs. Certain County users have greater familiarity with other vendors products they feel may provide a better fit, although only Brass Ring has been subject to a fit-gap analysis. If the eHR component is approved for funding, the County and CGI-AMS are planning a joint two-month validation process to closely examine three alternative vendor packages and validate their effectiveness in meeting the identified business requirements. Regardless of the outcome, CGI-AMS will remain accountable for delivering the required functionality and performing all necessary software integration tasks. The third-party vendor will be a subcontractor to CGI-AMS. The evaluation is intended to compare various product choices to the stated County business needs, and is not an independent determination by County Departments since whatever vendor is chosen must meet CGI-AMS' contractual requirements as well as those of the County.

Impact of a Change in Approach

The modules that comprise an ERP system are highly integrated so that data can be centrally stored and shared among modules to support a multitude of business processes. If the County were to choose another vendor for its eHR solution, the baseline integration would no longer be in place and the other vendor's software would need to be evaluated and then integrated with the existing eCAPS architecture. There is no way to assess the magnitude of problems that might occur without studying the details of specific vendor products and interfaces; however, it will result in a loss of the functionality and seamless integration that drove the ERP decision-making process. We believe the following are possibilities:

- Lack of seamless integration.
- Potential for lost functionality especially in the integration between human resources/ payroll and the financial and budget functions.
- Higher cost to develop and maintain interfaces among modules.
- Greater risk of operational interruptions.
- Multiple code bases and programming languages making maintenance more difficult and costly.
- Synchronization of software code and version control will be more complex and time consuming especially during software upgrades.
- More ongoing data reconciliation may be needed.
- More user cross-training may be necessary.
- Multiple software security sign-ons may be required.

CGI-AMS has agreed to incorporate a number of the human resource software modifications requested by the County into its baseline product with the release of Advantage 3.8.[15] This benefits the County both in terms of a reduction in initial cost and in the cost and ease of the installation of upgrades, as fewer customizations to future upgrades will be required. This benefit will be lost if an alternative eHR product is employed.

Technical Feasibility of Integrating Another Vendor's Product with Advantage Financials

The issue of system integration is one of the most important considerations in evaluating the implications of adding a separate eHR system within the existing Advantage financial and budgeting application (eCAPS). Based on discussion with CGI-AMS and interviews with County personnel, it appears the financial and eHR modules are not tightly integrated and rely on a limited number of joint tables for data transfer (as well as common look-up tables, value validation and security administration).[16] Advantage is modular, and the use of joint tables supports the potential for integration of a different software package.

In many organizations financial and human resource needs are met through the use of different systems; however, dissociating the vendors for each application may add to the complexity of integrating data to provide fully responsive reporting, and, at a minimum, adds additional database design, reporting, validation and auditing requirements. Although it appears integration of an alternative eHR product is possible, there are several crucial interfaces between Advantage and a new system that would be required:

- The eHR system must create labor detail records and provide drilldown capability to evaluate labor resource utilization.
- Labor distribution records are the largest cost resource for and require distribution to all organization units and projects.
- Accounting for payroll (including labor categories), benefits, and other costs must be automatically posted to the GL quickly and accurately.
- Pay periods off calendar must be reportable on a cash and accrual basis.
- Providing a countywide view of labor costs requires accounting aggregations and consolidations in the accounting system.

A more detailed discussion of the technical aspects of Advantage is provided in **Exhibit 18**.

[15] Note: This assumes the County proceeds under the current schedule.
[16] Interviews with Dave Delgado, et al, January 17, 2007, Gregg lverson, et al, Thursday January 18, 2007 and CGI Response to Request for Information 16 and 17, page 7.

Exhibit 18: Technical Considerations

Area	Discussion
Platforms	CGI-AMS Advantage Suite V.3 was released in 2004 and is a conversion to a web-based solution. Because the County maintains a large number of systems serving diverse County needs, its IT staff is capable of supporting numerous application platforms, although the clear preference has been to reduce the diversity of multiple systems and the resulting maintenance requirements. blueCONSULTING does not foresee that a different eHR product would introduce significant additional complexity (related to specific platforms), with the possible exception of SAP, which requires ABAP programming support (SAP's programming language). However, beyond open architecture that eases interface requirements, other multi-platform aspects do add to the complexity (e.g., dual knowledge requirements, different definitions, and different transaction processes).
Database Architecture	CGI-AMS uses an Oracle, open design database for data storage. Other eHR products that might be considered typically utilize Oracle in conformance with client preferences. Thus, the County could specify any database it requires, logically requiring Oracle to maximize synergy and minimize costs. Additional instances of Oracle would be required increasing the licensing fee.
Modules	CGI-AMS provides a comprehensive set of functional modules with strong domain expertise in state and local government HRM solutions. A Gartner Marketscope report from November 2004 rated CGI-AMS as a promising vendor with notable vertical market focus in state and local government, and specifically identified Advantage functional and capability with key market issues such as position control and workflow. Other vendors offer robust modular functionality as well. Without a discrete analysis of other vendor offerings, it is impossible to compare functionality. However, the HRM systems market is mature, and essentially all vendors offer well developed capability for administrative HRM functionality including personnel administration, position management, benefits administration and payroll. Strategic HRM functionality, though mature as well, shows differentiation among vendors and offers more variability in gap fit. These functions include workforce planning, employee self-service, competency management, performance management, compensation management, learning and recruitment/applicant tracking. All major HRM system vendors offer this scope of functionality.
Client Side	The CGI-AMS V3 web-enable product relies on the County's wide area network and various local area networks, in conjunction with common transport protocols. The basic process design relies on client machines already equipped with the requisite hardware, software and interconnectivity to facilitate data entry and desk-top reporting. An alternate vendor product would have to ensure full web-enablement to minimize perceptible user disruption, e.g., from translating from web page client presentation to a client-server application.
Communi-cations	Assuming web-enabled applications, communications are already embedded in the hardware configuration and are independently provided by County IT personnel.
Reporting	The actual degree of reporting functionality within Advantage was not explored in detail, since CGI-AMS relies on third-party reporting tools. Though CGI-AMS planned to utilize Business Objects (Business Objects XI) for reporting, County requirements necessitated a transition to Cognos. In either instance, reporting functionality requires data extraction, careful design of a data repository, data cube construction, report stack design and user interface tools. Extract, translate and load (ETL) routines and tools would be required for either application, and as such, is not a major factor. However, to the extent data is extracted from two separate applications, it increases the necessity to have an integrated code block design to ensure commonality in transaction selection.

Area	Discussion
Code Block	The code block was changed for the Phase I implementation to provide improvements in standardization. Specifically, consistency in the use of organization codes was a major achievement. However, the values used by different departments as department specific coding for expenses and revenues is not uniformly applied. Irrespective of the code block design, this inconsistent application will cause additional difficulty in ease of reporting for the Income Statement. The balance sheet is fairly straight forward in use of an account key, based on department organization structure and B/S account codes. It is a challenging proposition to achieve consistent application of a universally applicable COA for a large and diverse entity such as the County. The County has achieved a universal design that it believes will support all Department needs. The County will continue to work towards achieving consistency in the use of coding values to enhance the identity of unique transactions in order to support a breadth of reporting views. Since a code block has been developed and successfully implemented for Phase I and II addressing core financial transactions, it would be impractical and prohibitively expensive to change the COA to that of a new vendor. Additionally, maintaining two COAs is unnecessarily complex for users and system administrators. Thus the COA for a new eHR product would have to be designed and implemented. While the values would not necessarily need to be altered, minimum consistency and business rules might be invoked to ensure common and consistent transaction coding across two systems. This could be accomplished either through design of a COA that emulates the Advantage code block by creating a new COA with sufficient fields to identify unique transactions and to map to the Advantage COA on a one-to-one or many-to-one roll-up scheme with clear, distinct and unambiguous relationships between the existing and new COAs. Key fields would include department codes, functions, and activity and project number.

Source: blueCONSULTING analysis, Gartner Research, Marketscope: Large HRMS, 2004, G00123747, November 29, 2004

Fit-Gap Analysis

An important consideration in evaluating a vendor's ERP product is how well it meets the County requirements "out-of-the-box," before any modifications are made to tailor it to the unique or particular needs of the County. If there is a poor fit, then there might be greater advantage in selecting a best-of-breed product by another vendor.

Prior to engaging CGI-AMS to perform the upgrade of the County's financials, the County performed a detailed functionality review which included: product demonstrations (Advantage 3.2) and a comparison of the fit of CGI-AMS' software to that of PeopleSoft (the finalist under the LACAS RFP); attendance at the AMS Annual User Conference; and a site visit to the Prince William School District (a CGI-AMS client). Over 160 County personnel participated in the AMS product demonstrations, which were held on October 14-16, 2003. Overall, Advantage was found to be a better fit with the County's requirements; however, the County felt that both Advantage and PeopleSoft's product would require customization to meet County human resource and payroll needs.[17] Results of the review are summarized below.

[17] Interviews with County personnel.

Exhibit 19: County Comparison of CGI-AMS and PeopleSoft

Area of Assessment	CGI-AMS	PeopleSoft	Notes
Financial Suite			
General Ledger/Budget Control	Better		
Procurement	Better		
AR	Same	Same	DPW also rated AMS better than its financial system (FAS).
AP			Met County's needs, but additional demonstration and review are required. Comparison with PeopleSoft not possible given depth of demonstration.
Cost Accounting	Better		
Budget Prep	Better		
Asset Management	Same	Same	
Project Accounting	Better		
Grants	Same	Same	
Inventory	Better		
Human Resource Suite			
Personnel Administration			Not rated. Team unable to attend product demonstration.
Employee Self-Service			Not rated. Team unable to attend product demonstration.
Benefits and Deductions	Same	Same	
Position Control	Better		
Recruiting and Staffing	Better		Advantage rated better, but neither product meets County requirements.
Payroll Processing	Better		
Payroll Accounting Management	Same	Same	
Technical and Other			
Training		Better	AMS indicated willingness to work with third party vendor to develop more comprehensive training component.
General Requirements	Same	Same	
Reporting	Same	Same	
HRM System Navigation	Same	Same	

Source: AMS Functionality Review.

Seventy-six percent of the County's human resource requirements were determined to be met out-of-the-box by Advantage, compared to seventy percent by PeopleSoft.

Exhibit 20: County Comparison of Advantage and PeopleSoft – Human Resource Functionality

Assessment	CGI-AMS	PeopleSoft
Fully provided "out-of-the-box"	76%	70%
Configuration/customization using built-in tool	14%	19%
Provided with reporting tool	8%	12%
Third party software required	0%	0%
Provided in next version	3%	0%
Other	-1%	-1%

Source: AMS Functionality Review.

The County review expressed concern regarding the scalability of AMS' product as it had not been installed at a comparable size government entity, but felt that the design was appropriate and given its similarity to PeopleSoft it should not be an issue. One of the strengths "of the Advantage 3.x product line is that it is built on a proven public sector design which has been implemented at large scale government entities. Since Advantage is the upgrade path from CAPS, current functionality and terminology would be preserved even with improved business processes. Training and business process reengineering complexity would be reduced thus reducing the risk to the County."[18]

As part of Phase II, CGI-AMS performed the HRM Implementation Analysis which provides the overall functional and technical blueprint for the eHR implementation (referred to by CGI-AMS and the County as the Envision Phase). The Envision Phase further refined the fit-gap analysis. The County identified a total of 2,187 HRM requirements. Each of these requirements was mapped to the Advantage 3.5 and 3.8 baseline functionality. 91 percent were considered to be a full fit, 7 percent require software customization and 2 percent would be satisfied through offline processes. Details of the 91 percent "full fit" are provided below.

Exhibit 21: Final Advantage 3.x Fit-Gap Results

Area of Assessment	Percent
Full Fit	
Out-of-the-box	58.9%
Advantage 3.8	1.6%
Online queries and reports	11.8%
AMS Talent Management	10.0%
External interface to a third-party tool	8.4%
Subtotal Full Fit	**90.7%**

[18] Los Angeles County "AMS Functionality Review", p. 2 of 23.

Area of Assessment	Percent
Software Customization	7.2%
Offline Processes	2.1%
TOTAL	**100.0%**

Source: AMS HRM Design Document, Chapter I, p. 3.

Question 4: Does the County need to replace its payroll systems in the near future? Do the Auditor-Controller's reasons for suggesting this be done as soon as possible have merit in terms of minimizing risk of system failures?

Conclusion:

Yes. CWPAY and CWTAPPS are both older systems, which the County has difficulty supporting. Replacement of CWPAY is most critical; however, both require replacement in the relatively near term. DHS' punch card time keeping system which needed to be replaced due to concerns regarding the near-term viability of the punch card vendor is being addressed through the implementation of the Advantage Time Collection Module, which has already been approved for implementation in Phases II and IIIa.

Discussion:

Two countywide applications support the County's payroll, personnel and timekeeping practices: the Countywide Timekeeping and Payroll Personnel System (CWTAPPS) and the Countywide Payroll System (CWPAY). Due to the volume and complexity of the County's payroll, both systems have been developed and continually modified to automate many of the payments and deductions on an employee specific basis. The Auditor-Controller's Systems Division and Countywide Payroll Division (CWPD) are responsible for maintaining both applications. The responsibilities of the CWPD include:

- Maintain the countywide human resource applications: CWPAY and CWTAPPS.
- Implement Board adopted ordinances, MOUs, IRS regulations, State laws and legal decisions affecting payroll operations, CWPAY and CWTAPPS.
- Process payroll for all County Departments, the Superior Court, and the Los Angeles County Employees Retirement Association. This includes the generation of over 95,000 paychecks each payday where employees may receive a check for each Department in which they work; withhold both mandatory and voluntary deductions; process employee garnishments, child support orders and Chapter 13 Bankruptcy notices; prepare and distribute payroll agency and tax payments; process retroactive adjustments to employees cafeteria plans, deferred plan, and retirement benefits; and control the input of all documents and distributions of reports and files.
- Produce over 105,000 W2s each year.

- Support the payroll and personnel staff of 41 Departments to resolve issues and errors when applying personnel, timekeeping and payroll rules through CWTAPPS.
- Administer payroll accounting including reconciling trust accounts, preparing financial documents and controlling payroll accounting transactions.[19]

CWPAY was developed in-house in 1980 and has been continually modified by County staff to meet Federal, State and County requirements. The system is a table driven batch process that runs on an IBM mainframe and utilizes programs developed in COBOL, MARKIV and FOCUS. File structures include segmented sequential, VSAM and fixed length flat files. CWPAY must be frequently updated in response to changes in federal and state laws, County policies and changes to the MOUs. With approximately 60 MOUs, these changes can be significant. The software is poorly documented, and as a result of natural attrition only a limited number of County employees are familiar with the code, making changes difficult and error-prone. Only two individuals in the Auditor-Controller's Office have detailed knowledge of the code; one of those individuals retired recently. When making a change to CWPAY, Auditor-Controller staff actually sit with the ISD programmers and tell them which lines of code need to be changed. Additionally, ISD has difficulty retaining COBOL programmers due to the limited pool and high cost nature of these resources. Recent changes to the software resulted in payroll problems, illustrating the difficult nature of the system.

The primary source of data used by CWPAY comes from CWTAPPS. CWTAPPS is designed to enable each Los Angeles County Department the ability to process timekeeping and personnel activity for its employees. Although newer than CWPAY, CWTAPPS is still 17 years old. It is an online system, written in the Natural programming language with some COBOL, uses an ADABAS relational database, and runs on an IBM mainframe. CWTAPPS also stores historical data from the previous system, CWTIPPS.

Question 5: Are the benefits of implementing the personnel aspects of Phase III significant?

Conclusion:

The benefits in terms of replacement of the legacy systems are significant.

Discussion:

CWPAY and CWTAPPS were designed in-house and have been modified over the years to meet the County's needs. For the most part these systems provide the County with optimal functionality. The decision to replace these systems was driven by the age of the systems and not missing functionality. The County is working with CGI-AMS to ensure necessary functionality is not lost through the implementation of eHR. eHR will however provide the County with key functionality it does not currently have.

[19] Design Document, p. II-4.

Two significant improvements resulting from implementation of eHR are position control and employee self service. The absence of position control functionality tied to ordinance positions, budget items, compensation and classifications, limits the County's ability to control salaries and benefits. Departments with access to CWTAPPS can add unauthorized positions without CAO oversight and control. Most Departments currently budget at the control point or 5th step for their employees. Position control will significantly improve the precision of the budgeting process.

Key advantages of an integrated financial-human resource system include:

- Position control functionality is tied into the budget, personnel administration, compensation and classification as a continuous business process.
- Payroll information flows into the general ledger and is part of the cost allocation and project accounting processes.
- Consistent policies and procedures for the application of County code throughout the County.

In addition the County will benefit from having a vendor responsible for maintaining up-to-date source code and interfaces, and from an update in the technology.

Question 6: Are there options to implement Phase III eHR module(s) at different times? If so, what are benefits and risks with each option considered? Are the costs and recommended implementation plans for eHR, as presented by the Auditor-Controller, reasonable?

Conclusion:

The Auditor-Controller's recommended implementation plan is reasonable based on the following:

- The implementation of payroll first is reflective of the state of the County's current systems and is appropriate.
- The current plan to implement the full set of five payroll-related modules is reasonable.
- The remaining three modules could be eliminated; however, they provide desired control and functionality, represent only an incremental addition to the base system costs, and the cost savings from eliminating these modules would be partially offset by the need for ongoing maintenance of certain legacy systems.
- Based on the feedback and lessons learned from the earlier eCAPS implementation work, as well as the potential project risk from overstressed employees, we found the Auditor-Controller's decision to slow down the proposed implementation schedule for eHR by two years (to a 2012) at a cost of $5.1 million to be reasonable.

Discussion:

We reviewed the various options for implementing Phase III eHR modules at different times with attention to the benefits and risks associated with each option. In doing so, we evaluated alternatives for implementing both payroll and non-payroll modules. We also considered the timing of the eHR system as a whole.

In September 2006, following a number of discussions with the County regarding its requirements, CGI-AMS provided the County with a projected cost for implementation of Advantage HRM of $64.3 million and a go-live date of June 2010. The $64.3 million cost reflected a number of County-specific requirements, which would not be typical of a more basic implementation. These include increased training and report development time, an extended schedule, accelerated certification of Linux as a future platform for Advantage (financials and eHR), a multi-phase go-live, and 3.8 version synchronization for all systems.

Advantage HRM consists of eight modules which would be implemented at the County. The major functions of each module are provided below:

Exhibit 22: Advantage HRM Modules

Module	Function
Time & Attendance	• Enter time, leave and accounting data • Time, leave and accounting data adjustments processing • Generate paper time sheet • Request leave • Administer time entry (e.g., manager approvals through workflow)
Payroll Management	• Enter deduction information • Enter pay adjustments • Enter deduction adjustments • Compute: gross pay, contract and reserve pay, FLSA pay, and deductions/fringe benefits • Generate checks and advices • Accrue leave • Cancel and replicate checks • Generate supplemental payrolls • Calculate retro pay • Online check calculation and print • Tax reporting (e.g., W2) • Online payroll queries
Payroll Accounting Management (PAM)	• Perform labor cost distribution • Post payroll expenses and liabilities • Adjust payroll expenses and liabilities • Generate contract pay encumbrances • Generate leave liability encumbrances • Generate third party remittances • Perform intra-governmental transfers

Module	Function
Benefits Administration	• Determine benefits eligibility • Enroll in benefits • Define dependent benefit coverage • Generate benefit statements • Administer COBRA • Administer HIPPA • Administer flexible spending accounts
Personnel Administration (also referred to as Human Resources)	• Process personnel actions • Maintain employee attributes • Maintain W-4 information • Document employee development activities • Maintain employee relations • Maintain dependent attributes • Mass change employee information • Archive employee information
Position Control	• Maintain organizational structures • Request new positions • Define and maintain position attributes • Maintain position status • Define and maintain position authorizations
Recruiting and Staff (Talent Management)	• Create job descriptions • Post job notices • Define job notice scheduled activities • Maintain application attributes (application request) • Maintain job applications • Define applicant schedule activities • Document job interviews • Evaluate applicants • Screen/select applicants • Generate applicant communications
Employee Self Service	• Maintain employee attributes such as address and emergency contact information • Administer benefits such as self enrollment • Enter timesheet information • Review pay, deduction and leave balances • Review paycheck information

Source: January 25, 2007 CGI-AMS Information Response Attachment 6, p. 11.

In November 2006, $5.1 million was added to the eHR cost, based on new County requirements, increasing the implementation cost from $64.3 million to $69.4 million. With contingency and expanded maintenance services, the total eHR SLA amendment cost is projected at $74.3 million. Due to concerns regarding availability of County resources, the potential demands on their time and lessons learned from prior phases, the County requested that the schedule for eHR implementation be further extended, with additional go-lives. Under the modified County schedule, Payroll is to be implemented in January 2010, with Core Human Resources and Position Control deferred until January 2012. Talent Management is scheduled to be rolled out at DHR in the first quarter of 2008, and all Departments by the end of 2008. The County felt that Payroll needed to be implemented first as CWPAY is its most unstable system. The extended schedule and sequencing result in the need for additional interfaces, testing, data cleansing and

cutover tasks and additional CGI-AMS time for project management and other areas. These modifications resulted in the $5.1 million cost increase.

Pricing details are provided in **Exhibit 23**. Although each line item is reflective of County requirements, we have attempted to separate the more routine items from those more heavily influenced by the County.

Exhibit 23: Phase IIIb Pricing

Item	Projected Cost
Advantage HRM Implementation	$ 38,009.8
AMS Talent Management	1,370.0
Subtotal	**$ 39,379.8**
Significant County Modification	
Reports Analysis (500 reports)	$ 3,680.0
Reports Development (300 reports)	5,482.4
Training	2,808.3
Post Implementation Support	675.8
Subtotal	**$ 12,646.5**
County Specific	
County Required Baseline Modifications	$ 8,438.2
Baseline Modification Credit	(8,438.2)
County Customizations (53,034 hours)	8,485.4
Multi-Phase Go-Live	1,689.6
Platinum Savings	(1,150.1)
Additional Costs - Extension of Schedule to 2012	5,070.4
Subtotal	**$ 14,095.4**
Not Specific to eHR	
3.8 Version Synchronization of All Systems	$ 1,779.0
Linux Certification for Advantage 3.8 (County request)	1,500.0
Subtotal	**$ 3,279.0**
TOTAL IMPLEMENTATION COST	**$ 69,400.7**
Expanded Maintenance (Platinum Support)	$ 1,681.4
County Contingency	3,212.2
TOTAL COST	**$ 74,294.2**

Source: eCAPS Advisory Committee – Special Meeting Agenda, September 6, 2006, including Subproject Cost Proposal, and January 23 Interview with CGI-AMS.

Current Implementation Plan

The proposed eHR implementation scope, timeline, schedule and sequence are already reflective of the needs of the County both in terms of the ages of the County's existing system and lessons learned from the prior phases, and incorporate requirements imposed by the County. Careful consideration has gone into the schedule and timing of events.

- **Sequence of Modules:** It is widely recognized that CWPAY is the most critical of the County's remaining legacy systems. As discussed previously, CWPAY is a 26 year old program with a flat file structure. It is poorly documented and subject to frequent modifications. Modifications require code changes which tend to be problematic. The

County specifically requested that CWPAY be replaced first, with the implementation of the necessary modules to run payroll. Implementation of all or a portion of the functionality of five modules is required to run payroll: Time and Attendance (already approved), Payroll, PAM, Benefits Administration, and Personnel Administration. Typically CGI-AMS would not implement payroll first.

- **Timing:** The County signed a number of MOUs in the fall of 2006. As a result, it currently has a window of opportunity during which it will not have to make as many changes to CWPAY and CWTAPPS. New MOU changes can be incorporated directly in the Advantage system if the system is implemented in 2010. If the schedule is deferred until 2011, the County will have to modify CWPAY and CWTAPPS to reflect the new MOUs, and also modify Advantage, resulting in a duplication of effort. The timing has also been designed around the schedule for release of Advantage 3.8. If the County adheres to the current schedule, the County-proposed modifications that CGI-AMS has agreed to baseline will be incorporated in version 3.8, and the County will receive a version of 3.8 which incorporates its customizations as well as the baseline changes at that time. A delay in the schedule means the County will have to wait for a future release.
- **Schedule Duration:** CGI-AMS and the County determined that given the myriad project tasks that would need to be accomplished, the earliest that the eHR applications could be competed was 2010. Successful completion under that schedule, however, required a level of intense, sustained participation by a number of key County staff, many of whom would work on the project in conjunction with their normal duties. The eCAPS implementation had been completed under an aggressive schedule, but at the expense of County staff. County staff worked an excessive amount of overtime in an attempt to deliver eCAPS on schedule, and indicated that they had experienced intense pressure and near burnout in attempting to meet both eCAPS project milestones and normal County work deadlines. Such pressure sustained over a number of years can lead to increased project risk via poor programmatic judgments and missed milestones. After reviewing the proposed HRM implementation plans, options and costs, the Auditor-Controller decided to slow down the proposed implementation schedule to allow for completion two years later, in 2012.
- **Timing of Customizations:** CGI-AMS has provided the County with pricing should it prefer to take a more modular approach to the implementation of eHR: a Base Scenario (Replace CWPAY) and Implementation Increases (Option I – Recruitment, Option II – Personnel Administration, Option III – Position Control/Classification). Under this approach all of the County customizations are made with the replacement of CWPAY to ensure that they are incorporated into Advantage 3.8.

Options for Implementing Modules at Different Times

Although the County does have options to implement modules at different times, some of these options are not recommended. At a minimum, the County must replace CWPAY and preferably CWTAPPS as well. To replace CWPAY and CWTAPPS five of the eight HRM modules must be implemented in whole or in part depending on the module. Implementation of the Advantage HRM payroll application would allow the County to eliminate the two current County payroll-related legacy systems, CWPAY and CWTAPPS. As discussed elsewhere in this report, the

replacement of these legacy systems is essential. Position Control, Recruiting and Staffing and full functionality for Employee Self Service (the remaining three modules) are stand-alone modules which could be implemented at a later time; however, position control and employee self service represent functionality that the County desires, but does not currently have.

Replace CWPAY and Not CWTAPPS

It would be possible to implement a less than complete Advantage HRM payroll system that would replace CWPAY while leaving CWTAPPS in place to store and compute the data needed for payroll. The eCAPS Project Team examined this option and found that under this strategy almost all the same modifications to the HRM baseline payroll software would be needed to perform the payroll applications. In other words, little of the HRM development work would be reduced. Also, under this approach, data would need to be stored and maintained in two places (CWTAPPS and Advantage) requiring additional cost to keep them in sync. This option is not recommended.

Non-Payroll Modules

Three of the eight HRM modules, Position Control, Recruiting & Staffing and Employee Self-Service, could be implemented separately or eliminated. In examining the cost savings that would result from excluding these modules, the following factors need to be considered:

- Loss of potential functionality: each of these modules has strong proponents and provides functionality not currently available.

- The cost savings from eliminating the modules will be offset to some extent by the need maintain certain County legacy systems that would otherwise be eliminated.

  - For example, about $7-8 million could be cut from the eHR cost estimate if the Position Control module were eliminated. However, at least 12 County Departments currently use the CWTAPPS legacy system to perform position control functions. Therefore, if the Position Control module were dropped from HRM, CWTAPPS would need to be retained until an alternative position control capability was developed. The cost of maintaining, updating and interfacing CWTAPPS would have an offsetting effect on the intended savings.

  - About $5 million could be cut with the elimination of Recruiting and Staffing; however, TRAK (currently used by DHR for recruiting and staffing) is scheduled to be replaced with Advantage HRM. The system would have to be maintained if the module were eliminated.

  - It is unclear how much could be saved if Employee Self Service were eliminated as some of the functionality of this module is necessary for time collection and has already been installed.

Revert to Shorter Schedule

The extension of the implementation schedule to 2012 increased the cost by $5.1 million as a result of the need for:

- Additional staff for project management and Talent Management during the extension.
- Interfaces, conversions and re-conversions required for keeping CWTAPPS for two additional years.
- Duplicative system integration testing.
- Duplicative cutover tasks.
- Security support extended 24 months.
- Extended data cleansing and reference data activities.

Because of the burden on Auditor-Controller systems and lessons learned from Phase I and II implementation, the Auditor-Controller elected to expand the implementation schedule for eHR by two years, at a cost of $5.1 million. As a result of demands on staff and some of the difficulties experienced during prior eCAPS and time collection implementation, reverting to the original, more aggressive schedule is not recommended.

Question 7: Are there any negotiation approaches or suggested revisions in the contract amendment terms that blueCONSULTING can recommend to contribute to a more cost-effective and successful solution?

Conclusion:

We believe that the County has negotiated appropriate contract terms, but offer a few suggestions that we believe may contribute to a more successful and cost-effective project. blueCONSULTING has not had the opportunity to review each of these items in detail, nor have we been asked to negotiate these items for the County. While there is no guarantee that the following suggestions will result in cost savings, we believe further effort by the County and discussion with CGI-AMS is warranted.

Discussion:

Potential Cost Savings

Negotiate a lower cap on the allowable escalation rate for the eCAPS software maintenance fee between 2010 and 2012.

In reviewing the CGI-AMS contract and amendments, we noted that when the project implementation schedule was extended from 2010 to 2012, the software maintenance term was extended accordingly; however, under the terms of the amendment, the maintenance fee is capped at 15 percent per year for the extension years. We believe this rate of escalation is excessive and significantly higher than industry norms that are closer to the 8 to 10 percent range. Assuming a maintenance fee of about $3 million per year, a 5 percent reduction in the escalation rate would save the County about $300,000. We recommend that the County attempt to

renegotiate the terms of the maintenance fees to cap the escalation rate in a range that is consistent with industry norms between 2010 and 2012.

Consider utilizing County Staff to reduce future implementation costs for minor software upgrades.

blueCONSULTING asked CGI-AMS to identify the expected life time costs to the County from implementation of the CGI-AMS ERP system (i.e. once the financial, procurement and human resource modules are implemented, what are the anticipated on-going operation and maintenance costs?) According to CGI-AMS, the typical ongoing AMS Advantage costs are the annual maintenance fee (Platinum Support in the case of the County) and the cost for implementation of minor software version upgrades. There are no additional software license costs since the County has an enterprise license for AMS Advantage. The ongoing annual maintenance costs can be estimated based on the County's current maintenance agreement. A high-level estimate of the costs for CGI-AMS to implement a minor software version upgrade is $1-2 million every 20-24 months. This cost can be saved or reduced should the County perform the implementation tasks with its own staff, although additional County staff may be required.

Perform additional review of County customizations.

blueCONSULTING reviewed the list of County customizations and identified several items that were intended to respond to State of California requirements or appeared to be functionality appropriate for all government clients. For example, Modification PAY_029 will "fully automate processing of the required Sheriff Department Processing fee which is added to the goal amount when garnishment is withheld". The business case for the modification states that "Section 26746 of the California Government Code requires the Sheriff's Department to assess a $10 processing fee for each disbursement of monies collected". The County is projected to pay for 475 hours for completion of this modification. It seems reasonable that if it is required by California Government Code, other CGI-AMS California clients may benefit from the modification. We suggest the County pursue the potential for a cost sharing approach as other CGI-AMS clients may benefit from modifications made as a result of State of California Requirements.

The items identified by blueCONSULTING were submitted to CGI-AMS for review. CGI-AMS agreed that one minor modification (TMA 027 for 80 hours) should be included as a baseline modification. County customizations account for an additional 52,950 hours of effort from CGI-AMS and additional review by County personnel may be warranted. Alternatively, the total modification cost could be reduced in several cases by implementing "work arounds" in County practices. Each of the proposed County customizations should be reevaluated by knowledgeable County personnel with those goals in mind. The County believes that pursuing this recommendation would delay the project start date, thus mitigating some of the benefits and cost savings it will receive under the current schedule.

Negotiate amendment terms that specify how the County will receive credit for County-specific software modifications that are included in future CGI-AMS Advantage baseline software.

CGI has agreed to included a number of County requested modifications in the baseline version of Advantage 3.8. However, some County-specific features that require development work during the County's eHR project may become part of CGI-AMS' baseline software only in later software versions -- after version 3.8. One example is the work being done to integrate the Cognos reporting system into the Advantage software. It is entirely possible that CGI-AMS may eventually incorporate Cognos in Advantage; however, it does not plan to do so as part of version 3.8. If CGI-AMS eventually adopts Cognos for its baseline, the County could potentially receive credit for the development work that it pays for during the eHR implementation. The County indicates that it is in discussions with CGI-AMS regarding potential savings should County modifications be incorporated into versions to be released after 3.8.

The terms of the negotiated amendment could include language to the effect that whenever CGI-AMS chooses to include a software feature in its future baseline that was developed and paid for during the County's eHR implementation, then the County will receive a credit against future work equal to the previously charged development cost.

C. Next Steps

There is never a guarantee of success or full implementation for these types of projects. The key is to learn from lessons from prior phases and make changes in County processes to promote successful implementation of the remainder of the project. Some of blueCONSULTING's recommendations for moving forward include the following:

- Develop a formal approach to Department outreach, with a predetermined, ongoing meeting schedule. Greater outreach and communication with the Departments is required. Some Departments are slow to raise issues with County management for fear of being perceived as not supportive. This runs counter to the County's need to understand the concerns of the Departments before and during implementation. Additionally, it is essential that Department personnel understand the benefits they will receive. Administrative deputies and financial deputies should understand and agree on the goals. The last formal outreach was in January 2006 for 22 Departments including DPSS, DPW, ISD and DHS. The implementation process is dynamic and ongoing communication is crucial. The County depended on the liaison network to accomplish this, but greater, more frequent, direct two-way communication with Department personnel is warranted.

- Review the charter and expectations of the liaison network. Ensure liaisons are at an appropriate level within the organization and are considered change agents. Renew the commitment to and ensure the understanding of the importance of the liaisons for future implementation areas. Increase the level of two-way communication rather than one-way project status reporting.

- Establish a working user committee of fiscal and administrative deputies to discuss continuing eCAPS implementation issues. Additionally, mandate a level of involvement to ensure overall ERP project understanding and potential impact to each County

Department. Make clear that the successful implementation of the system is the responsibility of each manager in each Department and not just a select few assigned to the teams. Make sure the big picture is understood by all, rather than focusing on detailed instructions for specific issues. While each Department should continue to expect a lot of "bumps in the road", management at all levels must ensure that the system works for them and take responsibility for ensuring that the ERP system meets the needs of their specific Department.

- Identify a future governance and organization/reporting structure. This would include a very clear and agreed upon delineation of roles for all members of the Advisory Committee, subject matter experts, Departmental liaisons, CIO, and various "process owners". Also included in this process is the establishment of County ownership (and possibly a project name change) to ensure the ownership of the various process owners are responsible for County success, rather than individual Department or process success.

Appendix 1
eHR Total County Costs

	One-Time	One-Time Costs - By Year					
	One-Time	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
CGI-AMS Sub-Total	**$74,294,200**	**$8,223,286**	**$16,489,612**	**$20,254,859**	**$16,775,600**	**$9,128,867**	**$3,421,976**
Equipment Sub-Total	**$7,624,000**	**$0**	**$2,016,000**	**$3,027,000**	**$1,303,000**	**$1,278,000**	**$0**
ISD Charges Sub-Total	**$4,607,000**	**$0**	**$278,000**	**$539,000**	**$2,712,000**	**$539,000**	**$539,000**
Facilities							
TBD - Refurbishment/Tenant Imprv	2,000,000		$2,000,000				
TBD - Furniture	500,000		500,000				
TBD - Equipment	500,000		500,000				
TBD - Ongoing							
Facilities Sub-Total	**$3,000,000**	**$0**	**$3,000,000**	**$0**	**$0**	**$0**	**$0**
Project Total (NCC)	**$89,525,200**	**$8,223,286**	**$21,783,612**	**$23,820,859**	**$20,790,600**	**$10,945,867**	**$3,960,976**

	Ongoing Costs - By Year					
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
CGI-AMS Sub-Total						
Equipment Sub-Total						
ISD Charges Sub-Total					**$2,590,000**	**$4,420,000**
Facilities						
TBD - Refurbishment/Tenant Imprv						
TBD - Furniture						
TBD - Equipment						
TBD - Ongoing		300,000	300,000	300,000	300,000	300,000
Facilities Sub-Total	**$0**	**$300,000**	**$300,000**	**$300,000**	**$300,000**	**$300,000**
DHR	+8 staff/3 mos	+5 = 13 staff	+4 = 17 staff			
HR (S&EB) New Staff	$216,500	$1,556,000	$2,022,000	$2,083,000	$2,146,000	$2,210,000
HR (S&EB) Existing Staff	466,000	932,000	932,000	932,000	932,000	932,000
HR Staff Sub-Total	**$682,500**	**$2,488,000**	**$2,954,000**	**$3,015,000**	**$3,078,000**	**$3,142,000**
Auditor-Controller		+12/6mos				
A-C (S&EB) New Staff		$608,000	$1,291,000	$1,331,000	$1,371,000	$1,412,000
A-C (eCAPS Operations)		150,000	150,000	150,000	150,000	150,000
A-C Staff Sub-Total	**$0**	**$758,000**	**$1,441,000**	**$1,481,000**	**$1,521,000**	**$1,562,000**
ISD						
ISD (S&EB)	$202,500	$691,000	$725,000	$1,045,000	$1,077,000	$1,109,000
ISD (Other)						
ISD Staff Sub-Total	**$202,500**	**$691,000**	**$725,000**	**$1,045,000**	**$1,077,000**	**$1,109,000**
CAO						
CAO (S&EB) Existing	$222,500	$445,000	$445,000	$445,000	$445,000	$445,000
CAO (New Staff)						
CAO Staff Sub-Total	**$222,500**	**$445,000**	**$445,000**	**$445,000**	**$445,000**	**$445,000**
Gross Total	**$1,107,500**	**$4,682,000**	**$5,865,000**	**$6,286,000**	**$9,011,000**	**$10,978,000**
Adjustments - IFT and Revenue						
New AC, HR Staff IFT/Revenue	-69,280	-1,384,960	-2,120,320	-2,184,960	-2,250,880	-2,318,080
eCAPS Operations IFT/Revenue	0	-96,000	-96,000	-96,000	-96,000	-96,000
ISD Staff - IFT/Revenue	-64,800	-442,240	-464,000	-668,800	-689,280	-709,760
ISD Charges - IFT/Revenue	0	0	0	0	-1,657,600	-2,828,800
CAO Comp Existing	-222,500	-445,000	-445,000	-445,000	-445,000	-445,000
Legacy System Adjustments						
DHR Existing	-466,000	-932,000	-932,000	-932,000	-932,000	-932,000
Existing Rent ($250K)/Phones ($13K)	-131,500	-263,000	-263,000	-263,000	-263,000	-263,000
Adjustments Sub-Total	**-$954,000**	**-$3,563,000**	**-$4,320,000**	**-$4,590,000**	**-$6,334,000**	**-$7,593,000**
Project Total (NCC)	**$153,500**	**$1,119,000**	**$1,545,000**	**$1,696,000**	**$2,677,000**	**$3,385,000**
	Incremental	**$965,500**	**$426,000**	**$151,000**	**$981,000**	**$708,000**

Appendix 2

Much has been written about the lessons learned from others in the implementation of complex ERP systems. One of the best summaries is available from the National Association of State Comptrollers 2004 Survey on ERP and Other New Systems: Advice to Others.

- Complete your business process reengineering in advance of starting your project and maximize the functionality of the software to avoid customization, not to the software code, but for user exits, Z-tables, etc.

- If your business process is not driven by a law or regulation, make the business process fit the software.

- Complete as much planning work as possible in advance of implementing your project, i.e., develop an inventory of work schedules, time rules etc. for an HR/payroll implementation; map your business process to your laws, regulations, policies and procedures so that you know what you may have to change in order to use the software functionality; determine what financial reporting you will need from the new system to help develop the reporting from business information warehouse, etc.

- Put in place a decision process that provides decision within a 24-48 hour period so that there are no long delays in the design and configuration of the system; time is money.

- Make your project a business transformation not a technology solution.

- At the end of the implementation, the ownership of how the system is designed must be in the hands of the business owners and the support of design in the hands of the project team. Business drives, technology enables. Require the business owners to develop three to five year plans of how they want to use the software to meet their business needs so that staffing and budgeting of funds are driven by the business plans.

- For all of the go-live implementations, be sure to have a sound plan for support to the users, i.e. SWAT teams in agencies; help desk; electronic process for reporting problems and solution of the problems.

- Finally, do not underestimate the effort it will take to complete an ERP project. Normal work hours will not work; 10-14 hour days will become the norm and even longer during certain phases of the project. Have a plan for back up personnel for the project team if team members burn out, leave for other employment, etc. You need to ensure stabilization for the project staff or you will end up being dependent upon consultants to carry the project forward and that is costly and a waste of the investment made in your project team members.

- The overall success of your project is dependent upon executive sponsorship, willingness to change business processes, and a decision making body to guide the project and make the hard decisions in the face of criticism.